STATE OF LOUISIANA

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION
INJECTION AND MINING DIVISION

CLASS VI USEPA PRIMACY APPLICATION

UNDERGROUND INJECTION CONTROL PROGRAM

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State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
I. Governor's Statement

Office of the Governor
State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

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March 4, 2021

David Gray
Regional Administrator
U.S. Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, Texas, 75270

Dear Mr. Gray:

In accordance with Subpart C of 40 CFR Part 144, I am forwarding the State of Louisiana's Class VI program submission. This submission proposes to revise the existing Underground Injection Control Program under Section 1422 of the Safe Drinking Water Act by adding primary enforcement authority over Class VI Carbon Sequestration Wells. The Class VI Program will join the Class I-V programs, which are administered by the Louisiana Department of Natural Resources – Office of Conservation.

Sincerely,

John Bel Edwards
Governor

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
II. State of Louisiana Class VI Underground Injection Control Program 1422 Description

STATE OF LOUISIANA
CLASS VI UNDERGROUND INJECTION CONTROL
PROGRAM 1422 DESCRIPTION

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Class VI Underground Injection Control Program Description

1. Program Scope, Structure, Coverage and Processes

The U.S. Environmental Protection Agency (EPA) granted primary enforcement authority (primacy) over Class I, II, III, IV, and V injection wells—excluding all Indian lands—to the Louisiana Department of Natural Resources (LDNR), Office of Conservation (LOC) on April 23, 1982. Since then, the Louisiana Underground Injection Control (UIC) Program has strived to implement the approved program description, applicable rules and regulations, and EPA directives. References in this Work Plan to we, us, or our are intended to mean the Office of Conservation.

The applicable UIC programs for Class I, III, IV and V injection wells are authorized under Section 1422 of the Safe Drinking Water Act (SDWA), while the Class II program related to oil and gas activities is authorized under SDWA Section 1425.

The LOC is revising the existing 1422 program to include program oversight for Class VI Carbon Dioxide Geologic Sequestration Wells. The USEPA promulgated federal requirements under the Safe Drinking Water Act for the underground injection of carbon dioxide in 2010 establishing a new class of injection wells (Class VI). This submittal will demonstrate that the Louisiana UIC program with Class VI oversight is at least as stringent as its federal counterpart. In accordance with the provisions of Louisiana's Administrative Procedure Act, R.S. 49:950 et seq., and through the power delegated under the laws of the state of Louisiana, the Department of Natural Resources, Office of Conservation adopted the Statewide Order No. 29-N-6 (LAC 43:XVII Subpart 6, Chapter 6) to facilitate the permitting, siting, construction, operation, monitoring and site closure of Class VI injection wells used to inject carbon dioxide for the purposes of geologic sequestration.

Louisiana LOC is the sole implementation agency for our current primacy program; this will continue as Class VI wells are added to the program. This revised program description incorporates changes as required under federal regulations and is only an addendum to the current Louisiana 1422 UIC primacy authority. Nothing in this document in any way affects the current administration of the Class II program under Section 1425 of the SDWA or the Class I, Class III, and Class V programs under Section 1422 of the SDWA. This revision of the Louisiana 1422 UIC program is for the sole purpose of adding Class VI injection wells to the program.

2. Implementing Agency Organizational Structure

Staff in the Louisiana LOC have education, skills, and in-house experience with most of the technical and policy areas relevant to evaluating Class VI permit applications, including, but not limited to evaluating and issuing Class VI permits, onsite inspection, compliance monitoring and overseeing GS projects throughout their life span. The state plans to implement a "team" approach to permitting by dividing permit applications among staff with relevant areas of expertise. However, some third-party contractor experience will be needed for reviews

associated with site characterization, modeling, risk, and environmental justice analysis. It is anticipated that third-party modelers will be utilized during the permit review stages at the onset of primacy, but as LOC staff are trained and gain experience, reliance on third-party modelers may become minimal. Third-party risk analysts may need to be contracted out in perpetuity; Louisiana LOC does not currently have expertise in this area and it is uncertain whether they will obtain it in the future.

The table below identifies the sources of this expertise.

Expertise Area	In-House	Contractor
Site characterization, e.g., geologists, hydrogeologists, geochemists, and log analysts/experts to review site characterization data submitted during permitting and throughout the project duration.	✓	✓
Modeling, e.g., hydrogeologists and environmental/reservoir modelers to evaluate area of review (AoR) delineation computational models during permitting and AoR reevaluations.	✓	✓
Well construction and testing, e.g., well engineers, log analysts/experts, and geologists to review well construction information and operational reports on the performance of Class VI wells and review/evaluate testing and monitoring reports.	✓	✓
Finance experts to review financial responsibility information during permitting and annual evaluations of financial instruments.	✓	
Risk analysts to evaluate emergency and remedial response scenario probabilities and remediation cost estimates.		✓
Policy/regulatory experts on the UIC Program and the Class VI Rule to evaluate compliance with Class VI Rule requirements.	✓	
Enforcement/compliance, e.g., staff who can initiate and pursue appropriate enforcement actions when permit or rule requirements are violated.	✓	
Inspectors including well engineers or log analysts/experts to inspect wells or witness construction activities, workovers, and/or mechanical integrity tests.	✓	
Environmental justice experts to evaluate the Environmental Justice impact report, ensuring that the report is thorough, contextualized, and agrees with the demographic and environmental data from the EPA-developed EJSCREEN tool.	✓	✓

An organizational chart of the LOC – Injection and Mining Division is attached in Appendix I.

The state estimates that running the Class VI Program will cost approximately $345,000 in the first year of primacy and $1.135 million in the second year with annual adjustments thereafter. The majority of these costs are associated with hiring seven staff (green boxes in Appendix I) to support the Class VI program. Sources of funding include: the Louisiana Carbon Dioxide Geologic Storage Trust Fund (GSF), UIC grants from the USEPA, and the Louisiana General

Fund (state dollars).

The GSF is the primary sources for programmatic funding. Sources of monies to be deposited into this fund pursuant to La. R.S. 30:1110 include annual regulatory fees, application fees, grants awarded, and compliance fines.

Fees collected to administer the program are as follows: (1) application fees, (2) annual site regulatory fees, and (3) a tonnage fee charged per metric ton of injected carbon dioxide. In the 2021 Regular Session, the Louisiana Legislature passed HB 572, which allows LOC to charge the applicant a permit fee not to exceed the cost of permit review. The application fee is a one-time, nonrecurring fee. Secondly, the annual site regulatory fee is set at an amount not to exceed $50,000, recurring annually. The final new fee assessed will be the tonnage fee. The calculation of this fee is statutorily set at no more than (($5,000,000/144)/the total injection tonnage of carbon dioxide) in La. R.S. 30:1110, ensuring that this assessed fee is spread over twelve years of operation. Please note that this calculation was updated in Act 370 of the Louisiana 2020 Regular Session; previous versions called for the fee to be spread over 120 months rather than 144. This fee calculates to an average of approximately $416,667 annually per site. Due to construction timelines, the first year that LOC anticipates receiving this injection tonnage fee is Louisiana Fiscal Year 2023 (FY23).

The program should become fiscally self-sufficient in FY24, largely because Class VI wells should be injecting by this stage and the tonnage fees collected in conjunction with the smaller fees should support an estimated $1.135 million in projected expenses for FY24. From the time that LOC receives primacy from the EPA until FY24, additional funding in excess of the projected fee collections will be required. This will come from a combination of federal funds (the Underground Injection Control grant) and Louisiana State General Fund allocations.

The table below illustrates how the state anticipates these funds will be allocated to various program activities.

Activity	**Percent of budget**
Permit application reviews and permit issuance.	40%
Project oversight/review of operating data and testing and monitoring data and reports.	25%
Inspections/witnessing construction or tests.	5%
Data management.	5%
Enforcement/compliance-related activities.	10%
Program oversight/administration.	15%

3. Permitting, Administrative and Judicial Review Procedures

Permitting Procedures

The state's Class VI Program requires all owners or operators seeking to inject carbon dioxide for the purpose of geologic sequestration to obtain a Class VI permit to construct or convert a well and gain approval to operate prior to commencing injection activities.

Class VI permit applications will be reviewed by staff of the LOC and issued in accordance with LAC 43:XVII, Subpart 6 (Statewide Order 29-N-6).

Reviewing Class VI Permit Applications

When LOC receives a permit application, staff will review it to determine if it contains all of the information outlined in LAC 43:XVII.3605-3611. Any deficiencies will be noted and, if necessary, the agency will request additional information from the applicant.

After confirming that all of the required information was submitted with the permit application, agency staff or a qualified third party (QTP) reviewer will review the Class VI permit application using a multi-step process, as described below.

First, staff or a QTP reviewer will perform a technical review to determine that the submitted data is accurate and of high quality, has undergone appropriate quality assurance procedures, is representative of the project and the site, and is sufficiently complete to support a full technical evaluation.

Next, a full technical evaluation of the submitted information will be performed to support the decision on the suitability of the site per the requirements at LAC 43:XVII.3615. This includes an evaluation of the geologic system (LAC 43:XVII.3615), the well (LAC 43:XVII.3617), and the proposed operations (LAC 43:XVII.3619) to ensure that the project will be protective of USDWs as well as the health, safety, and welfare of the public. Technical review may incorporate information from sources such as: the most up-to-date science and findings available from peer reviewed public literature; data and information presented at symposiums or conferences; procedures or recommended practices from the US EPA, qualified national laboratories, or published standards; and the most up-to-date versions of EPA-published guidance documents.

Technical review of the permit application will determine if applicants will need to provide additional evaluation data or monitoring plans beyond that required in 29-N-6. Evaluation data that is not required in the regulations but may be required prior to permit approval could include evaluation methods such as magnetic drone surveys to quantify any mis-located or unpermitted wells, geophysical data to support geologic interpretation, groundwater information to support hydrogeological interpretation, or other methods deemed necessary by the Commissioner. Additional monitoring plans may also be required by the Commissioner to monitor microseismicity, groundwater, reservoir pressures or plume extent, or any other plans deemed necessary based on a site-specific technical evaluation.

The agency will require the owner or operator to conduct an environmental justice (EJ) review and submit a report as part of the application process. An EJ review will be encouraged in the pre- permitting process and required early in the formal permitting process. At a minimum, the

state will require the report to consider relevant data and identify any portions of the AoR that encompass EJ areas.

When the application is submitted, LOC staff will use the EPA-developed EJSCREEN tool to evaluate the location of the project as a pre-decisional tool. If this initial screening identifies the presence of an EJ community or other increased risk factors located within the AoR, the application will be send to a QTP reviewer for evaluation. Evaluation results will be shared with the LOC, and the Commissioner of Conservation will use the results to determine if an enhanced public comment period will be required for the application. An enhanced public comment period may extend the public comment period for the application, may require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language, or may be supplemented in other ways recommended by the reviewer.

In addition to the site location questions considered in the Environmental Justice review, a weighing of siting, environmental effects, and a cost benefit analysis is required in the application as a result of *Save Ourselves, Inc., et al vs. the Louisiana Environmental Control Commission, et al*[1]. The five required question responses, colloquially known as the "Louisiana Constitutional Considerations," the "IT Question Responses," or the "Save Ourselves Questions," are hereafter the "SOS Decision Questions", and are presented in Appendix II. Answers to these questions must provide adequate detail with sufficient justification and supporting data to enable LOC to conduct a balanced review of environmental, social, economic and other factors as required by the Louisiana Constitution.

As needed throughout the permit application review process, agency staff will discuss the application with the owner or operator to ensure that needed information is provided as expeditiously as possible. Any permit revisions required as a result of a QTP review will be reviewed and communicated to the applicant through LOC staff.

Draft Permit Issuance and Public Participation

Upon completion of the permit application evaluation, Louisiana LOC will tentatively determine whether to prepare a draft permit or to deny the application. If the agency prepares a draft permit, the agency will prepare a fact sheet summarizing the project (LAC 43:XVII.3611.D) and issue a public notice of the comment period and a public hearing according to procedures listed in LAC 43:XVII.3611.E.

Public notice of the preparation of a draft permit shall allow at least thirty (30) days for public comment. During the public comment period, any interested person may submit written comments on the draft permit and may request (in writing) a public hearing. Public notice of a public hearing shall be given at least thirty (30) days before the hearing. All relevant comments will be considered in making the final decision and will be addressed when a permit is issued or denied.

The agency will also notify any states, tribes or territories within the area of review of the GS project and document the results of this consultation, pursuant to LAC 43:XVII.3611.E.3.iii. See Section 12 for additional information on procedures for this notification.

1. Save Ourselves v. La. Envtl. Control Comm'n, 452 So. 2d 1152 (La. 1984)

After completion of the public hearing and review of public comments, a final permitting decision will be made and, if appropriate, a Class VI permit will be issued. The permit will authorize the applicant to construct the injection well or convert an existing well to Class VI. The agency will also issue a response to all relevant public comments received.

Approving Injection in a Class VI Well

Following well drilling/conversion and completion activities, the permit applicant will submit information that the agency will consider in determining whether to approve operation of the injection well. If the information provided pursuant to LAC 43:XVII.3619 warrants, the agency will authorize the applicant to inject carbon dioxide.

After the Permit-to-Inject is issued, the operator is required to submit monitoring data and reports according to LAC 43:XVII.3629, as described in Section 4 of this document. After injection ceases, the operator shall plug their well(s) in accordance with the Well Plugging Plan submitted per LAC 43:XVII.3631.A.3 and after proper notice in accordance with LAC 43:XVII.3631.A.4. Finally, a Well Closure Report will be submitted to LOC as required in LAC 43:XVII.3631.A.5.

After cessation of injection but prior to plugging and abandonment of site wells, the operator must either (1) demonstrate that their Post Injection Site Care and Closure plan(s) are applicable, or (2) update the plan(s) as required in LAC 43:XVII.3633.A.1.c in accordance with the requirements listed in LAC 43:XVII.3633.A.1.b. Prior to authorization of site closure, the operator must monitor the site for at least 50 years or for the duration of the alternative timeframe approved by the Commissioner pursuant to LAC 43:XVII.3633.A.3. Finally, the operator must publish a notice of intent for closure in accordance with LAC 43:XVII.3633.A.4, may plug all monitor wells after approval of site closure by the Commissioner in accordance with LAC 43:XVII.3633.A.5, and must finally submit a site closure report in accordance with LAC 43:XVII.3633.A.6.

Administrative and Judicial Review of Permits

Administrative reviews of Class VI permits will take place in accordance with La. R.S. 30:6 and 1105.
Judicial reviews of Class VI permits would be conducted in accordance with La. R.S. 30:12 and 15.

4. Permit, Permit Applications, Reporting and Manifest Forms

The permit application form will be Form UIC-60 CCS, a draft of which is included in Appendix III. This form will be used both for the initial permit submitted as well as the permit re-evaluation which shall occur at a frequency of five years or less as prescribed by LAC 43:XVII.3609.M.1.

Prior to the approval of injection, a testing and monitoring plan must be approved by the LOC, per LAC 43:XVII.3625.A. The requirements of this plan will be reported as follows:

1. The operator will report the analysis of the carbon dioxide stream required in LAC 43:XVII.3625.A.1 as a summary report with cover letter and appended analyses.
2. The operator will submit pressure, rate, and volume monitoring data required by LAC 43:XVII.3625.A.2 as an excel or comma-delineated sheet with a graphical presentation; including the raw data as required under LAC 43:XVII.3629.A.1.a.viii
3. The operator will submit corrosion monitoring data as required by LAC 43:XVII.3625.A.3 as a report with a cover letter.
4. The operator will submit groundwater data for any monitored zones per LAC 43:XVII.3625.A.4 as a summary report with cover letter and appended analyses.
5. Prior to conducting an external or internal mechanical integrity test, casing inspection log, or pressure fall-off test as stipulated in the approved monitoring and testing plan and required under LAC 43:XVII.3625.A.5 and 6, the operator must first apply for a work permit using Form UIC-17 (Appendix IV), described below.
6. Other monitoring required in the approved testing and monitoring plan and required under LAC 43:XVII.3625.A.7-9 will be submitted as a summary report with cover letter and appended analyses and data.

Monitoring reports in accordance with the approved plan must be submitted semi-annually as prescribed in LAC 43:XVII.3629.A.1; with certain reports including mechanical integrity test results submitted within 30 days of the test per LAC 43:XVII.3629.A.1.b; and with a report of any non-compliance submitted within 24 hours per LAC 43:XVII.3629.A.1.c.

Mechanical Integrity tests (MITs) are conducted frequently throughout the life of the well. When Form UIC-17 is submitted to the LOC, staff review the scope of work and may request scope revisions prior to issuing an approved work permit. Applicants are required to include a step which states that the MIT will be witnessed by a Conservation Enforcement Specialist (CES). Upon approval of the work permit by LOC, the operator is required to contact the appropriate CES and give 48 hours prior notice before beginning the MIT. When the MIT is scheduled such that the CES is available to witness, the operator may then conduct the proposed operation and upon completion must then submit a summary of the work conducted on Form UIC WH-1 (with appended data), included as Appendix V. This process for conducting an MIT is the standard procedure for Class I, II, III, and V wells currently.

5. Compliance Tracking and Enforcement Program

Compliance Monitoring

Compliance monitoring will, at a minimum, include on-site inspections conducted by authorized agents of the Louisiana LOC and a review of operating and monitoring reports submitted in compliance with LAC 43:XVII.3629 to verify that the construction, completion, operation, maintenance, and site closure (LAC 43:XVII.3633) of GS projects are performed according to approved plans and specifications and meet all permit and regulatory requirements.

The state's compliance monitoring program includes the following activities:

- Reviewing plans and reports (e.g., well completion reports, test results, workover reports) submitted by permit applicants or owners or operators.
- Conducting site inspections to verify or witness construction, operation and testing/maintenance procedures. Site inspections will be conducted by the agency's

authorized agents.
- Investigating complaints alleging improper construction, completion, operation or maintenance of a GS project.
- Performing compliance monitoring (e.g., reviewing monitoring, operating and maintenance data) to verify compliance with permit conditions, regulations and any other conditions or stipulations.
- Conducting annual inspections and compliance follow-up inspections of GS projects.

The LOC shall submit to the EPA quarterly non-compliance reports as specified in 40 CFR § 144.8(a). Quarterly reports will be submitted in accordance with the following schedule (or as otherwise specified in the LOC's FY UIC Workplan):

- October, November, December – due January 30
- January, February, March – due April 30
- April, May, June – due July 30
- July, August, September – due October 30

Enforcement Procedures

Any person violating LAC 43:XVII Subpart 6, Chapter 6 (Statewide Order 29-N-6), any condition of a Class VI permit, or any rule or order of the LOC is subject to enforcement action. The agency is responsible for initiating, pursuing and resolving enforcement actions.

Enforcement proceedings may result in modification, revocation or suspension of any permit issued under authority of the UIC Program.

The agency will attempt to handle all minor violations through informal means, such as correspondence between agency staff and the alleged violator. If initial correspondence does not result in the resolution of minor violations, a Notice of Violation (NOV) may be issued. If the violation(s) grows in size or scope, LOC may issue a Compliance Order without a civil penalty. The final enforcement stage, typically reserved for non-compliance that is egregious or may endanger the USDW, is the issuance of a Compliance Order in which a civil penalty is assessed. Issuance of NOVs, Compliance Orders, and Compliance Orders with civil penalties are entered and tracked through the database titled SONRIS, maintained by LOC staff.

If a Compliance Order with civil penalty is required, the state may seek civil penalties up to $5,000 per day per violation under La. R.S. 30:1106.D(1).

6. Schedule for Issuing Class VI Permits

The agency anticipates that up to 14 well permit applications may be submitted during the first two years after approval of the state Class VI Program, including nine permit applications in year 1 and five permit applications in year 2. It should be noted that of the nine anticipated well applications in year 1, four are associated with a single operator in a limited geographical area, applications for which have already been submitted to EPA Region 6.

The agency expects that reviewing Class VI permit applications will require nine to twelve months per project following the date a complete permit application is submitted under proposed staffing levels and with full applicant cooperation.

7. State Priorities for Issuing Class VI Permits

It is anticipated that during the first two years after approval of the state Class VI program, at least six permits will be issued by LOC. Priority in the application queue will be based primarily on the relative date of submittal and then weighted by application completeness and size and nature of the project.

8. Mechanical Integrity Testing Requirements

To evaluate the absence of significant leaks, owners or operators of Class VI wells must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes, pressure on the annulus between tubing and long-string casing, and annulus fluid volume, pursuant to LAC 43:XVII.3621.A.6. Additionally, annulus pressure tests must occur on an annual basis and after performing any well workovers that involve unseating the tubing or packer, pursuant to LAC 43:XVII.3627.A.2.

At least once every 12 months, owners or operators must use an approved tracer survey or a temperature or noise log to determine the absence of significant fluid movement pursuant to LAC 43:XVII.3627.A.3.

The agency may require additional or alternative tests if the results presented by the owner or operator are not satisfactory to demonstrate mechanical integrity pursuant to LAC 43:XVII.3627.A.5. Also, the agency may allow the use of a test to demonstrate mechanical integrity other than those described in LAC 43:XVII.3627.A, with the written approval of the US EPA Administrator. To obtain approval, the agency must submit a written request to the US EPA Administrator that must set forth the proposed test and all technical data supporting its use.

The agency expects to review the results of approximately 20 MITs from Class VI well owners or operators each year.

9. Procedures to Notify Operators of the Requirement to Apply for and Obtain a Permit

Class I and Class V Wells

Louisiana LOC does not currently have any known Class I or Class V wells that inject carbon dioxide as a primary injection stream.

Class II ER Wells

The agency will evaluate information about Class II enhanced oil recovery wells (e.g., carbon dioxide injection and production data or information related to the other factors at LAC 43:XVII.3603.G.2) and identify whether any projects are approaching risk thresholds within four years of receiving Class VI primacy in accordance with 40 CFR 145.23(f). Because LOC has primacy for both the 1422 and 1425 programs, no inter-agency cooperation will be required to convert a Class II well to a Class VI well.

10. Injection Well Inventory

LOC staff currently enter new well information into our agency database, SONRIS. As modifications occur to wells during the operational lifetime of each well, the information contained in SONRIS is updated accordingly. Data queries are executed to export well inventories for all well class types, and Class VI wells will be no exception.

11. Exempted Aquifers

Owners or operators of Class II ER wells may apply to expand the areal extent of Class II aquifer exemptions. Such requests must be submitted concurrently with Class VI permit applications, pursuant to LAC 43:XVII.3603.F.

If such requests are received, the agency will evaluate the application to determine that the area of the proposed expansion is sufficiently large to contain the carbon dioxide plume and pressure front and was determined in a manner that is consistent with the AoR modeling required under LAC 43:XVII.3615.B and whether the request meets the criteria at 40 CFR 146.4.

Following this evaluation and a determination that the proposed expansion of the areal extent of the aquifer exemption meets the requirements at 40 CFR 144.7(d) and 146.4, the agency will forward the request to the EPA Region 6. No designation of an expansion of the areal extent of a Class II ER aquifer exemption for GS injection will be final unless approved by the USEPA Administrator as a revision. Other than USEPA-approved expansions of the areal extent of existing Class II aquifer exemptions, no aquifer exemptions will be issued for Class VI injection-related activities.

12. Transboundary Notification and Documentation Procedures

Due to the potentially large AoRs associated with GS projects, interstate issues may need to be taken into account. Pursuant to La. R.S. 36:354.A.10 and B.6, the state will notify authorities in any states, tribes, and territories of Class VI permit applications where the AoR crosses jurisdictional boundaries.

Permit applicants must provide a list of contacts for those states and tribes identified to be within the AoR of the Class VI project pursuant to LAC 43:XVII.3607.C.2.s.

Based on this information and a review of the extent of the AoR, the state will notify appropriate staff in affected jurisdictions in writing to provide information about the proposed project and invite them to provide input during the permit application review process or participate in/monitor the public participation process associated with the permit application.

The state will document all input received and the responses provided. This documentation will be made a part of the administrative record for the permit application.

13. Injection Depth Waivers

Louisiana LOC will not approve nor issue injection depth waivers.

14. Financial Responsibility.

The state's regulation, at LAC 43:XVII.3609.C requires owners or operators of Class VI wells to demonstrate and maintain financial resources to perform all required corrective action, plug the injection well, conduct post injection site care and site closure, and perform any needed emergency and remedial response.

Agency staff with financial expertise will review the cost estimates provided by applicants to verify that they are sufficient to cover these activities and evaluate the financial instruments the applicant proposes to use to verify that they qualify and are appropriate.

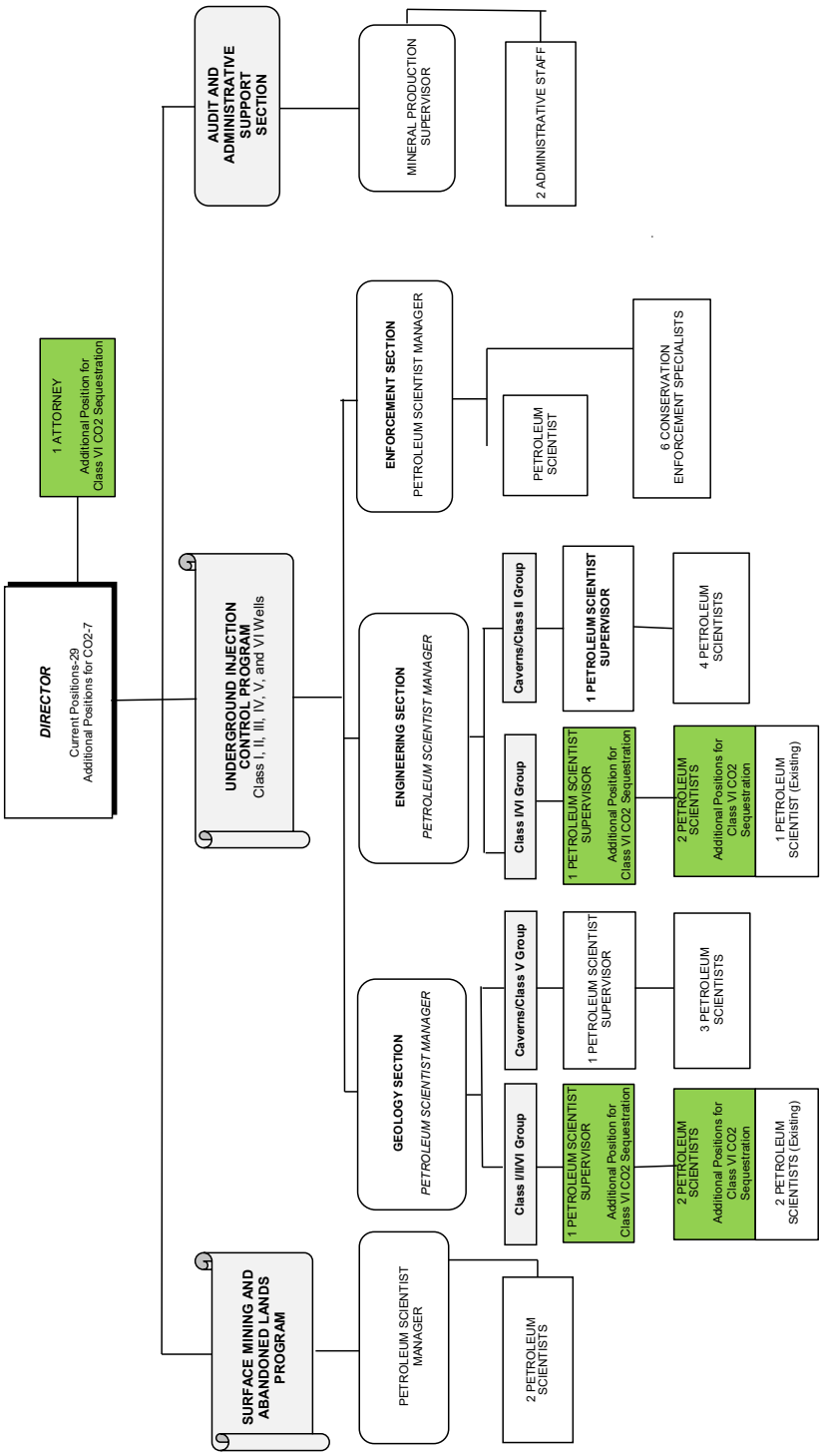
Even after the financial instruments have been approved, LOC staff will continue these on-going efforts to make sure the operator maintains financial responsibility: (1) update annual cost to account for inflation; (2) update cost following amendment of project plans; and (3) oversight of financial instruments to make sure they remain active, sufficient, and meet the criteria required pursuant to LAC 43:XVII.3609.C.

15. Reports.

The owner or operator is required to submit all required reports, submittals, and notifications under LAC 43:XVII.3629 to both the LOC and to EPA, in an electronic format acceptable to the EPA. In order to assure both the State, as the primacy authority, and EPA, as the oversight authority, have consistent data throughout program implementation, LOC agrees to submit to EPA or allow EPA viewing access to all Class VI reports, submittals, and notifications submitted to the State. LOC will assist EPA in owner or operator compliance with 40 CFR § 146.9 1(e) by submitting to EPA or allowing EPA viewing access to all required reports, submittals, and notifications under Subpart H of part 146 through the Department's database in an electronic format approved by EPA.

Reports submitted to the LOC shall be uploaded by the owner or operator to the Geologic Sequestration Data Tool (GSDT). The EPA has viewing authority of all reports submitted to the LOC through the GSDT.

APPENDIX I: Organizational Chart



APPENDIX II: SOS Decision Questions

1. Have the potential and real adverse environmental effects of the proposed project been avoided to the maximum extent possible?

2. Does a cost benefit analyses of the environmental impact costs versus the social and economic benefits of the proposed project demonstrate that the latter outweighs the former?

3. Are there alternative projects which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?

4. Are there alternative sites which would offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits?

5. Are there mitigating measures which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?

APPENDIX III: Form UIC-60 CCS

OFFICE OF CONSERVATION

INJECTION AND MINING DIVISION
617 N. 3rd St.
BATON ROUGE, LA, 70802

FORM UIC-60 CCS
PERMIT APPLICATION

APPLICATION TYPE:	☐ New Class VI Injection Well	☐ Class VI Conversion (SN _____)

APPLICANT INFORMATION					
1. OPERATOR NAME:		**2.** OPERATOR CODE:		**3.** OPERATOR PHONE:	
4. OPERATOR ADDRESS:		**6.** FACILITY ADDRESS:			
5. OPERATOR EMAIL:					
7. CONTACT NAME:		**8.** CONTACT NUMBER			

WELL INFORMATION			
9. WELL NAME:		**10.** WELL NUMBER:	
11. PARISH:		**12.** FIELD:	
13. LOCATION COORDINATES:		**14.** STATE PLANE COORDINATES (Lambert, NAD 27):	
Latitude: Longitude:		☐ North Zone ☐ South Zone	X: Y:

15. WELL CONSTRUCTION INFORMATION

CASING SIZE (IN.)	**HOLE SIZE (IN.)**	**CASING WEIGHT (lb/ft)**	**DEPTH SET**		**TOTAL CEMENT USED (sacks)**	**TYPE CEMENT**
			TOP (FT.)	BOTTOM (FT.)		

16. ELEVATION OF DATUM (ft.):		**17.** DATUM:	☐ KB ☐ GL ☐ MSL	**18.** TOTAL DEPTH (ft.):	

PROPOSED INJECTION INTERVAL INFORMATION							
19. DEPTH OF PROPOSED INJECTION ZONE (ft.):				**20.** INJECTION FORMATION NAME:			
Top:		Bottom:		**21.** INJECTION THROUGH:	☐ Perforations	☐ Open Hole	☐ Screen
22. PROPOSED PERFORATED/OPEN HOLE INTERVAL(S) (ft.):							

PROPOSED INJECTION STREAM INFORMATION			
23. PROJECTED AVERAGE MONTHLY INJECTION VOLUME (tons):		24. PROJECTED TOTAL INJECTION VOLUME (tons):	
25. FACILITY SIC CODES:			

26. SITE PERMITS (§607.B.9)		
PERMIT TYPE	**APPLICATION NUMBER**	**CURRENT STATUS**
27. LIST RELEVANT LOUISIANA OFFICE OF CONSERVATION ORDERS:		

JURISDICTIONAL ACKNOWLEDGEMENTS	
28. IS THE PROPOSED WELL OR PLUME BOUNDARY (LOCATED ON INDIAN LANDS UNDER THE JURISDICTION OF PROTECTION OF THE FEDERAL GOVERNMENT?	☐ YES ☐ NO
29. IS THE PROPOSED WELL LOCATED ON STATE WATER BOTTOMS OR OTHER LANDS OWNED BY OR UNDER THE JURISDICTION OF THE STATES	☐ YES ☐ NO

CERTIFICATION BY OPERATOR

The signature below must be obtained from a duly appointed employee of the operating company.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment (LSA-RS 30:17).

1. NAME (PRINT)	**2. TITLE (PRINT)**
3. SIGNATURE	**4. DATE**

APPENDIX IV: Form UIC-17

INJECTION WELL WORK PERMIT

Office of Conservation

UIC-17 Injection and Mining Division

MAILING ADDRESS
OFFICE OF CONSERVATION
Injection and Mining Division
617 N. Third Street, 9th Floor
Baton Rouge, LA 70802

Operator's Name and Address:		**Work Permit No.**		
		Serial No.		
		Operator Code:		
		Phone:		
Well Name and Number:		**Fax:**		
Field:	**Parish:**	**Sec.**	**Twp.**	**Rng.**

DESCRIPTION OF WORK

Field Contact to Schedule Well Test :	**Phone:**	
Permit Requested By:	**Date:**	
Signature:	**Email Address:**	
Permit Authorized By: **Stephen H. Lee, Director**	**Date:**	**Expiration Date:**

INSTRUCTIONS

A single application will suffice for one or combinations of the operations below provided that if more than one operation is requested on one form, such work must be performed consecutively. Once signed by an IMD Representative, this form will be sent to the operator and serve as the approved permit.

1. Plug and Abandon (Provide Well Schematic)	7. Back Wash, Acidize or Other Well Stimulation (Class I and VI Wells Only)
2. Deepen	8. Pull Casing
3. Perforate	9. Replace Wellhead
4. Squeeze	10. Run a Liner
5. Plugback	11. Other (Any work requiring use of Workover Rig)
6. Pull Tubing/Packer	To Change Zone of Disposal/Completion submit Form UIC-32

Email all Injection Well Work Permit Applications to Injection-Mining@LA.gov, **OR** mail the application to the address provided in the upper right corner.

In accordance with RS 30:21, effective August 1, 2015, all Work Permit applications will be assessed a non-refundable $125 fee, due upon submittal of this form.

To perform any of the above work types without first obtaining a work permit is a violation of the law (LAC43:XIX.105.), which carries with it possible civil and criminal penalties.

APPENDIX V: Form UIC WH-1

FORM UIC-WH1
for INJECTION WELLS

WELL HISTORY & WORK RESUME REPORT

MAILING ADDRESS
OFFICE OF CONSERVATION
INJECTION & MINING DIVISION
P.O. BOX 94275
BATON ROUGE, LA 70804-9275

PHYSICAL ADDRESS
OFFICE OF CONSERVATION- 9th FL
INJECTION & MINING DIVISION
617 N. THIRD ST.
BATON ROUGE, LA 70802

SERIAL NUMBER | **APPLICATION/PERMIT NUMBER**

PERMITTED INJECTION ZONE (FT) *(FOR CAVERNS: TOP IS TOP OF SALT & BOTTOM IS ORIGINAL TD)*
TOP: BOTTOM:

PERFORATED/OPEN HOLE INTERVAL (FT) *(FOR CAVERNS: DEEPEST CMT'D CSG & BOTTOM OF CAVERN)*
TOP: BOTTOM:

FIELD | **FIELD CODE**

PARISH | **PARISH CODE**

SEC	**TWN**	**RNG**

GENERAL INFORMATION

WORK TYPE
(CHECK THE APPROPRIATE BOX)

- ☐ NEW DRILL WELL
- ☐ WELL CONVERSION
- ☐ REDRILL
- ☐ CHANGE OF ZONE
- ☐ SIDETRACK
- ☐ CAVERN MIT/SONAR
- ☐ TEMPORARILY ABANDON
- ☐ OTHER WORK PERMIT

WELL TYPE
(CHECK THE APPROPRIATE BOX)

- ☐ CLASS I NONHAZARDOUS
- ☐ CLASS I HAZARDOUS
- ☐ CLASS II EOR
- ☐ CLASS II SWD
- ☐ CLASS II SWD-COMMERCIAL
- ☐ CLASS II HYDROCARBON STORAGE
- ☐ CLASS III SOLUTION MINING
- ☐ CLASS VI CARBON SEQUESTRATION
- ☐ OTHER:

WELL NAME | **WELL NUMBER**

OPERATOR | **OPERATOR CODE**

ADDRESS | **CITY** | **STATE** | **ZIP CODE**

SPUD DATE (MM/DD/YYYY)	**TOTAL DEPTH** (FT)	**PBTD** (FT) *(FOR CAVERNS: TD OF MOST RECENT SONAR)*
GROUND ELEVATION (FT)	**CASING HEAD FLANGE ELEVATION** (FT)	**DISTANCE FROM RKB TO CHF** (FT)

TUBING/HANGING STRINGS AND PACKER

Enter this information for each work permit regardless of whether or not it has changed. If this is left blank it means no tubing/hanging string(s) or packer is in the well.

TUBING/HANGING STRING SIZE (OD-INCHES)	**TUBING/HANGING STRING DEPTH** (FEET)	**PACKER DEPTH** (FEET)

WELL COMPLETION INFORMATION

ONLY COMPLETE THIS SECTION IF:

1-THIS IS A NEW DRILL; 2-THE COMPLETION INFORMATION FOR THIS WELL HAS CHANGED; OR
3-A CORRECTION IS BEING SUBMITTED WITH SUPPORTING DOCUMENTATION SUCH AS DRILLING REPORTS OR CEMENTING RECORDS.

CASING AND LINER RECORD

Complete this section with casing information and with any relevant information documented in the Description of Work Section.
For New Drills, all depths must be reported relative to ground level. For all other situations, report Datum as appropriate KB, CHF, GL, etc.

CASING/LINER SIZE (OD-INCHES)	**HOLE SIZE** (INCHES)	**CASING/LINER WEIGHT** (LB/FT)	**CASING/LINER SETTING DEPTHS** TOP (FEET)	BOTTOM (FEET)	DATUM	**CASING TEST PRESSURE** (PSI)	**CASING TEST DURATION** (HOURS)	**CASING TEST DATE** (MM/DD/YYYY)	**NAME OF TEST WITNESS- STATE IF CONSERVATION AGENT OR OFFSET OPERATOR**

CASING AND LINER CEMENT RECORD

Complete this section with the cement information and with any relevant information documented in the Description of Work Section. If the cement information for the casing or liner is unknown, enter UNK in the Total Cement Used column; if the casing or liner was not cemented, enter 0 (zero) in the column.

CASING/LINER SIZE (OD-INCHES)	**HOLE SIZE** (INCHES)	**CASING/LINER SETTING DEPTHS** (FEET) TOP	BOTTOM	**TOTAL CEMENT USED** (SACKS)	**LEAD** AMOUNT (SACKS)	YIELD (CU FT/SACK)	TYPE (CLASS)	**TAIL** AMOUNT (SACKS)	YIELD (CU FT/SACK)	TYPE (CLASS)

PLUG BACK RECORD

Acceptable plug types are 100-foot cement plugs (CP), Cast Iron Bridge Plugs topped with at least 10 feet of cement (CIBP) or a Cement Retainer topped with at least 20 feet of cement (CR). Include the top of cement in the Upper Plug Depth. Convert Cubic Feet of Cement to Sacks of Cement. Use the shallowest Upper Plug depth in the PBTD field.

DATE WORK PERMORMED (MM/DD/YYYY)	**PLUG TYPE** (CP, CIBP, or CR)	**UPPER PLUG DEPTH** (FEET)	**LOWER PLUG DEPTH** (FEET)	**TOTAL CEMENT USED** (SACKS)	**CEMENT YIELD** (CU FT/SACK)	**TEST PRESSURE** (PSI)	**TEST DURATION** (HOURS)	**TEST DATE** (MM/DD/YYYY)

I, the undersigned, state: that I am employed by the company indicated below; that I am authorized to make this report; that this report was prepared under my supervision and direction; and that all facts stated herein are true, correct and complete to the best of my knowledge. I am aware there are significant penalties for submitting false information, including the possibility of a fine, imprisonment or both (LSA-R.S. 30:17).

PRINT NAME & TITLE _____ PRINT COMPANY NAME _____

SIGNATURE _____ DATE _____

EMAIL ADDRESS _____ TELEPHONE NUMBER _____

WELL LOGGING AND TESTING DATA

Complete this section with the testing and logging information associated with THIS application.

WAS A MIPT PERFORMED?	WITNESSED BY A CONSERVATION AGENT?	TEST PRESSURE (PSI)	TEST DURATION (HRS)	TEST DATE
☐ YES ☐ NO	☐ YES ☐ NO			

MEASUREMENT OF THE BOTTOM HOLE PRESSURE OR THE STATIC FLUID LEVEL.	MEASURED BOTTOM HOLE PRESSURE AND DEPTH	DATE MEASURED	WITNESSED BY A CONSERVATION AGENT?
	PSI @ FT.		☐ YES ☐ NO
	STATIC FLUID LEVEL (FT.)	**DATE MEASURED**	**METHOD USED** / **WITNESSED BY A CONSERVATION AGENT?** ☐ YES ☐ NO

WAS WELL DIRECTIONALLY DRILLED?	WAS A DIRECTIONAL SURVEY MADE?	WERE 3 COPIES FILED WITH THE OFFICE OF CONSERVATION?	IF YES, DATE SUBMITTED
☐ YES ☐ NO	☐ YES ☐ NO	☐ YES ☐ NO	

TYPE OF ELECTRICAL OR OTHER LOGS RUN UNDER THIS APPLICATION ONLY (COPIES OF ALL LOGS MUST BE FILED WITH THE INJECTION & MINING DIVISION.) **DATE SUBMITTED**

MIT AND SONAR DATA

Salt Cavern Wells ONLY

WAS A MIT PERFORMED?	TEST DATE	DATE SUBMITTED	WAS A CASING INSPECTION PERFORMED?	DATE OF LOG	DATE SUBMITTED
☐ YES ☐ NO			☐ YES ☐ NO		

WAS SONAR PERFORMED?	WAS THE ROOF SURVEYED?	DATE OF THE SONAR	DATE SUBMITTED	CAVERN VOLUME (BBLS)	PER LATEST SONAR DATED
☐ YES ☐ NO	☐ YES ☐ NO				

TYPE OF ELECTRICAL OR OTHER LOGS RUN UNDER THIS APPLICATION ONLY (COPIES OF ALL LOGS MUST BE FILED WITH THE INJECTION & MINING DIVISION.) **DATE SUBMITTED**

WORK RÉSUMÉ

List below all work performed (the drilling, completion, or any other work) under THIS Injection & Mining Division permit.

DATE WORK PERFORMED (MM/DD/YYYY)	SERVICE COMPANY	DESCRIPTION OF WORK

FORMATIONS

List below all-important Paleofaunal or Geological Formation tops, Cap Rock and Salt Overhang bottoms.

FORMATION	DEPTH (FT)	FORMATION	DEPTH (FT)

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
III. Attorney General's Statement

Jeff Landry
Attorney General

State of Louisiana
DEPARTMENT OF JUSTICE
CIVIL DIVISION
P.O. BOX 94005
BATON ROUGE
70804-9005

February 10, 2021

Mr. David Gray
Acting Regional Administrator, Region 6
U.S. Environmental Protection Agency
1201 Elm St.
Dallas, TX 75270

RE: Attorney General's Statement to Accompany Louisiana's Underground Injection Control Program Class VI Primacy Application

Dear Mr. McQueen:

I hereby certify, pursuant to my authority as Attorney General for the State of Louisiana, in accordance with the Safe Drinking Water Act as amended, and 40 CFR 145.24(a), that in my opinion the laws of the State of Louisiana to apply for, assume, and carry out the program set forth in the Program Description submitted by the Louisiana Department of Natural Resources, Office of Conservation have been duly adopted and are enforceable. The specific authorities provided are contained in statutes or regulations that are lawfully adopted at the time this Statement is approved and signed and will be fully effective by the time the program is approved.

The Louisiana Department of Natural Resources, Office of Conservation has adequate authority to carry out the program set forth in the Program Description pursuant to the following statutes and regulations:

- Louisiana Revised Statutes §§30:1, 6, 12, 15, 18, 22 and 30:1101 to 30:1111; and
- Statewide Order No. 29-N-6 (LAC 43:XVII Subpart 6, Chapter 6. Class VI Injection Wells).

Furthermore, I certify that the State of Louisiana has not enacted any environmental audit privilege and/or immunity laws.

With best regards, I am,

Very truly yours,

By: _____
Jeff Landry
Louisiana Attorney General

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
IV. Memorandum of Agreement Addendum 1

MEMORANDUM OF AGREEMENT ADDENDUM 1
Between
The State of Louisiana
And
The United States Environmental Protection Agency Region 6
For the Class VI UIC Program

I. General

The Memorandum of Agreement between the state of Louisiana and EPA Region 6, dated January 13, 1982, of Underground Injection Control (UIC) Program Memorandum of Agreement (program MOA), is supplemented by this Addendum 1. All terms defined in the program MOA shall have the same meanings for purposes of this Addendum 1.

This Addendum is entered into by the state of Louisiana and signed by Richard P. Ieyoub, Commissioner of Conservation for the Louisiana Department of Natural Resources (hereafter, "the state" or "LDNR") with the United States Environmental Protection Agency, Region 6, and signed by David Gray, Acting Regional Administrator (hereafter, "EPA" or "Regional Administrator"). This Addendum shall become effective when approved by the Regional Administrator.

A. Lead Agency Responsibilities

The LDNR is the lead agency to coordinate the implementation of the Class VI UIC program as authorized by Section 1422 of the Safe Drinking Water Act (SDWA). The LDNR also is the lead agency overseeing Class I, III, IV and V injection wells under Section 1422 and Class II injection wells under Section 1425. LDNR coordinates the state program to facilitate communication between the EPA and any other state agencies having program responsibilities for other injection well classes. These responsibilities shall include, but not be limited to, the submission of grant applications, reporting and monitoring results, and annual report requirements. The LDNR is responsible for and has authority over all Class VI injection wells.

B. Review and Modifications

This Addendum shall be reviewed annually as part of the annual program grant and State/EPA Agreement ("SEA") process. The annual program grant and the SEA shall be consistent with this Addendum and may not override this Addendum.

This Addendum may be modified upon the initiative of the state or EPA. Modifications must be in writing and must be signed by LDNR and the Regional Administrator. Modifications become effective when signed by both parties. Modifications may be made by revision prior to the effective date of this Addendum or subsequently by addenda attached to this Addendum and consecutively numbered, signed, and dated.

C. Conformance with Laws and Regulations

The Louisiana Injection and Mining Division (IMD), a division within LDNR, shall administer the Class VI UIC program consistent with the state's submission for program approval, the program MOA, this Addendum, the Safe Drinking Water Act (SDWA), current federal policies and regulations, promulgated minimum requirements, priorities established as part of the annually

approved state UIC grant, state and federal law, and any separate working agreements which shall be entered into with the Regional Administrator as necessary for the full administration of the Class VI UIC program.

D. Responsibilities of Parties

The parties agree to maintain a high level of cooperation and coordination between the LDNR and EPA staffs to assure successful and efficient administration of the Class VI UIC program. In this partnership, the Regional Administrator will provide to LDNR necessary technical and policy assistance on program matters.

The Regional Administrator is responsible for keeping LDNR apprised, in a timely manner, of the meaning and content of the federal guidelines, technical standards, regulations, policy decisions, directives, and any other factors which affect the Class VI UIC program.

LDNR will carry out the Class VI UIC Program as outlined in the Class VI primacy application and any subsequent modifications.

It will be the policy of EPA and LDNR to minimize paperwork and interagency decision-making procedures and to make the best use of available manpower and funds so as to prevent duplication of effort and unnecessary delays to the extent allowable by law.

The strategies and priorities for issuance, compliance, monitoring and enforcement of Class VI permits, and implementation of technical requirements shall be established in the state's program description, the annual SEA, or in subsequent working agreements. If requested by either party, meetings will be scheduled at reasonable intervals between the state and EPA to review specific operating procedures, resolve problems, or discuss mutual concerns involving the administration of the Class VI UIC program.

E. Sharing of Information

The LDNR shall promptly inform EPA of any proposed, pending, or enacted modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions, which might affect the state program and the state's authority to administer the Class VI UIC program. The LDNR shall promptly inform EPA of any resource allocation changes (for example, personnel budget, equipment, etc.) which might affect the state's ability to administer the program.

Any information obtained or used by the state under its Class VI UIC program shall be available to EPA upon request without restriction. If the information has been submitted to the state under a claim of confidentiality, the state must submit that claim to EPA when providing EPA such information. Any information obtained from a state and subject to a claim of confidentiality will be treated in accordance with 40 CFR Part 2 and 40 CFR 144.5. If EPA obtains information from the state that is not claimed to be confidential, EPA may make that information available to the public without further notice.

EPA shall furnish the state the information in its files not submitted under a claim of confidentiality which the state needs to implement its approved Class VI UIC program. EPA shall furnish to LDNR information submitted to EPA under a claim of confidentiality which the state needs to implement its approved program subject to conditions in 40 CFR Part 2. As required by 40 CFR 2.209(f), EPA will require permittees and applicants to provide express consent for disclosure to LDNR upon submission of confidential business information. Permittees and

applicants may request confidentiality of any submittals or information provided to LDNR pursuant to LAC 43:XVII.3603.I and La. R.S. 30:1103 et seq. If permittees or applicants do not request confidentiality of information at the time of submittal to LDNR, the information may be made available to the public pursuant to La. R.S. 44:1 et seq.

F. Duty to Revise Program

As stated in 40 CFR 145.32(e), within 270 days of any amendment to any regulation promulgated at 40 CFR 124, 144, 145 or 146 revising or adding any requirement respecting state UIC programs, the state shall submit notice to EPA showing that the state program meets the revised or added requirements.

G. Duration of MOA

This Addendum will remain in effect until such time as state primacy enforcement responsibility is returned to EPA by the state, or withdrawn by EPA, according to the provisions of 40 CFR Part 145.33, and 145.34.

H. General Provisions

Nothing in this Addendum is intended to affect any Class VI UIC or program requirement, including any standards or prohibitions established by state or local law, as long as the state or local requirements are no less stringent than or are deemed equally protective as: (1) any set forth in the Class VI UIC regulations; or (2) other requirements or prohibitions established under SDWA or applicable regulations.

Nothing in this Addendum shall be construed to limit the authority of EPA to take action pursuant to Sections 1421, 1422, 1423, 1424, 1425, 1431 or other sections of SDWA.

This Addendum does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against LDNR or EPA, their officers or employees, or any other person. This Addendum does not direct or apply to any person outside of LDNR and EPA.

II. Permitting

A. General

The state is responsible for expeditiously drafting, circulating, issuing, reissuing, and terminating Class VI permits as detailed in the approved Class VI UIC Program Description, and pursuant to State and federal laws, rules, and regulations. The Commissioner[1] shall review and issue permits under the authority of Louisiana's Class VI Injection Wells Rule LAC 43:XVII.Chapter 6. Permits issued by LDNR shall be in compliance with applicable federal and state requirements.

All Class VI permits shall meet the public participation requirements at 40 CFR 25 and 124, interstate coordination requirements at 40 CFR 146.82(b), and permitting procedures at 40 CFR 124 for Class VI wells.

[1]*Appointing Authority for the Louisiana Office of Conservation*

B. Class VI Injection Depth Waivers

Class VI injection depth waivers will not be permitted by LDNR.

C. Post-Injection Site Care and Site Closure

The state and EPA agree to consult on any alternative post-injection site care timeframes (other than the 50-year default timeframe required by 40 CFR 146.93), if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs.

Pursuant to 40 CFR 145.1(g) nothing in this Addendum precludes the state from adopting or enforcing requirements which are more stringent or more extensive than those required under federal regulations, and if the state program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the federally approved program.

D. Transfer of Responsibility from EPA

The Regional Administrator shall transfer to the state any pending permits, applications, and any other information relevant to Class VI UIC program operation not already in the possession of the Commissioner when a state assumes primacy for the Class VI UIC program.

E. Coordination with EPA

EPA and the state may coordinate when appropriate the processing of permits for facilities or activities that require permits from both EPA and the state under different programs.

F. Consolidation of Permit Issuance

The state and EPA may agree on provisions for joint processing of permits for facilities or activities which require permits from both EPA and the state under different programs. The state and EPA may consolidate draft permits, fact sheets, public comment periods and any public hearings on those permits which are jointly processed. The commissioner shall not, however, proceed with joint processing of permits if this would result in unreasonable delay in the issuance of one or more permits.

G. Compliance Schedule and Reports

The state agrees to establish compliance schedules in permits where appropriate and to require periodic reporting on compliance with compliance schedules and other permit conditions.

H. Environmental Justice

The state agrees to examine the potential risks of a proposed Class VI well within his or her jurisdiction to identify and address any particular impacts on minority and low-income populations.

III. Compliance Monitoring

A. General

The state shall operate a timely and effective compliance monitoring system to track compliance with permit conditions and program requirements. For purposes of this Addendum the terms "compliance monitoring" or "compliance evaluation" shall refer to all efforts associated with determining compliance with Class VI UIC program requirements.

B. Compliance Schedule

The state agrees to maintain procedures to receive, evaluate, retain and investigate all notices and reports that are required by permit compliance schedules and program regulations. These procedures shall also include the necessary elements to investigate the failure of persons required to submit such notices and reports. The state shall initiate appropriate compliance actions when required information is not received or when the reports are not submitted.

C. Review of Compliance Reports

The state shall conduct a timely and substantive review of all such reports to determine compliance status. The state shall operate a tracking system to determine if: (1) the reports required by program regulations are submitted; (2) the submitted reports are complete and accurate; and (3) the permit conditions and program requirements are met. The reports and notices shall be evaluated for compliance status in accordance with the state compliance program and the program requirements.

D. Inspection and Surveillance

The LDNR agrees to have inspection and surveillance procedures to determine compliance or noncompliance with the applicable requirements of the Class VI UIC program. Surveys or other methods of surveillance shall be utilized to identify persons who have not complied with permit applications and program requirements. Any compilations, index, or inventory obtained for such facilities or activities shall be made available to the Regional Administrator upon request.

The LDNR shall conduct periodic inspections of the facilities and activities subject to regulatory requirements. These compliance monitoring inspections shall be performed to assess compliance with all Class VI UIC program requirements and include selecting and evaluating a facility's monitoring and reporting program. These inspections shall be conducted to determine compliance or noncompliance with issued permits, to verify the accuracy of information submitted by operators in reporting forms and monitoring data, and to verify the adequacy of sampling, monitoring, and other methods to provide the information.

E. Information from the Public

The LDNR shall provide the opportunity for the public to submit information on violations and shall have procedures for receiving, investigating, and ensuring proper consideration of the information.

F. Authority to Enter

The LDNR (and other state designees) engaged in compliance monitoring and evaluation shall have the authority to enter any site or premises subject to regulation or to review and copy the records of relevant program operations where such records are kept.

G. Admissibility

Any investigatory inspections shall be conducted and samples and other information collected in a manner to provide evidence admissible in an enforcement proceeding or in court.

IV. Enforcement

A. General

The state is responsible for taking timely and appropriate enforcement action against persons in violation of Class VI program requirements, permit conditions, compliance schedules, technical and other Class VI program requirements. This includes violations detected by state or federal inspections.

EPA shall be notified of any enforcement actions taken by the state. Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action. Such a determination shall result in EPA filing an action to enforce the state's rules consistent with Section 1423 of the SDWA.

Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action.

B. Enforcement Mechanisms

The state shall have the mechanism to restrain immediately and effectively any person engaging in any unauthorized activity or operation, which is endangering or causing damage to public health or the environment as applicable to the program requirements. LDNR shall also have the means to sue in courts of competent jurisdiction to prohibit any threatened or continuing violation of any UIC program requirement. Additionally, LDNR shall have the mechanism to access or sue to recover in court civil penalties and criminal remedies as established in La. R.S. 30:1106, La. R.S. 30:18, and 40 CFR 145.13.

C. EPA Enforcement

Nothing in this Addendum shall affect EPA's authority or responsibility to take enforcement actions under Sections 1423 and 1431 of SDWA.

When the state has a fully approved Class VI UIC program, EPA will not take enforcement actions without providing prior notice to the state and otherwise complying with sections 1423 and 1431 of SDWA.

D. Assessment of Fines

The state shall agree to assess civil penalties in amounts appropriate to the violation as required in La. R.S. 30:1106, and 40 CFR145.13(c).

V. EPA Oversight

A. General

EPA shall oversee the state's administration of the Class VI UIC program on a continuing basis to assure that such administration is consistent with this Addendum, the program MOA, the state UIC grant application, and all applicable requirements embodied in current regulations, policies, and federal law.

In addition to the specific oversight activities listed in this section, EPA may from time to time request specific information, and the state shall submit and provide access to files necessary for evaluating the state's administration of the Class VI UIC program.

B. Immediate Reporting on Noncompliance

The LDNR shall immediately notify the Regional Administrator by telephone, or otherwise, of any major, imminent hazard to public health resulting from the endangerment of a USDW of the state by Class VI injection well activities.

C. Program Reports

Federal requirement 40 CFR § 146.9 1(e) requires that regardless of whether a State has primacy enforcement responsibility, owners or operators must submit all required reports, submittals, and notifications under Subpart H of part 146 to EPA in an electronic format approved by EPA. Additional State regulations require the owner or operator to submit reports, submittals, and notifications to LDNR. In order to assure both the State, as the primacy authority, and EPA, as the oversight authority, have consistent data throughout program implementation, LDNR agrees to submit to EPA or allow EPA viewing access to all Class VI reports, submittals, and notifications submitted to the State. LDNR will assist EPA in owner or operator compliance with 40 CFR § 146.9 1(e) by submitting to EPA or allowing EPA viewing access to all required reports, submittals, and notifications under Subpart H of part 146 through the Department's database in an electronic format approved by EPA.

D. Quarterly Program Reports

The LDNR shall submit to the Regional Administrator quarterly non-compliance reports as specified in 40 CFR § 144.8(a).

Quarterly reports will be submitted in accordance with the following schedule (or as otherwise specified in LDNR's FY UIC workplan):

- October, November, December – due January 30
- January, February, March – due April 30
- April, May, June – due July 30
- July, August, September – due October 30

E. Annual Program Reports

LDNR shall submit an annual program report as specified by 40 CFR § 144.8 to the Regional Administrator sixty (60) days after the end of the federal fiscal year. The report is for the period of October 1 through September 30 (federal fiscal year) and will consist of the following:

i. A well inventory consisting of the facility name and ID, location, well type, and well status.
ii. A written summary of the major program activities completed and in progress during the fiscal year as identified in the work plan.

LDNR will provide the EPA any information or data necessary to assist in the development of the State/EPA SEA process.

F. Major Facilities

Major facilities will include: all Class VI Facilities.

G. Aquifer Exemptions

Other than EPA approved aquifer exemption expansions that meet the criteria for exempted aquifers, new aquifer exemptions shall not be issued for Class VI injection well activities. Even if an aquifer has not been specifically identified by LDNR, it is an underground source of drinking water if it meets the definition at 40 CFR § 144.3.

H. Mechanical Integrity

LDNR may allow the use of a test to demonstrate mechanical integrity other than those listed in the Class VI UIC Program description. Any alternative mechanical integrity test must receive written approval from the EPA Administrator prior to implementation and be consistent with the requirements of 40 CFR § 146.89(e).

I. Inspection and Surveillance by EPA

The Regional Administrator may select facilities and activities within the state for EPA inspection.

EPA may conduct such inspections jointly with the state. The LDNR shall give the Regional Administrator adequate notice to participate in any compliance evaluation inspection scheduled by the state.

The Regional Administrator may also choose to conduct inspections independently of the state's schedule. In such cases, EPA shall notify the state at least seven (7) days before any inspection that EPA determines to be necessary to allow coordination of scheduling and allow joint inspection. However, if an emergency exists, or for some reason it is impossible to give advance notification, the Regional Administrator may waive advance notification to inspect a facility. In keeping with Section 1445(b)(2) of SDWA, the state understands not to inform the person whose property is to be entered during the pending inspection.

J. Annual Performance Evaluation

EPA shall conduct, at least annually, performance evaluations of the state program using program reports and other requested information to determine state program consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies. The review will not only include a review of financial expenditures but reviews on progress towards program implementation, changes in the program description, and efforts towards progress on program elements.

EPA shall submit a summary of the evaluation findings to the state outlining the deficiencies in program performance and recommendations for improving state operations. The report also might provide guidance for the development of an upcoming grant application. The state shall have 15 working days from the date of receipt to concur with or comment on the findings and recommendations.

VI. Signatures

IN WITNESS WHEREOF, the parties have executed this Addendum.

Louisiana Department of Natural Resources

Richard P. Ieyoub
Commissioner of Conservation, Department of Natural Resources

9-17-2021
Date

United States Environmental Protection Agency, Region 6

David Gray
Acting Regional Administrator

Date

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
V. Notice of Intent

NOTICE OF INTENT

Department of Natural Resources
Office of Conservation

Class VI Injection Wells
(LAC 43:XVII.Chapter 6)

In accordance with the provisions of the Administrative Procedure Act, R.S. 49:950 et seq., and through the power delegated under the laws of the state of Louisiana, notice is hereby given that the Department of Natural Resources, Office of Conservation proposes to adopt Statewide Order No. 29-N-6 (LAC 43:XVII. Subpart 6, Chapter 6), to facilitate the permitting, siting, construction, operation, monitoring, and site closure of Class VI injection wells, which are used to injection carbon dioxide for the purposes of geologic sequestration.

The Department of Natural Resources, Office of Conservation proposes to adopt provisions governing the oversight of the Class VI carbon sequestration program within the Underground Injection Control (UIC) Program located within the Office of Conservation. Class VI wells are a federally-designated well class that inject carbon dioxide gas underground for long-term containment or sequestration, ultimately limiting net emissions for this greenhouse gas. The UIC Program is currently applying for primary enforcement authority from the United States Environmental Protection Agency (US EPA), modifying the UIC Program oversight to include Class VI well in addition to current oversight authority for Class I, II, III, IV, and V wells. Promulgation of Statewide Order 29-N-6 is required in order to obtain primary enforcement authority from the US EPA.

With the adoption of a new federal tax credit (IRS Section 45-Q), a large number of companies from oil and gas, utility, petrochemical, and other industries plan to construct and operate Class VI injection wells at new and existing sites in Louisiana to take advantage of 45-Q and mitigate carbon dioxide emissions. Currently, companies must submit Class VI permit applications to the US EPA. The promulgation of this proposed rule will enable the UIC Program to obtain primary enforcement authority from the US EPA so that permitting and compliance for Class VI wells will be incorporated into the UIC Program's current oversight authority for all other categories of injection wells.

Title 43

NATURAL RESOURCES

Part XVII. Office of Conservation—Injection and Mining

Subpart 6. Statewide Order No. 29-N-6

Chapter 6. Class VI Injection Wells

§601. Definitions

A. The following definitions apply to all regulations in this Chapter. Terms not defined in this Section for Class VI wells have the meaning given by R.S. (1950) Title 30, Section 1103.

Abandoned Well—a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

Act—Part I, Chapter 1 of Title 30 of the Louisiana Revised Statutes.

Act 517—Act 517 of the 2009 Louisiana regular legislative session. See *Louisiana Geologic Sequestration of Carbon Dioxide Act*.

Application—the filing by a person on the Office of Conservation forms for an underground injection permit, including any additions, revisions or modifications to the forms.

Aquifer—a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

*Area of Revie*w—the region surrounding the *geologic sequestration project* where USDWs may be endangered by the injection activity, and is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected *carbon dioxide stream* and displaced fluids, and is based on available site characterization, monitoring, and operational data as set forth in §§615.B. and 615.C.

Carbon Dioxide—naturally occurring, geologically sourced, or anthropogenically sourced carbon dioxide including its derivatives and all mixtures, combinations, and phases, whether liquid or gaseous, stripped, segregated, or divided from any other fluid stream thereof.

Carbon Dioxide Plume—the extent underground, in three dimensions, of an injected *carbon dioxide stream*.

Carbon Dioxide Stream—the carbon dioxide that has been captured from an emission source (e.g., a power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This meaning does not apply to any carbon dioxide stream meeting the definition of a hazardous waste under Title 40, Code of Federal Regulations, Part 261.

Casing—a metallic or nonmetallic tubing or pipe of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls form caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas or other fluid from entering or leaving the hole.

Catastrophic Collapse—the sudden and utter failure of overlying *strata* caused by removal of underlying materials.

Cementing—the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.

Cesspool—a drywell that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.

Commissioner—the Assistant Secretary of the Office of Conservation, Department of Natural Resources.

Confining Bed—a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.

Confining Zone—a geological formation, group of formations, or part of a formation stratigraphically overlying the *injection zone* that acts as a barrier to fluid movement above an *injection zone*.

Contaminant—any physical, chemical, biological, or radiological substance or matter in water.

Corrective Action—the use of UIC program-approved methods to ensure that wells within the area of review do not serve as conduits for the movement of fluids into USDWs.

Disposal Well—a well used for the disposal of waste into a subsurface stratum.

Drilling Mud—heavy suspension used in drilling an injection well introduced down the drill pipe and through the drill bit.

Draft Permit— a document prepared under §611.C.1 indicating the commissioner's decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit and a notice of intent to deny a permit as discussed in §§613.E.2 and 611.C are types of "draft permits." A denial of request for modification, revocation and reissuance, or termination, as discussed in §613.B.4 is not a draft permit.

Drywell—a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.

Effective Date—the date that the Louisiana State UIC Program is approved by the Environmental Protection Agency.

Emergency Permit—a UIC permit issued in accordance with §115 or §515.

Exempted Aquifer—an aquifer or its portion that meets the criteria of the definition of underground source of drinking water but which has been exempted according to the procedures set forth in §603.F.

Existing Injection Well or Project—an injection well or project other than a new injection well or project.

Experimental Technology—a technology which has not been proven feasible under the conditions in which it is being tested.

Facility or Activity—any facility or activity, including land or appurtenances thereto, that is subject to these regulations.

Fault—a surface or zone of rock fracture along which there has been displacement.

Flow Rate—the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.

Fluid—any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas or any other form or state.

Formation—a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity revealingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

Formation Fluid—fluid present in a formation under natural conditions as opposed to introduced fluids, such as drilling muds.

Generator—any person, by site location, whose act or process produces hazardous waste identified or listed in the Louisiana Hazardous Waste Management Program; or any person or entity who generates or causes to be generated any fluid for well injection.

Geologic Storage—the long or short-term underground storage of carbon dioxide in subsurface geologic formations.

Geologic Storage Facility—See *Geologic Sequestration Site*.

Geologic Storage Site—See *Geologic Sequestration Site*.

Geologic Sequestration—the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.

Geologic Sequestration Project—an injection well or wells used to emplace a *carbon dioxide stream* beneath the lowermost formation containing a USDW; or wells used for *geologic sequestration* of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to §603.F of this chapter. It includes the subsurface three-dimensional extent of the *carbon dioxide plume*, associated area of elevated pressure, and displaced fluids, as well as the surface area above that delineated region.

Geologic Sequestration Site—the underground reservoir, carbon dioxide injection wells, monitoring wells, underground equipment, and surface buildings and equipment utilized in the sequestration or storage operation, including pipelines owned or operated by the sequestration or storage operator used to transport the carbon dioxide from one or more capture facilities or sources to the sequestration or storage and injection site. The underground reservoir component of the sequestration or storage facility includes any necessary and reasonable aerial buffer and subsurface monitoring zones designated by the commissioner for the purpose of ensuring the safe and efficient operation of the storage facility for the storage of carbon dioxide and shall be chosen to protect against pollution, and escape, or migration of carbon dioxide.

Ground Water—water below the land surface in a zone of saturation.

Hazardous Waste—a hazardous waste as defined in the Louisiana Hazardous Waste Management Program.

Hazardous Waste Management (HWM) Facility—all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste.

Improved Sinkhole—a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.

Injection Well—a well into which fluids are being injected other than fluids associated with active drilling operations.

Injection Interval—that part of the *injection zone* in which the well is screened or perforated or in which injected fluids are directly emplaced.

Injection Zone—a geological formation, group of formations or part of a formation receiving fluids through a well. For Class VI projects, it must also be of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a geologic sequestration project.

Ionizing Radiation—any electromagnetic or particulate radiation capable of producing ions, directly or indirectly, in its passage through matter. It includes any or all of the following: alpha rays, beta rays, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other atomic particles; but not sound or radio waves, or visible, infrared or ultraviolet light.

Lithology—the description of rocks on the basis of their physical and chemical characteristics.

Louisiana Geologic Sequestration of Carbon Dioxide Act—Act 517 of 2009 at Chapter 11 of Title 30 of the Louisiana Revised Statutes of 1950,

Major Facility—any Class I or IV hazardous waste injection well facility or activity.

Manifest—the shipping document originated and signed by the generator which contains the information required by the Hazardous Waste Management Program.

New Injection Well—a well which began injection after the Louisiana Underground Injection Control program is approved and the applicable (Office of Conservation) rules and regulations are promulgated.

Operator—the person recognized as being responsible to the Office of Conservation for the well, site, facility, or activity subject to regulatory authority under these rules and regulations. The *operator* can, but need not be, the *owner* of the well, site, facility, or activity.

Owner—the person that owns any well, site, facility, or activity subject to regulation under the UIC program. The *owner* can, but need not be, the *operator* of the well, site, facility, or activity.

Packer—a device lowered into a well to produce a fluid tight seal within the casing.

Permit—an authorization, license, or equivalent control document issued by the commissioner to implement the requirements of these regulations. Permit includes, but it is not limited to, area permits and emergency permits. Permit does not include UIC authorization by rule or any permit which has not yet been the subject of final agency action, such as a draft permit.

Person—any natural person, individual, association, corporation, partnership, limited liability company, or other entity, receiver, tutor, curator, executor, administrator, fiduciary, municipality, state or federal agency, or an agent or employee of the aforementioned thereof.

Plugging—the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.

Plugging Record— a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.

Point of Injection—the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V

septic system might be the distribution box, the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.

Post-Injection Site Care—the appropriate monitoring and other actions (including corrective action) needed following cessation of geologic sequestration injection to ensure that USDWs are not endangered, as required under §633.

Pressure—the total load or force per unit area acting on a surface.

Pressure Front—the zone of elevated pressure in the subsurface created by injection where there is a pressure differential sufficient to cause the movement of injected fluids or formation fluids into a USDW.

Project—a group of wells in a single operation.

Public Water System—a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves at least 25 individuals. Such term includes:

a. any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and

b. any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

Radiation—any electromagnetic or ionizing radiation including gamma rays and X-rays, alpha and beta particles, high-speed electrons, neutrons, protons and other nuclear particles; but not sound waves. Unless specifically stated otherwise, these regulations apply only to ionizing radiation.

Radioactive Material—any material, whether solid, liquid, or gas, which emits radiation spontaneously.

Radioactive Waste—any waste which contains radioactive material for which no use or reuse is intended and which is to be discarded.

RCRA—the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (P.L. 94-580 as amended by P.L. 95-609, 42 U.S.C. 6901 et seq.).

Reservoir—that portion of any underground geologic stratum, formation, or aquifer, including oil and gas reservoirs, or other saline formations, and coal and coalbed methane seams, suitable for or capable of being made suitable for injection or storage of fluids.

Sanitary Waste—liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commercial facilities, and industrial facilities provided the waste is not mixed with industrial waste.

Schedule of Compliance—a schedule or remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the act and these regulations.

Septic System—a well that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.

Site—the land or water area where any facility or activity is physically located or conducted including adjacent land used in connection with the facility or activity.

Site Closure—the point or time, as determined by the UIC program following the requirements under §633, at which the owner or operator of a geologic sequestration site is released from *post-injection site care* responsibilities.

Skin Effect—the blockage or plugging of the well perforations or near wellbore formation face from solids in the waste stream that results in increased injection pressures and can be measured by accepted engineering test procedures.

Sole or Principal Source Aquifer—an aquifer which is the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.

State—the state of Louisiana.

Stratum (plural *Strata*)—a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.

Subsurface Fluid Distribution System—an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.

Surface Casing—the first string of casing to be installed in the well, excluding conductor casing.

Third Party—a party who is not within the corporate structure of the owner or operator.

Total Dissolved Solids—the total dissolved filterable solids as determined by use of the method specified in the 14th edition, pp. 91-92, of *Standard Methods for the Examination of Water and Waste Water*.

Transmissive Fault or Fracture—a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.

UIC—the Louisiana State Underground Injection Control Program.

Underground Injection—a well injection.

Underground Source of Drinking Water (USDW)—an aquifer or its portion:

a. which supplies any public water system; or

b. which contains a sufficient quantity of ground water to supply a public water system; and

i. currently supplies drinking water for human consumption; or

ii. contains fewer than 10,000 mg/1 total dissolved solids; and which is not an exempted aquifer.

USDW—Underground Source of Drinking Water.

USEPA—the United States Environmental Protection Agency.

Well—a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.

Well Injection—the subsurface emplacement of fluids through an injection well.

Well Plug—a fluid-tight seal installed in a borehole or well to prevent movement of fluids.

Well monitoring—the measurement by on-site instruments or laboratory methods, of the quality of water in a well.

Well Stimulation—several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for fluids to move more readily into the formation, and includes, but may not be limited to:

a. surging;

b. jetting;

c. blasting;

d. acidizing; or

e. hydraulic fracturing.

Workover—to perform one or more of a variety of remedial operations on an injection well, such as cleaning, perforation, change tubing, deepening, squeezing, plugging back, etc.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq., 30:22 et seq., and 30:1101 et seq.
HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Injection and Mining Division, LR 46: Department of Natural Resources – Office of Conservation.

§603. General Provisions

A. Applicability. These rules and regulations apply to all owners and operators of proposed and existing Class VI injection wells and projects in the state of Louisiana.

1. The commissioner shall administer the provisions of Act 517 and these regulations promulgated thereunder for geologic sequestration of carbon dioxide.

2. The provisions of this Chapter only apply to geologic sequestration of carbon dioxide in underground reservoirs as defined in §601 above. The geologic sequestration of carbon dioxide is not permitted in solution-mined salt caverns under these provisions.

3. This provisions of this Chapter also apply to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the commissioner that the wells were engineered and constructed to meet the requirements at §617.A.1 and ensure protection of USDWs, in lieu of requirements at §§617.A.2 and 617.B.1 By December 10, 2011, owners or operators of either Class I wells previously permitted for the purpose of geologic sequestration or Class V experimental technology wells no longer being used for experimental purposes that will continue injection of carbon dioxide for the purpose of GS must apply for a Class VI permit. A converted well must still meet all other requirements under this Chapter.

B. Prohibition of Unauthorized Injection. Any underground injection, except as authorized by a permit or rule, is prohibited after the effective date of these regulations. Construction or operation of any well required to have a permit under these regulations is prohibited until the permit has been issued.

1. Any underground injection that violates any rule of this Chapter is subject to enforcement action.

C. Classification of Injection Wells

1. Class VI. Wells not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW; or wells used for geologic sequestration of

carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to the appropriate parts of §603.F.

a. During initial Class VI program development, the commissioner shall not expand the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for Class VI injection wells, and the USEPA shall not approve a program that applies for aquifer exemption expansions of Class II to Class VI exemptions as part of the program description. All Class II to Class VI aquifer exemption expansions previously issued by USEPA must be incorporated into the Class VI program descriptions pursuant to requirements at 40 CFR 145.23(f)(9).

2. Prohibition of Non-Experimental Class V Wells for Geologic Sequestration. The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.

D. Prohibition of Movement of Fluid into Underground Sources of Drinking Water

1. No authorization by permit or rule shall allow the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141 or of the Louisiana Drinking Water Regulations, Chapter VIII of the State Sanitary Code or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this Section are met.

2. For Class VI wells, if any water quality monitoring of a USDW indicates the movement of any contaminant into the USDW, except as authorized under §603.F, the commissioner shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with §613.C, or the permit may be terminated under §613.E if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of wells authorized by rule, see §603.E.1.

3. If at any time the commissioner learns that a Class VI well may cause a violation of the Louisiana Drinking Water Regulations, Chapter XII of the State Sanitary Code or may be otherwise adversely affecting the health of persons, he shall:

a. require the injector to obtain a permit;

b. order the injector to take such actions (including, where required, closure of the injection well) as may be necessary to prevent the violation or adverse effect; or

c. take enforcement action.

4. Notwithstanding any other provision of this Section, the commissioner may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or underground source of drinking water may present an imminent and substantial endangerment to the health or safety of persons.

E. Authorization of Underground Injection by Rule

1. Class VI wells cannot be authorized by rule to inject carbon dioxide. Owners or operators of Class VI wells must obtain a permit.

a. Any authorization by rule for an existing Class II enhanced recovery or hydrocarbon storage well shall expire upon the effective date of a Class VI permit issued pursuant to §603.G., or well plug and abandonment according to an approved plug and abandonment plan, or upon well conversion.

F. Identification of Underground Sources of Drinking Water and Exempted Aquifers

1. The commissioner may identify (by narrative description, illustrations, maps, or other means) and shall protect as an underground source of drinking water, all aquifers or parts of aquifers which meet the definition of an underground source of drinking water, except where there is an applicable aquifer exemption under §§603.F.2 and 4, or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under §603.F.4. Other than approved aquifer exemption expansions that meet the criteria set forth in §603.F.2.d, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the commissioner, it is an underground source of drinking water if it meets the definition.

2. After notice and opportunity for a public hearing the commissioner may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the commissioner proposes to designate as exempted aquifers if they meet the following criteria:

a. the aquifer does not currently serve as a source of drinking water; and

b. the aquifer cannot now and will not in the future serve as a source of drinking water because:

i. it is mineral, hydrocarbon or geothermal energy producing or can be demonstrated by a permit applicant as part of a permit application for a Class III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;

ii. it is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

iii. it is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or

iv. it is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

c. the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/1 and it is not reasonably expected to supply a public water system.

d. the areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under §103.F.4 if it meets the following criteria:

i. it does not currently serve as a source of drinking water; and

ii. the total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and

iii. it is not reasonably expected to supply a public water system.

3. No designation of an exempted aquifer submitted as part of the state's UIC program shall be final until approved by the USEPA. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the USEPA as a substantial revision of the state's UIC program in accordance with 40 CFR 145.32.

4. Expansion to the Areal Extent of Existing Class II Aquifer Exemptions for Class VI Wells. Operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the

commissioner approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests are treated as a substantial program revision to the state's UIC program and will not be final until approved by USEPA.

a. The operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in §603.F.2.d.

b. In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the commissioner must determine that the request meets the criteria for exemptions. In making the determination, the commissioner shall consider:

i. current and potential future use of the USDWs to be exempted as drinking water resources;

ii. the predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the project, as informed by computational modeling, in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation; and

iii. whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review.

G Transitioning from Class II to Class VI

1. Operators of wells used to inject carbon dioxide for the primary purpose of long-term storage into an oil or gas reservoir must apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to USDWs compared to Class II operations. The factors specified in §603.G.2 below must be considered in determining if there is an increased risk to USDWs.

2 The commissioner shall determine when there is an increased risk to USDWs compared to Class II operations and when a Class VI permit is required. The commissioner must consider the following in order to make this determination:

a. increase in reservoir pressure within the injection zone(s);

b. increase in carbon dioxide injection rates;

c. decrease in reservoir production rates;

d. distance between the injection zone(s) and USDWs;

e. suitability of the Class II enhanced oil or gas recovery area of review delineation;

f. quality of abandoned well plugs within the area of review;

g. the owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;

h. the source and properties of injected carbon dioxide; and

i. any additional site-specific factors as determined by the commissioner.

H. Additional Requirements.

1. All tests, reports, logs, surveys, plans, applications, or other submittals whether required by these rules and regulations or submitted for informational purposes are required to bear the Louisiana Office of Conservation serial number of any Class VI carbon dioxide sequestration well associated with the submittal.

2. All applications, reports, plans, requests, maps, cross-sections, drawings, opinions, recommendations, calculations, evaluations, or other submittals including or comprising geoscientific work as defined by La. R.S. 37:711.1 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Geoscientist (P.G.) authorized to practice by and in good standing with the Louisiana Board of Professional Geoscientists.

3. All applications, reports, plans, requests, specifications, details, calculations, drawings, opinions, recommendations, evaluations or other submittals including or comprising the practice of engineering as defined by La. R.S. 37:681 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Engineer (P.E.) authorized to practice by and in good standing with the Louisiana Professional Engineering and Land Surveying Board.

4. The commissioner may prescribe additional requirements for Class VI wells or projects in order to protect USDWs and the health, safety, and welfare of the public.

I. Confidentiality of Information. Information obtained by any rule, regulations, order, or permit term or condition adopted or issued hereunder, or by any investigation authorized thereby, shall be available to the public, unless nondisclosure is requested in writing and such information is determined by the commissioner to require confidentiality to protect trade secrets, processes, operations, style of work, apparatus, statistical data, income, profits, losses, or in order to protect any plan, process, tool, mechanism, or compound; provided that such nondisclosure shall not apply to information that is necessary for use by duly authorized officers or employees of state or federal government in carrying out their responsibilities under these regulations or applicable federal or state law. If no claim is made at the time of submission, the commissioner may make the information available to the public without further notice. Claims of confidentiality for the following information shall be denied:

1. the name and address of any permit applicant or permittee; and

2. information which deals with the existence, absence, or level of contaminants in drinking water or zones other than the approved injection zone.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq., 30:22 et seq., and 30:1101 et seq.
HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Injection and Mining Division, LR 46: Department of Natural Resources – Office of Conservation.

§605. Permit Requirements, Application, Signatories

A. Applicability. The rules and regulations of this Section apply to all Class VI injection wells or project applications required to be filed with the Department of Natural Resources (Office of Conservation) for authorization under R.S. 1950 Title 30.

B. The commissioner cannot issue a permit on an area basis for a Class VI well or permit.

C. Application Required

1. Permit Application. New applicants, permittees, and any person required to have a permit shall complete, sign, and submit an application to the commissioner as described in this Section.

a. the applicant shall submit one signed paper version of the application and an exact duplicate of the application in an electronic format approved by the commissioner. The commissioner may request additional paper copies of the application—either in its entirety or in part—as needed.

b. the electronic version of the application shall contain the following certification statement:

> This document is an electronic version of the application titled *(Insert Document Title)* dated *(Insert Application Date)*. This electronic version is an exact duplicate of the paper copy submitted in *(Insert the Number of Volumes Comprising the Full Application)* to the Louisiana Office of Conservation.

c. The applicant shall submit the application identified in §605.C.1 above to the USEPA in an electronic format approved by the USEPA.

2. Time to Apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the commissioner.

a. for new Class VI injection wells, a reasonable time before construction is expected to begin.

D. Who Applies. It is the duty of the owner of a facility or activity to submit an application for permit. When a facility is owned by one person and operated by another, it is the operator's duty to obtain a permit.

E. Signature Requirements. All permit applications shall be signed as follows.

1. Corporations. By a principal executive officer of at least the level of vice-president, or duly authorized representative of that person if the representative performs similar policy making functions for the corporation. A person is a duly authorized representative only if:

a. the authorization is made in writing by a principle executive officer of at least the level of vice-president;

b. the authorization specifies either an individual or position having responsibility for the overall operation of a sequestration well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

c. the written authorization is submitted to the Office of Conservation.

2. Limited Liability Company (LLC). By a member if the LLC is member-managed, by a manager if the LLC is manager-managed, or by a duly authorized representative only if:

a. the authorization is made in writing by an individual who would otherwise have signature authority as outlined in §605.E.2 above;

b. the authorization specifies either an individual or position having responsibility for the overall operation of a sequestration well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

c. the written authorization is submitted to the Office of Conservation.

3. Partnership or Sole Proprietorship. By a general partner or proprietor, respectively; or

4. Public Agency. By either a principal executive officer or a ranking elected official of a municipality, state, federal, or other public agency.

F. Signature Reauthorization. If an authorization under §605.E is no longer accurate because a different individual or position has responsibility for the overall operation of a sequestration well, a new authorization satisfying the signature requirements must be submitted to the Office of Conservation before or concurrent with any reports, information, or applications required to be signed by an authorized representative.

G. Certification. Any person signing a document under §605.E shall make the following certification on the application:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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§607. Application Content

A. The following minimum information required in §607 shall be submitted with a permit application to construct a new Class VI well or convert any existing well for Class VI service. The applicant shall also refer to the appropriate application form for any additional information that may be required. For information already on file with the office of conservation, the commissioner may accept the required information by reference provided they are current, readily available to the commissioner, and sufficiently identified to be retrieved.

B. Administrative information:

1. all required state application form(s);

2. the nonrefundable application fee(s) as per LAC 43:XIX.Chapter 7 or successor document;

3. the name and mailing address of the applicant and the physical address of the sequestration well facility;

4. the operator's name, address, telephone number, and email address;

5. ownership status, and status as federal, state, private, public, or other entity;

6. a brief description of the nature of the business associated with the activity;

7. the activity or activities conducted by the applicant which require the applicant to obtain a permit under these regulations;

8. up to four SIC Codes which best reflect the principal products or services provided by the facility;

9. a listing of all permits or construction approvals that the applicant has received or applied for under any of the following programs or which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought:

a. the Louisiana Hazardous Waste Management;

b. this or any other Underground Injection Control Program;

c. NPDES Program under the Clean Water Act;

d. Prevention of Significant Deterioration (PSD) Program under the Clean Air Act;

e. Nonattainment Program under the Clean Air Act;

f. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

g. Ocean Dumping Permit under the Marine Protection Research and Sanctuaries Act;

h. dredge or fill permits under Section 404 of the Clean Water Act; and

i. other relevant environmental permits including, but not limited to any state permits issued under the Louisiana Coastal Resources Program, the Louisiana Surface Mining Program or the Louisiana Natural and Scenic Streams System;

10. acknowledgment as to whether the facility is located on Indian lands or other lands under the jurisdiction or protection of the federal government, or whether the facility is located on state water bottoms or other lands owned by or under the jurisdiction or protection of the state of Louisiana;

11. documentation of financial responsibility or documentation of the method by which proof of financial responsibility will be provided as required in §609.C. Before making a final permit decision, final (official) documentation of financial responsibility must be submitted to and approved by the Office of Conservation;

12. names and addresses of all property owners within the area of review of the Class VI well or project.

C. Application Contents: An application submitted to construct a new Class VI well or convert any existing well to Class VI shall contain the following geological and technical information:

1. Maps and Related Information

a. map(s) showing property boundaries of the facility, the location of the proposed Class VI well, and the applicable area of review consistent with §§615.B and 615.C. USGS topographic maps with a scale of 1:24,000 may be used. The map boundaries must extend at least two miles beyond the area of review and include as applicable:

i. the section, township and range of the area where the activity is located and any parish, city, municipality, state, and tribal boundaries.

ii. within the area of review, the map(s) must identify all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or USEPA-approved subsurface cleanup sites, surface bodies of water, springs, surface and subsurface mines, quarries, water wells, other pertinent surface features including structures intended for human occupancy, and roads.

iii. only information of public record is required to be included on the map(s), however, the applicant is required to make a diligent search to locate all wells not listed in the public record.

iv. for water wells on the facility property and adjacent property, submit a tabulation of well depth, water level, owner, chemical analysis, and other pertinent data. If these wells do not exist, submit this information for a minimum of three other wells in the area of review or a statement why this information was not included.

v. the protocol followed to identify, locate, and ascertain the condition of all wells within the area of review that penetrate the injection or confining zone.

b. information on the geologic structure and hydrogeologic properties of the proposed sequestration site and overlying formations, to include:

i. geologic and topographic maps and cross-sections illustrating regional geology, geologic structure, and hydrology.

ii. maps and cross-sections to a scale needed to detail the local geology, geologic structure, and hydrology. The maps and cross-sections must extend at least two miles beyond the area of review;

iii. the location, orientation, and properties of known or suspected faults and fractures that may transect the confining zone(s) in the area of review and a determination that they would not interfere with containment;

iv. maps and stratigraphic cross-sections showing the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their position relative to the injection zone(s) and the direction of water movement, if known.

v. in areas with limited subsurface well control or where the subsurface geology is in doubt and cannot be described adequately, the commissioner may request the applicant to provide geophysical seismic data of the project area.

c. any other maps required by the commissioner to evaluate the proposed project.

2. Application Technical Information

a. data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;

b. geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);

c. information on the region's seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and

d. a tabulation of all wells within the area of review that penetrate the base of the USDW. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any other information the commissioner may require;

e. baseline geochemical data on subsurface formations, including injection zones, confining zones and all USDWs in the area of review;

f. proposed operating data:

i. average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;

ii. average and maximum injection pressure;

iii. source(s) of the carbon dioxide stream; and

iv. analysis of the chemical and physical characteristics of the carbon dioxide stream.

g. proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone(s) and confining zone(s) and that meets the requirements at §617.B;

h. proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;

i. proposed injection operation procedures;

j. schematics or other appropriate drawings of the surface (wellhead and related appurtenances) and subsurface construction details of the well;

k. injection well construction procedures that meet the requirements of §617.A;

l. proposed area of review and corrective action plan that meets the requirements under §§615.B and 615.C;

m. demonstration, satisfactory to the commissioner, that the applicant has met the financial responsibility requirements under §609.C;

n. proposed testing and monitoring plan required by §625;

o. proposed injection well plugging plan required by §631;

p. proposed post-injection site care and site closure plan required by §633.A.3;

q. at the commissioner's discretion, a demonstration of an alternative post-injection site care timeframe required by §633.A.3;

r. proposed emergency and remedial response plan required (contingency plans for well failures or breaches) by §623;

s. a list of contacts, submitted to the commissioner for those states and tribes identified to be within the area of review based on information provided in §607.C.1.a.i; and

t any additional information required by the commissioner to evaluate the proposed project.

3. The commissioner shall notify in writing, any states or tribes within the area of review based on information provided by the applicant in §§607.C.1.a.i and 607.C.2.s.

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§609. Legal Permit Conditions

A. Applicability. The rules and regulations of this Section set forth legal conditions for Class VI well permits. Permits for owners or operators of Class VI injection wells shall include conditions meeting applicable requirements of §§609, 615, 617, 619, 621, 623, 625, 627, 629, and 631. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit

B. Signatories. All reports required by permits and other information requested by the commissioner shall be signed as in applications by a person described in §605.D.

C. Financial Responsibility

1. The permit shall require the permittee to maintain financial responsibility and resources to close, plug, and abandon the underground injection wells and, where necessary, related surface facility, and for post-injection site care and site closure in a manner prescribed by the commissioner. Class VI well operators must also comply with §609.C.4. The permittee must show evidence of financial responsibility to the commissioner by the submission of:

a. a certificate of deposit issued in sole favor of the Office of Conservation in a form prescribed by the commissioner. A certificate of deposit may not be withdrawn, canceled, rolled over or amended in any manner without the approval of the commissioner;

b. a performance bond (surety bond) in sole favor of the Office of Conservation in a form prescribed by the commissioner;

c. a letter-of-credit in sole favor of the Office of Conservation in a form prescribed by the commissioner;

d. site-specific trust account, or

e. any other instrument of financial assurance acceptable to the commissioner.

2. The amount of funds available in the financial instrument shall be no less than the amount identified in the cost estimate of the closure plan and any required post-injection site care and site closure, and must be approved by the commissioner.

3. Any financial instrument filed in satisfaction of the financial responsibility requirements shall be issued by and drawn on a bank or other financial institution authorized under state or federal law to operate in the State of Louisiana.

4. Class VI well owners, operators, or applicants shall comply with these additional requirements of financial responsibility:

a. qualifying financial responsibility instruments must be sufficient to cover the cost of meeting the requirements of:

i. corrective action of §615.C;

ii. injection well plugging of §631;

iii. post-injection site care and site closure of §633; and

iv. emergency and remedial response of §623. The owner/operator shall maintain third party insurance at a sufficient level to respond to any emergency or to perform any remedial action that meets the requirements of §623.

b. financial responsibility instruments must be sufficient to address endangerment of underground sources of drinking water.

c. qualifying financial responsibility instruments must comprise protective conditions of coverage. Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.

i. Cancellation: an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument

by sending notice by certified mail to the owner or operator and the commissioner. The cancellation must not be final for 120 days after receipt of the cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within 60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable or possible, any funds from the instrument being cancelled must be released within 60 days of notification by the commissioner.

ii. Renewal: owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.

iii. cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration the commissioner deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the commissioner or a court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount due is paid.

d. qualifying financial responsibility instruments must be approved by the commissioner.

i. the commissioner shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project before issuing any authorization to begin geologic sequestration of carbon dioxide in a Class VI well.

ii. the owner or operator must provide any updated information related to their financial responsibility instrument(s) annually and if there are any changes, the commissioner must evaluate the financial responsibility demonstration to confirm that the instrument(s) used remain adequate. The owner or operator must maintain financial responsibility requirements regardless of the status of the commissioner's review of the financial responsibility demonstration.

iii. the commissioner may disapprove the use of a financial instrument if he determines it is not sufficient to meet the financial responsibility requirements.

e. The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.

i. In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance, for example trust funds, certificates of deposit, surety bonds guaranteeing payment into a trust fund, and letters of credit. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.f. the requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit. The owner or operator must maintain financial responsibility and resources until:

i. the commissioner receives and approves the completed post-injection site care and site closure plan; and

ii. the commissioner approves site closure.

g. the owner or operator may be released from a financial instrument in the following circumstances:

i. the owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the

commissioner, including obtaining financial responsibility for the next phase of the geologic sequestration project, if required; or

ii. the owner or operator has submitted a replacement financial instrument and received written approval from the commissioner accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.

h. the owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well(s), post-injection site care and site closure, and emergency and remedial response.

i. the cost estimate must be performed for each phase separately and must be based on the costs to the Office of Conservation of contracting a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.

ii. during the active life of the geologic sequestration project, the owner or operator must adjust the cost estimate for inflation within 60 days before the anniversary date of the establishment of the financial instrument(s) and provide this adjustment to the commissioner. The owner or operator must also provide the commissioner written updates of adjustments to the cost estimate within 60 days of any amendments to the area of review and corrective action plan, the injection well plugging plan, the post-injection site care and site closure plan, and the emergency and remedial response plan.

iii. the commissioner must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than 60 days after the commissioner has approved the request to modify the area of review and corrective action plan, the injection well plugging plan, the post-injection site care and site closure plan, and the emergency and response plan, if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the commissioner. Any decrease to the value of the financial assurance instrument must first be approved by the commissioner. The revised cost estimate must be adjusted for inflation as specified at §609.C.4.h.ii. above.

iv. whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the commissioner, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the commissioner.

i. the owner or operator must notify the commissioner by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.

i. in the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the commissioner by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.

ii. an owner or operator who fulfills the financial responsibility requirements by obtaining an approved instrument of financial assurance will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority

of the trustee institution to act as trustee of the institution issuing the financial assurance instrument. The owner or operator must establish other financial assurance within 60 days after such an event.

j. the owner or operator must provide the commissioner with an adjustment of the cost estimate within 60 days of notification by the commissioner, if the commissioner determines during the annual evaluation of the qualifying financial responsibility instrument(s) that the most recent demonstration is no longer adequate to cover the cost of corrective action, injection well plugging, post-injection site care and site closure, and emergency and remedial response.

k. the commissioner must approve the use and length of pay-in-periods for trust funds or escrow accounts.

5. The permit shall require the permittee to maintain financial responsibility as specified at §609.C.1 until:

a. the well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to §631 and submitted a plugging and abandonment report pursuant to §631.A.5;

b. the well has been converted in compliance with the requirements of §609.L.7;or

c. the transferor of a permit has received notice from the commissioner that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.D. Duty to Comply. The permittee must comply with all conditions of a permit. Any permit noncompliance constitutes a violation of the act and is grounds for enforcement action or permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application if the commissioner determines that such noncompliance endangers underground sources of drinking water.

E. Duty to Reapply. If the permittee wishes to continue an activity regulated by a permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

F. Duty to Halt or Reduce Activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment such as the contamination of underground sources of drinking water resulting from noncompliance with this permit.

H. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of his permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operation staffing and training, and adequate laboratory process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

I. Inspection and Entry. Inspection and entry shall be allowed as prescribed in R.S. of 1950, Title 30, Section 4.

J. Compliance. Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with the act and these regulations.

K. Property Rights. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege or servitude.

L. Notification Requirements

1. Planned Changes. The permittee shall give notice to the commissioner as soon as possible of any planned physical alterations or additions to the permitted facility.

2. Notice of Well Completion. A new injection well injection well may not commence injection until construction is complete, a notice of completion has been submitted to the commissioner, the commissioner has inspected or otherwise reviewed the injection well and finds it is in compliance with the conditions of the permit, and the commissioner has given approval to begin injection.

3. Anticipated Noncompliance. The permittee shall give advance notice to the commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

4. Transfers. A permit is not transferable to any person except after notice to the commissioner. The commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act. (See §613.)

5. Compliance Schedules. Report of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in these regulations shall be submitted to the commissioner no later than 14 days following each schedule date.

6. Twenty-Four Hour Reporting

a. The permittee shall report to the commissioner any noncompliance which may endanger health or the environment. Any information pertinent to the noncompliance shall be reported by telephone at (225) 342-5515 within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances and shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.

b. The following additional information must be reported within the 24-hour period provided above:

i. any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW;

ii. any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

7. The permittee shall notify the commissioner at such times as the permit requires before conversion or abandonment of the well or before closure of the project.

8. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under §§609.L.5 and 609.L.6, at the time quarterly reports are submitted. The reports shall contain the information listed in §609.L.6.

9. Other Information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the commissioner, it shall promptly submit such facts or information.

M. Duration of Permits

1. UIC permits for Class VI wells shall be issued for the operating life of the facility and the post-injection site care period. The commissioner shall review each issued Class VI well permit at least once every five years to determine whether it should be modified, revoked and reissued, terminated, or a minor modification made.

2. The term of a permit shall not be extended by modification beyond the maximum duration specified in this Section, except as provided in §609.M.4 below.

3. The commissioner may issue, for cause, any permit for a duration that is less than the full allowable term under this Section.

4. The conditions of an expired permit may continue in force until the effective date of a new permit if the permittee has submitted a timely and a complete application for a new permit, and the commissioner, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit (e.g., when issuance is impracticable due to time or resource constraints).

a. Permits continued under this Section remain fully effective and enforceable.

b. When the permittee is not in compliance with the conditions of the expiring or expired permit, the commissioner may choose to do any or all of the following:

i. initiate enforcement action based upon the permit which has been continued;

ii. issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

iii. issue a new permit under the requirements of these rules for issuing a new permit with appropriate conditions; or

iv. take other actions authorized by these regulations.

N. Schedules of Compliance. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the act and these regulations.

1. Time for Compliance. Any schedules of compliance under this Section shall require compliance as soon as possible but not later than three years after the effective date of the permit.

2. Interim Dates. Except as provided in §609N.2.b, if a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

a. The time between interim dates shall not exceed one year.

b. If the time necessary for completion of any interim requirements (such as the construction of a control facility) is more than one year and is not readily divisible into stages for completion, the permit shall specify interim dates for submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

3. Reporting. The permit shall be written to require that progress reports be submitted no later than 30 days following each interim date and the final date of compliance.

O. Additional Conditions. The commissioner shall impose on a case-by-case basis such additional conditions as are necessary to protect underground sources of drinking water.

P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, the owner or operator of Class VI injection wells must maintain mechanical integrity as defined in §627. The Class VI injection well owner or operator shall give notice to the commissioner when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the Director that the owner or operator has demonstrated mechanical integrity pursuant to §627.

Q. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

R. In addition to conditions required in all permits the commissioner shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and 40 CFR Parts 144, 145, 146 and 124.

S. New permits, and to the extent allowed under §613 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section. An applicable requirement is a State statutory or regulatory requirement that takes effect prior to final administrative disposition of the permit. An applicable requirement is also any requirement that takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in §613.

T. Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

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§611. Permitting Process

A. Applicability. This Section contains procedures for issuing all Class VI permits.

B. Application Submission and Review

1. Any person required to have a UIC permit shall submit an application to the Office of Conservation, UIC Section, as outlined in §605.

2. Check for completeness:

a. the commissioner shall not issue a permit before receiving an application form and any required supplemental information which are completed to his satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity;

b. each application for a permit submitted for a new UIC injection well will be reviewed for completeness by the commissioner and the applicant will be notified of the commissioner's decision within 30 days of its receipt. Each application for a permit submitted for an existing injection well will be reviewed for completeness and the applicant will be notified of the commissioner's decision within 60 days of receipt. Upon completing the review, the commissioner shall notify the applicant in writing whether the application is complete.

3. Incomplete Applications

a. If the application is incomplete, the commissioner shall list in the notification in §611.B.2.b above, the information necessary to make the application complete. When the application is for an existing UIC injection well, the commissioner shall specify in the notice a date for submitting the necessary information. The commissioner shall notify the applicant that the application is complete upon receiving this information. The commissioner may request additional information from an applicant only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete.

b. If an applicant fails or refuses to correct deficiencies found in the application, the permit may be denied and, for existing wells, appropriate enforcement actions may be taken under the applicable statutory provision.

4. If the commissioner decides that a site visit is necessary for any reason in conjunction with the processing of an application, he shall notify the applicant, state the reason for the visit, and a date shall be scheduled.

C. Draft Permits

1. Once an application is complete, the commissioner shall prepare a draft permit or deny the application.

2. The applicant may appeal the decision to deny the application in a letter to the commissioner who may then call a public hearing through §611.G.1.

3. If the commissioner prepares a draft permit, it shall contain the following information where appropriate:

a. all conditions under §§609, 615, 617, 619, 621, 623, 625, 627, 629, and 631;

b. all compliance schedules under §609.N; and

c. all monitoring requirements under applicable Paragraphs in §625.

4. All draft permits prepared under this Section may be accompanied by a fact sheet pursuant to §611.D, and shall be publicly noticed in accordance with §611.E, and made available for public comment pursuant to §611.F.

D. Fact Sheet

1. A fact sheet shall be prepared for every draft permit for all major UIC facilities or activities and for every draft permit which the commissioner finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permits. The commissioner shall send this fact sheet to the applicant and, on request, to any other person.

2. The fact sheet shall include, when applicable:

a. a brief description of the type of facility or activity which is the subject of the draft permit;

b. the type and quantity of wastes, fluids, or pollutants which are proposed to be or are being injected;

c. a brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;

d. reasons why any requested variances or alternatives to required standards do or do not appear justified;

e. a description of the procedures for reaching a final decision on the draft permit including:

i. the beginning and ending dates of the comment period under §611.F and the address where comments will be received;

ii. procedures for requesting a hearing and the nature of that hearing; and

iii. any other procedures by which the public may participate in the final decision;

f. name and telephone number of a person to contact for information.

3. All persons identified in §§611.E.3.a.i, ii, iii, and iv shall be mailed or emailed a copy of the fact sheet, the draft permit, and a notice that the permit application will be available online.

E. Public Notice of Permit Actions and Public Comment Period

1. Scope

a. The commissioner shall give public notice (including a notice of intent to deny a permit application) that the following actions have occurred:

i. a draft permit has been prepared under §611.C; and

ii. a hearing has been scheduled under §611.G.

b. No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under §613. Written notice of that denial shall be given to the requester and to the permittee.

c. Public notices may describe more than one permit or permit action.

2. Timing

a. Public notice of the preparation of a draft permit required under §611.E.1 shall allow 30 days for public comment.

b. Public notice of a public hearing shall be given 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined).

3. Methods. Public notice of activities described in §611.E.1.a shall be given by the following methods:

a. by electronic mailing (emailing) or by mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this Section may waive his rights to receive notice for any classes and categories of permits):

i. the applicant;

ii. any other agency which the commissioner knows has issued or is required to issue a permit for the same facility or activity (including EPA);

iii. federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, the State Archeological Survey and Antiquities Commission, the Director of the Public Water Supply Supervision program in the State, the Department of Natural Resource, and other appropriate government authorities, including any

unit of local government having jurisdiction over the area where the facility is proposed to be located, any affected states or Indian Tribes; and

iv. persons on a UIC mailing list developed by:

(a).including those who request in writing to be on the list;

(b). soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(c). notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The commissioner may update the mailing list from time to time by requesting written indication of continued interest from those listed. The commissioner may delete from the list the name of any person who fails to respond to such a request.)

b. publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity;

c. in a manner constituting legal notice to the public under state law; and

d. any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other form or medium to elicit public participation.

4. Contents

a. All Public Notices. Public notices issued under this Section shall contain the following information:

i. name and address of the Division of the Office of Conservation processing the permit action for which notice is being given;

ii. name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

iii. a brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

iv. name, address, and telephone number of a person from whom interested persons may obtain copies of the draft permit, the fact sheet, the application, and further information concerning the application;

v. a brief description of the comment procedures required by §611.F and the time and place of any hearing that will be held, including a brief statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision; and

vi. any additional information considered necessary or proper.

b. Public Notices for Hearings. In addition to the general public notice described in §611.E.4.a, the public notice of a hearing under §611.G shall contain the following information:

i. reference to the date of previous public notices relating to the permit;

ii. date, time, and place of the hearing; and

iii. a brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

F. Public Comments and Requests for Public Hearings. During the public comment period provided under §611.G, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in §611.H.

G. Public Hearings

1. The commissioner shall hold a public hearing whenever he finds, on the basis of requests, a significant degree of public interest in (a) draft permit(s). The commissioner also may hold a public hearing at his discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of the hearing shall be given as specified in §611.G.

2. Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under §611.G shall automatically be extended to the close of any public hearing under this Section. The hearing officer may also extend the comment period by so stating at the hearing.

3. A tape recording or written transcript of the hearing shall be made available to the public.

H. Response to Comments

1. At the time that any final permit is issued the commissioner shall issue a response to comments. This response shall:

a. specify which provisions; if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

b. briefly describe and respond to all significant comments on the draft permit or the permit application raised during the public comment period, or during any hearing.

2. The response to comments shall be available to the public.

I. Permit Issuance and Effective Date

1. After closure of the public comment period, including any public hearing, under §611.G on a draft permit, the commissioner shall issue a final permit decision within 30 days. The commissioner shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedure for appealing a decision on a UIC permit under La. Title 30 R.S. §30:15. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

2. A final permit decision shall become effective on the date of issuance.

3. Approval or the granting of a permit to construct a Class VI well shall be valid for a period of one year and if not begun in that time, the permit shall be null and void. The permittee may request an extension of this one-year requirement; however, the commissioner shall approve the request for extenuating circumstances only.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq., 30:22 et seq., and 30:1101 et seq.
HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Injection and Mining Division, LR 46: Department of Natural Resources – Office of Conservation.

§613 Permit Modification, Revocation and Reissuance, Termination, Transfer or Renewal

A. Applicability. The rules of this Section set forth the standards and requirements for applications and actions concerning modification, revocation and reissuance, termination, transfer and renewal of permits.

B. Permit Actions

1. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

2. The permittee shall furnish to the commissioner, within 30 days, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with the permit. The permittee shall also furnish to the commissioner, upon request, copies of records required to be kept by the permit.

3. The commissioner may, upon his own initiative or at the request of any interested person, review any permit to determine if cause exists to modify, revoke and reissue, or terminate the permit for the reasons specified in §§613.C, D, and E. All requests shall be in writing and shall contain facts or reasons supporting the request.

4. If the commissioner decides the request is not justified, he shall send the person making the request a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.

5. If the commissioner decides to modify or revoke and reissue a permit under §§613.C, D, and E, he shall prepare a draft permit under §611.C incorporating the proposed changes. When a permit is modified, the entire permit is reopened and is subject to revision. The commissioner may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the commissioner shall require, if necessary, the submission of a new application.

6. In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

C. Modification or Revocation and Reissuance of Permits

1. The following are causes for modification and may be causes for revocation and reissuance of permits.

a. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

b. Information. The commissioner has received information pertinent to the permit that would have justified the application of different permit conditions at the time of issuance.

c. New Regulations

i. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits for Class VI wells may be modified during their terms when:

(a). the permit condition requested to be modified was based on a promulgated regulation or guideline;

(b). there has been a revision, withdrawal, or modification of that portion of the regulation or guideline on which the permit condition was based; and

(c). a permittee requests modification within 90 days after *Louisiana Register* notice of the action on which the request is based.

ii. When standards or regulations on which the permit was based have been changed by withdrawal of standards or regulations or by promulgation of amended standards or regulations which impose less stringent requirements on the permitted activity or facility and the permittee requests to have permit conditions based on the withdrawn or revised standards or regulations deleted from his permit.

iii. For judicial decisions, a court of competent jurisdiction has remanded and stayed Office of Conservation regulations or guidelines and all appeals have been exhausted, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee to have permit conditions based on the remanded or stayed standards or regulations deleted from his permit.

d. Compliance Schedules. The commissioner determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonable available remedy.

e. Additional Modification of Class VI Permits. For Class VI wells, whenever the commissioner determines that permit changes are necessary based on:

i. area of review reevaluations under §615.C.2;

ii. any amendments to the testing and monitoring plan under §625.A.10;

iii. any amendments to the injection well plugging plan under §631.A.3;

iv. any amendments to the post-injection site care and site closure plan under §633.A.1.c;

v. any amendments to the emergency and remedial response plan under §625.A.4; or

vi. a review of monitoring and testing results conducted in accordance with permit requirements.

2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

a. cause exists for termination under §613.E, and the commissioner determines that modification or revocation and reissuance is appropriate;

b. the commissioner has received notification of a proposed transfer of the permit and the transfer is determined not to be a minor modification (see §613.D.4). A permit may be modified to reflect a transfer after the effective date (§613.F.2.b) but will not be revoked and reissued after the effective date except upon the request of the new permittee; or

c. a determination that the waste being injected is a hazardous waste as defined in §601 either because the definition has been revised, or because a previous determination has been changed; or

d. to incorporate such other requirements as may be necessary under the Safe Drinking Water Act.

3. Facility Siting. Suitability of an existing facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that continued operations at the site pose a threat to the health or safety of persons or the environment which was unknown at the time of permit issuance. A change of injection site or facility location may require modification or revocation and issuance as determined to be appropriate by the commissioner.

4. If a permit modification satisfies the criteria of this Section, a draft permit must be prepared and other applicable procedures must be followed.

D. Minor Modifications of Permits. Upon the consent of the permittee, the commissioner may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section without issuing a draft permit and providing for public comment. Minor modifications may only:

1. correct typographical errors;

2. require more frequent monitoring or reporting by the permittee;

3. change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

4. allow for a change in ownership or operational control of a facility where the commissioner determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the commissioner (see §613.F);

5. change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the commissioner, would not interfere with the operation of the facility or its ability to meet conditions prescribed in the permit, and would not change its classification;

6. change construction requirements or plans approved by the commissioner provided that any such alteration shall comply with the requirements of this Section and §617. No such changes may be physically incorporated into construction of the well prior to approval; or

7. amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the commissioner.

E. Termination of Permits

1. The commissioner may terminate a permit during its term for the following causes:

a. noncompliance by the permittee with any condition of the permit;

b. the permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

c. a determination that the permitted activity endangers the health or safety of persons or the environment which activity cannot be regulated to acceptable levels by permit modification and can only be regulated to acceptable levels by permit termination.

2. If the commissioner decides to terminate a permit, he shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under §611.C.

3. The commissioner may alternatively decide to modify or revoke and reissue a permit for the causes in §613.E.1 (see §613.C.2.a).

F. Transfers of Permits

1. A permit may be transferred to a new owner or operator upon approval by the commissioner.

2. The current permittee shall submit an application for transfer at least 30 days before the proposed transfer date. The application shall contain the following:

a. name and address of the transferee;

b. date of proposed transfer; and

c. a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them. The agreement should also demonstrate to the satisfaction of the commissioner that the financial responsibility requirements of §609.C will be met by the new permittee.

3. If the commissioner does not notify the existing permittee and the proposed new permittee of his intent to modify or revoke and reissue the permit under §613.C.2.b the transfer is effective on the date specified in the agreement mentioned in §613.F.2.c.

4. If no agreement described in §613.F.2.c is provided, responsibility for compliance with the terms and conditions of the permit and liability for any violation will shift from the existing permittee to the new permittee on the date the transfer is approved.

5. If a person attempting to acquire a permit causes or allows operation of the facility before approval by the commissioner, it shall be considered a violation of these rules for operating without a permit or other authorization.

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§615. Siting Criteria, AOR, and Corrective Action

A. Minimum Criteria for Siting. Applicants, owners, or operators of Class VI wells must demonstrate to the satisfaction of the commissioner that the wells will be sited in areas with a suitable geologic system. The demonstration must show that the geologic system comprises:

1. an injection zone of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;

2. confining zone(s) free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids, and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone(s).

a. The commissioner may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.

B. Area of Review (AOR)

1. The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.

2. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for the proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of these regulations and is acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application, the owner or operator must submit an area of review and corrective action plan that includes the following information:

a. the method for delineating the area of review that meets the requirements of §615.B.3, including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based;

b. a description of:

i. the minimum fixed frequency—not to exceed five years—at which the owner or operator proposes to reevaluate the area of review;

ii. the monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in §615.B.2.b.i.

iii. how monitoring and operational data (e.g., injection rate and pressure) will be used to inform an area of review reevaluation; and

iv. how corrective action will be conducted to meet the requirements of §615.C, including what corrective action will be performed prior to injection and what, if any, portions of the area of review the operator proposes to have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.

3. Area of Review Boundary Delineation. Owners or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:

a. predict, using existing site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the commissioner. The model must:

i. be based on detailed geologic data collected to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;

ii. take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and

iii. consider potential migration through faults, fractures, and artificial penetrations.

b. using methods approved by the commissioner, the owner or operator shall at a minimum, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that penetrate the confining and injection zone(s). (See §603.H.4.) Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the commissioner may require; and

c. determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.

C. Corrective Action

1. Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.

2. At the minimum fixed frequency—not to exceed five years—as specified in the area of review and corrective action plan, or when monitoring and operational conditions warrant, owners or operators must:

a. reevaluate the area of review in the same manner specified in §615.B.3.a;

b. identify all wells in the reevaluated area of review that require corrective action in the same manner specified in §615.B.3;

c. perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in §615.C.1; and

d. submit an amended area of review and corrective action plan or demonstrate to the commissioner through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §613, as appropriate.

3. The emergency and remedial response plan (as required by §623) and the demonstration of financial responsibility (as described by §609.C must account for the area of review delineated as specified in §615.B.3.a or the most recently evaluated area of review delineated under §615.C.2, regardless of whether or not corrective action in the area of review is phased.

4. All modeling inputs and data used to support area of review reevaluations under §615.C.2 shall be retained for at least 10 years.

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§617. Well Construction and Completion

A. Injection Well Construction Requirements

1. General. All phases of Class VI well construction shall be supervised by a person knowledgeable and experienced in practical drilling engineering and is familiar with the special conditions and

requirements of injection well construction. All materials and equipment used in the construction of the well and related appurtenances shall be designed and manufactured to exceed the operating requirements of the specific project, including flow induced vibrations. The owner or operator must ensure that all wells are constructed and completed to:

a. prevent the movement of fluids into or between USDWs or into any unauthorized zones;

b. allow the use of appropriate testing devices and workover tools; and

c. allow for continuous monitoring of the annulus space between the injection tubing and long string casing.

2. Casing and Cementing of Class VI Wells

a. Casing and cement or other materials used in the construction of each Class VI well must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids that the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the commissioner. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the commissioner to evaluate casing and cementing requirements, the owner or operator must provide the following information:

i. depth to the injection zone(s);

ii. injection pressure, external pressure, internal pressure, and axial loading;

iii. hole size;

iv. size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);

v. corrosiveness of the carbon dioxide stream and formation fluids;

vi. down-hole temperatures;

vii. lithology of injection and confining zone(s);

viii. type or grade of cement and cement additives including slurry weight (lb/gal) and yield (cu. ft./sack); and

ix. quantity, chemical composition, and temperature of the carbon dioxide stream.

b. The surface casing of any Class VI well must extend into a confining bed—such as a shale—below the base of the deepest formation containing a USDW. The casing shall be cemented with a sufficient volume of cement to circulate cement from the casing shoe to the surface. The commissioner will not grant an exception or variance to the surface casing setting depth.

c. At least one long string casing, using a sufficient number of centralizers, shall be utilized in the well. If the casing is to be perforated for injection, then the approved casing shall extend through the base of the injection zone. If an approved alternate construction method is used, such as the setting of a screen, the casing shall be set to the top of the injection interval. Regardless of the construction method utilized, the casings shall be cemented by circulating cement from the casing shoe to the surface in one or more stages.

d. Circulation of cement may be accomplished by staging. Circulated to the surface shall mean that actual cement returns to the surface were observed during the primary cementing operation. A copy of the

cementing company's job summary or cementing tickets indicating returns to the surface shall be submitted as part of the pre-operating requirements.

i. The commissioner may approve an alternative method of cementing in cases where the cement cannot be circulated to the surface. If cement returns are lost during cementing, the owner or operator shall have the burden of showing—using wireline logs—that sufficient cement isolation is present to prevent the movement of fluid behind the well casing.

ii. Remedial cementing shall be done before proceeding with further well construction, completion, or conversion if adequate cement isolation of the USDW or the injection zone within the casing-formation annulus cannot be demonstrated.

e. Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.

3. Casing and Casing Seat Tests. The owner or operator shall monitor and record the tests using a surface readout pressure gauge and a chart or a digital recorder. All instruments shall be calibrated properly and in good working order. If there is a failure of the required tests, the owner or operator shall take necessary corrective action to obtain a passing test.

a. Casing. After cementing each casing, but before drilling out the respective casing shoe, all casings shall be hydrostatically pressure tested to verify casing integrity and the absence of leaks. For surface casing, the stabilized test pressure applied at the surface shall be a minimum of 500 pounds per square inch gauge (PSIG). The stabilized test pressure applied at the surface for all other casings shall be a minimum of 1,000 PSIG. All casing test pressures shall be maintained for one hour after stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration.

i. Casing test pressures shall never exceed the rated burst or collapse pressures of the respective casings.

b. Casing Seat. The casing seat and cement of any intermediate and injection casings shall be hydrostatically pressure tested after drilling out the casing shoe. At least 10 feet of formation below the respective casing shoes shall be drilled before the test. The test pressure applied at the surface shall be a minimum of 1,000 PSIG. The test pressure shall be maintained for one hour after pressure stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration.

i. Casing seat test pressures shall never exceed the known or calculated fracture gradient of the appropriate subsurface formation.

4. Tubing and Packer

a. Tubing and packer materials used in the construction of each Class VI well must be compatible with fluids that the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the commissioner.

b. Injection into a Class VI well must be through tubing with a packer set at a depth opposite an interval of cemented casing at a location approved by the commissioner.

c. In order for the commissioner to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:

i. depth of setting;

ii. characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;

iii. maximum proposed injection pressure;

iv. maximum proposed annular pressure;

v. proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;

vi. size of tubing and casing; and

vii. tubing tensile, burst, and collapse strengths.

B. Logging, Sampling, and Testing Prior to Injection Well Operation

1. During the drilling and construction of a Class VI well, appropriate logs, surveys and tests must be run to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements of §617 and to establish accurate baseline data against which future measurements may be compared. The well operator must submit to the commissioner a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:

a. deviation checks during drilling of all boreholes constructed by drilling a pilot hole, which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to ensure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling;

b. before and upon installation of the surface casing:

i. resistivity, gamma-ray, spontaneous potential, and caliper logs before the casing is installed; and

ii. a cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.

c. before and upon installation of intermediate and long string casing:

i. resistivity, gamma-ray, spontaneous potential, porosity, caliper, fracture finder logs, and any other logs the commissioner requires for the given geology before the casing is installed; and

ii. a cement bond and variable density log, and a temperature log after the casing is set and cemented.

d. a series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:

i. a pressure test with liquid or gas;

ii. a tracer-type survey to detect fluid movement behind casing such as a radioactive tracer or oxygen-activation logging, or similar tool;

iii. a temperature or noise log;

iv. a casing inspection log.

e. any alternative methods that provide equivalent or better information and that are required by and approved by the commissioner.

2. The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone(s), and must submit to the commissioner a detailed report prepared by a log analyst that includes: well log analyses (including well logs), core analyses, and formation fluid sample information. The commissioner may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The commissioner may require the owner or operator to core other formations in the borehole.

3. The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).

4. At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone(s):

a. fracture pressure;

b. other physical and chemical characteristics of the injection and confining zone(s); and

c. physical and chemical characteristics of the formation fluids in the injection zone(s).

5. Upon completion, but before operating, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone(s):

a. a pressure fall-off test; and,

b. a pump test; or

c. injectivity tests.

6. The owner or operator must notify the Office of Conservation at least 72 hours before conducting any wireline logs, well tests, or reservoir tests.

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§619. Pre-Operations—Completion Report and Site Reassessment

A. Pre-Operating Requirements. The owner or operator of the well shall submit the following information to the commissioner. The commissioner shall consider the information before granting final approval for the operation of a Class VI well:

1. the final area of review based on modeling, using data obtained during logging and testing of the well and subsurface formations as required by §619.A.2, 3, 4, 6, 7, and 10;

2. any relevant updates—based on data obtained during logging and testing of the well and subsurface formations as required by §619.A.3, 4, 6, 7, and 10—to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of §607.C.1.b;

3. information on the compatibility of the carbon dioxide stream:

a. with fluids in the injection zone(s);

b. with minerals in both the injection and the confining zone(s), based on the results of the formation testing program; and

c. with the materials used to construct the well;

4. the results of the formation testing program required at §607.C.2.g;

5. final injection well construction procedures that meet the requirements of §617.A;

6. the status of corrective action on wells in the area of review;

7. all available logging and testing program data on the well required by §617.B;

8. a demonstration of mechanical integrity pursuant to §627;

9. any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under §623, that are necessary to address new information collected during logging and testing of the well and the formation as required by§617.B, and any updates to the alternative post-injection site care timeframe demonstration submitted under §633, that are necessary to address new information collected during the logging and testing of the well and the formation as required by; and

10. Any additional information requested by the commissioner.

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§621. Operations

A. Injection Well Operating Requirements

1. Injection Pressure. Except during stimulation, the injection well shall be operated so that the injection-induced pressure in the injection zone(s) does not exceed 90 percent of the fracture pressure of the injection zone(s). This shall ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case may injection pressure initiate fractures in the confining zone(s) or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at §607.C.2.h, all stimulation programs must be approved by the commissioner as part of the permit application and incorporated into the permit.

2. Injection between the outermost casing protecting USDWs and the wellbore is prohibited.

3. The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the commissioner or a fluid containing a corrosion inhibitor approved by the commissioner.

4. Annulus Pressure. The owner or operator shall maintain a tubing-casing annulus pressure that exceeds the operating injection pressure, unless the commissioner determines that such requirement might harm the integrity of the well or endanger a USDW. A request to operate the well at a reduced annulus pressure must be in writing and approved by the commissioner.

5. The owner or operator must maintain mechanical integrity of the injection well at all times, except when doing well workovers, well maintenance, or well remedial work approved by the commissioner.

6. Continuous recording devices shall be installed, used, and maintained in proper working order for each well.

a. continuous recording devices shall monitor:

i. surface injection or bottom-hole pressure;

ii. flow rate, volume and/or mass, and temperature of the carbon dioxide stream;

iii. tubing-casing annulus pressure and annulus fluid volume;

iv. any other data specified by the commissioner.

b. continuous recordings shall consist of digital recordings. Instruments shall be weatherproof or housed in weatherproof enclosures when located in areas exposed to climatic conditions.

7. Alarms and Automatic Shutdown Systems

a. Alarms and automatic shutdown systems designed to actuate on exceedance of a predetermined monitored condition shall be installed and maintained in proper working order as follows:

i. for onshore wells, alarms and automatic surface shut-off valves or—at the discretion of the commissioner—down-hole shut-off systems (e.g., automatic shut-off, check valves) or, other mechanical devices that provide equivalent protection; and

ii. for offshore wells, alarms and automatic down-hole shut-off systems designed to alert the operator and shut-in the well when operating parameters such as annulus pressure, injection rate, or other parameters diverge beyond permitted ranges or gradients specified in the permit.

iii. all alarms must be integrated with any automatic shutdown system.

b. If a shutdown (i.e., down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, the well is lacking mechanical integrity, or if monitored well parameters indicate that the well may be lacking mechanical integrity, the owner or operator must:

i. immediately cease injection;

ii. take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;

iii. notify the commissioner within 24 hours;

iv. restore and demonstrate mechanical integrity to the satisfaction of the commissioner prior to resuming injection; and

v. notify the commissioner when injection can be expected to resume.

c. All emergency shutdown systems shall be fail-safe. The operator shall function-test all critical systems of control and safety at least once every six months. This includes testing of alarms, test tripping of emergency shutdown valves ensuring their closure times are within design specifications, and ensuring the integrity of all electrical, pneumatic, and hydraulic circuits. Test dates and results shall be documented and be available for inspection by an agent of the Office of Conservation.

8. Wellhead Identification and Protection

a. A protective barrier shall be installed and maintained around the wellheads, piping, and above ground structures that may be vulnerable to physical or accidental damage by mobile equipment or trespassers.

b. An identifying sign shall be placed at the wellhead of each injection well and shall include at a minimum the operator's name, well name and number, well serial number, section-township-range, and any other information required by the commissioner. The sign shall be of durable construction with all lettering kept in a legible condition.

9. Well Workovers. No well remedial work, well maintenance or repair, well or injection formation stimulation, well plug and abandonment or temporary abandonment, any other test of the injection well conducted by the permittee, or well work of any kind, shall be done without prior written authorization from the commissioner. The operator shall submit a work permit request form (Form UIC-17 or successor) to seek well work authorization.

10. Pressure gauges that show pressure on the injection tubing and tubing-casing annulus shall be installed at each wellhead. Gauges shall be designed to read in increments of 10 PSIG. All gauges shall be properly calibrated and be maintained in good working order. The pressure valves onto which the pressure gauges are affixed shall have one-half inch female fittings.

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§623. Emergency Response

A. Emergency and Remedial Response.

1. As part of the permit application, the owner or operator must provide the commissioner with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

2. If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:

a. immediately cease injection;

b. take all steps reasonably necessary to identify and characterize any release;

c. notify the commissioner within 24 hours; and

d. Implement the emergency and remedial response plan approved by the commissioner.

3. The commissioner may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.

4. The owner or operator shall review the emergency and remedial response plan developed under §623.A.1 at least once every five years. Based on this review, the owner or operator shall submit an amended emergency and remedial response plan or demonstrate to the commissioner that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §613, as appropriate. Amended plans or demonstrations shall be submitted to the commissioner as follows:

a. within one year of an area of review reevaluation;

b. following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the commissioner; or

c. when required by the commissioner.

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§625. Testing and Monitoring

A. Testing and Monitoring Requirements. The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be included with the permit application and must include a description of how the owner or operator will meet these requirements—including accessing sites for all necessary monitoring and testing during the life of the project. Testing and monitoring associated with geologic sequestration projects must include, at a minimum:

1. analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;

2. installation and use of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the tubing-casing annulus; and the annulus fluid volume added. Continuous monitoring is not required during well workovers as defined in §621.A.5;

3. corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in §617.A.2, by:

a. analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or

b. routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or

c. using an alternative method approved by the commissioner;

4. periodic monitoring of the ground water quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:

a. the location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and

b. the monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under §607.C.2.e and on any modeling results in the area of review evaluation required by §615.B.3.

5. a demonstration of external mechanical integrity pursuant to §627.A.3 at least once every 12 months until the injection well is permanently plugged and abandoned; and, if required by the

commissioner, a casing inspection log pursuant to requirements at §627.A.4 at a frequency established in the testing and monitoring plan;

6. a pressure fall-off test at least once every five years unless more frequent testing is required by the commissioner based on site-specific information;

7. testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:

a. direct methods in the injection zone(s); and

b. indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the commissioner determines that such methods are not appropriate, based on site-specific geology;

8. The commissioner may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW.

a. Design of Class VI surface air and/or soil gas monitoring must be based on potential risks to USDWs within the area of review;

b. The monitoring frequency and spatial distribution of surface air monitoring and/or soil gas monitoring must be decided using baseline data, and the monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under §603.D;

c. If an owner or operator demonstrates that monitoring employed under 40 CFR 98.440 to 98.449 accomplishes the goals of §§625.A.8.a. and b., and meets the requirements pursuant to §629.A.3.e, a regulatory agency that requires surface air/soil gas monitoring must approve the use of monitoring employed under 40 CFR 98.440 to 98.449. Compliance with 40 CFR 98.440 to 98.449 pursuant to this provision is considered a condition of the Class VI permit;

9. Any additional monitoring, as required by the commissioner, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under §615.B.3 and to determine compliance with standards under §619;

10. The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under §625, operational data collected under §621, and the most recent area of review reevaluation performed under §615.C.2. In no case shall the owner or operator review the testing and monitoring plan less often than once every five years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the commissioner that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §613, as appropriate. Amended plans or demonstrations shall be submitted to the commissioner as follows:

a. within 12 months of an area of review reevaluation;

b. following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the commissioner; or

c. when required by the commissioner.

11. a quality assurance and surveillance plan for all testing and monitoring requirements.

B. Monitoring and records.

1. samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. The permittee shall retain records of all monitoring information, including the following:

a. calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the commissioner at any time; and

b. the nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under §629 The commissioner may require the owner or operator to deliver the records to the commissioner at the conclusion of the retention period.

3. Records of monitoring information shall include:

a. the date, exact place, and time of sampling or measurements;

b. the individual(s) who performed the sampling or measurements;

c. the date(s) analyses were performed;

d. the individual(s) who performed the analyses;

e. the analytical techniques or methods used; and

f. the results of such analyses.

4. Owners or operators of Class VI wells shall retain records as specified in §§615.C.4, 629.A.6, 631.A.5, 633.A.6, and 633.A.8 of this chapter.

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§627. Mechanical Integrity

A. Mechanical Integrity

1. A Class VI well has mechanical integrity if:

a. there is no significant leak in the casing, tubing, or packer; and

b. there is no significant fluid movement into a USDW through channels adjacent to the injection wellbore.

2. To evaluate the absence of significant leaks, owners or operators must:

a. perform an annulus pressure test:

i. after initial well construction or conversion as part of the pre-operating requirements;

ii. at least once every 12 months witnessed by an agent of the Office of Conservation; and

iii. after performing any well remedial work that involves unseating the tubing or packer.

b. continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in §621.A.6.

3. At least once every 12 months, use one of the following methods to determine the absence of significant fluid movement:

a. an approved tracer-type survey such as a radioactive tracer, oxygen-activation log, or similar tool; or

b. a temperature or noise log.

4. If required by the commissioner, run a casing inspection log at a frequency specified in the testing and monitoring plan at §625 to determine the presence or absence of corrosion in the long-string casing.

5. The commissioner may require other tests to evaluate well mechanical integrity.

a. The commissioner may allow the use of a test to demonstrate mechanical integrity other than those listed above with written approval of the USEPA. To obtain approval for the use of a new mechanical integrity test, the owner or operator must submit a written request to the commissioner with details of the proposed test and all technical data supporting its use, and the commissioner will submit a written request to the USEPA.

6. In conducting and evaluating the tests enumerated in this section to be allowed by the commissioner, the owner or operator and the commissioner must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the commissioner, a description of the test(s) and the method(s) used must be included. In making the evaluation, the commissioner must review monitoring and other test data submitted since the previous evaluation.

7. The commissioner may require additional or alternative tests if the mechanical integrity test results presented are not satisfactory to the commissioner to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity.

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§629. Reporting

A. Reporting Requirements. The owner or operator must provide, at a minimum, the following reports to the commissioner—and the USEPA as specified in §629.A.5—for each permitted Class VI well:

1. Semi-annual reports containing:

a. any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;

b. monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;

c. a description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;

d. a description of any event which triggers a shut-off device required by §621 and the response taken;

e. the monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;

f. monthly annulus fluid volume added;

g. the results of monitoring prescribed under §625; and

h. the raw operating data from the continuous recording devices prescribed by §621.A.6 submitted in digital format.

2. Report, within 30 days or as specified by permit, the results of:

a. periodic tests of mechanical integrity;

b. any well workover; and

c. any other test of the injection well conducted by the permittee if required by the commissioner.

3. Report, within 24 hours:

a. any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;

b. any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;

c. any triggering of a shut-off system (i.e., down-hole or at the surface);

d. any failure to maintain mechanical integrity; or

e. any release of carbon dioxide to the atmosphere or biosphere pursuant to compliance with the requirement at §625.A.8 for surface air/soil gas monitoring or other monitoring technologies, if required by the commissioner.

4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §621.A.9.

5. Regardless of whether the State of Louisiana has primary permit and enforcement authority (primacy) for Class VI wells, owners or operators of Class VI wells, or applicants for Class VI wells must submit all required submittals, reports, and notifications under §§605, 607, 615, 617, 619, 621, 623, 625, 627, 629, 631, and §633 to the USEPA in an electronic format approved by the USEPA.

6. Records shall be retained by the owner or operator as follows:

a. all data collected for Class VI permit applications in §§607 and 619 shall be retained throughout the life of the geologic sequestration project and at least 10 years following site closure.

b. data on the nature and composition of all injected fluids collected under §625.A.1 shall be retained at least 10 years after site closure. The commissioner may require the owner or operator to deliver the records to the commissioner at the conclusion of the retention period.

c. monitoring data collected under §§625.A.2 through 625.A.9 shall be retained at least 10 years after it is collected.

d. well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure

report collected pursuant to requirements at §§633.A.6 and 633.A.8 shall be retained at least 10 years following site closure.

e. The commissioner may require the owner or operator to retain any records required under these regulations for longer than 10 years after site closure.

B. Recordkeeping. Owners or operators of Class VI wells shall retain records as specified in §§615.C.4, 629.A.6, 631.A.5, 633.A.6, and 633.A.8.

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§631. Plugging and Abandonment

A. Well Plugging and Abandonment.

1. A Class VI permit shall include conditions that meet the requirements set forth in this subsection and shall be incorporated into the permit as a permit condition. For purposes of this subsection, temporary or intermittent cessation of injection operations is not abandonment.

2. Before well plugging, the owner or operator must flush each Class VI well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.

3. Well Plugging Plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application, must be designed in a way that will prevent the movement of fluids into or between USDWs or outside the injection zone, and must include the following minimum information:

a. appropriate tests or measures for determining bottomhole reservoir pressure;

b. appropriate testing methods to ensure external mechanical integrity as specified in §627;

c. a description of the size and amount of casing, tubing, or any other well construction materials to be removed from the well before well closure;

d. that prior to the placement of plugs, the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method;

e. the type and number of plugs to be used;

f. the placement of each plug, including the elevation of the top and bottom of each plug;

g. the type, grade, yield, and quantity of material, such as cement, to be used in plugging. The material must be compatible with the carbon dioxide stream;

h. the method of placement of the plugs;

i. pre-closure and proposed post-closure well schematics;

j. that each plug shall be appropriately tagged and tested for seal and stability;

k. that the well casings shall be cut at least five feet below ground surface for land-based wells, and at least 15 feet below the mud line for wells at a water location.

l. that upon successful completion of well closure of a land-based well, a one-half (½) inch steel plate shall be welded across all casings and inscribed with the well's state serial number and date plugged and abandoned, and

m. any addition information that the commissioner may require.

4. Notice of Intent to Plug. The owner or operator must submit the Form UIC-17, or successor form, to the commissioner and receive written approval from the commissioner before beginning actual well plugging operations. The form must contain information on the procedures to be used in the field to plug and abandon the well.

5. Well Closure Report. The owner or operator shall submit a closure report to the commissioner within 30 days after well plug and abandonment. The report shall be certified as accurate by the owner or operator and by the person charged with overseeing the closure operation (if other than the owner or operator). The owner or operator shall retain the well closure report at least 10 years following site closure. The report shall contain the following information:

a. detailed procedures of the closure operation. Where actual closure differed from the approved plan, the report shall include a written statement specifying the differences between the previous plan and the actual closure;

b. all state regulatory reporting forms relating to the closure activity; and

c. any information pertinent to the closure activity including schematics, tests, or monitoring data.

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§633. Closure and Post-Closure

A. Post-Injection Site Care and Site Closure.

1. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of §633.A.1.b and is acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.

a. The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application.

b. The post-injection site care and site closure plan must include the following information:

i. the pressure differential between pre-injection and predicted post-injection pressures in the injection zone(s);

ii. the predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under §615.B.3.a;

iii. a description of post-injection monitoring location, methods, and proposed frequency;

iv. a proposed schedule for submitting post-injection site care monitoring results to the commissioner and to the USEPA pursuant to §629.A.5; and,

v. the duration of the post-injection site care timeframe and, if approved by the commissioner, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.

c. Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the commissioner through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the commissioner, be incorporated into the permit, and are subject to the permit modification requirements at §613, as appropriate.

d. At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the commissioner's approval within 30 days of such change.

2. The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.

a. Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the commissioner-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the commissioner pursuant to requirements in §633.A.3, unless the owner or operator makes a demonstration under §633.A.2.b. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under §633.A.2.b is submitted and approved by the commissioner.

b. If the owner or operator can demonstrate to the satisfaction of the commissioner before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the commissioner may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where the owner or operator has substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.

c. Prior to authorization for site closure, the owner or operator must submit to the commissioner for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.

d. If the demonstration in §633.A.2.c cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the commissioner does not approve the demonstration, the owner or operator must submit to the commissioner a plan to continue post-injection site care until a demonstration can be made and approved by the commissioner.

3. Demonstration of Alternative Post-Injection Site Care Timeframe. The commissioner may approve, in consultation with the USEPA, an alternative post-injection site care timeframe other than the 50-year default, if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to §607 and §615, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.

a. A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:

i. the results of computational modeling performed pursuant to delineation of the area of review under §615.B and §615.C;

ii. the predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or the timeframe for pressure decline to pre-injection pressures;

iii. the predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;

iv. a description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;

v. the predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and/or mineral phase;

vi. the results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in clauses iv. and v. above;

vii. a characterization of the confining zone(s) including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation fluids) movement;

viii. the presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;

ix. a description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;

x. the distance between the injection zone and the nearest USDW above the injection zone; and

xi. any additional site-specific factors required by the commissioner.

b. Information submitted to support the demonstration in §633.A.3.a must meet the following criteria:

i. all analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;

ii. estimation techniques must be appropriate and USEPA-certified test protocols must be used where available;

iii. predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;

iv. predictive models must be calibrated using existing information (e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are available;

v. reasonably conservative values and modeling assumptions must be used and disclosed to the commissioner whenever values are estimated on the basis of known, historical information instead of site-specific measurements;

vi. an analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration.

vii. an approved quality assurance and quality control plan must address all aspects of the demonstration; and,

viii. any additional criteria required by the commissioner.

4. Notice of Intent for Site Closure. The owner or operator must notify the commissioner in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The commissioner may allow for a shorter notice period.

5. After the commissioner has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.

6. The owner or operator must submit a site closure report to the commissioner within 90 days after site closure, which must also be retained by the owner or operator for at least 10 years. The report must include:

a. documentation of appropriate injection and monitoring well plugging as specified in §631 and §633.A.5. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the commissioner. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the USEPA as in §629.A.5;

b. documentation of appropriate notification and information to such State, local and Tribal authorities that have authority over drilling activities to enable such State, local, and Tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone(s); and

c. records reflecting the nature, composition, and volume of the carbon dioxide stream.

7. Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:

a. the fact that land has been used to sequester carbon dioxide;

b. the name of the State agency, local authority, and/or Tribe with which the survey plat was filed, as well as the address of the USEPA Regional Office to which it was submitted; and

c. the volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.

8. The owner or operator must retain for at least 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the commissioner at the conclusion of the retention period, and the records must thereafter be retained in a form and manner and at a location designated by the commissioner.

B. Certificate of Completion. The commissioner shall not issue a certificate of completion pursuant to R.S. 1109 unless the operator has sufficient financial surety with the Office of Conservation to adequately close the facility, plug all existing wells, and provide for post-injection site care and site closure.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:4 et seq., 30:22 et seq., and 30:1101 et seq.
HISTORICAL NOTE: Promulgated by the Department of Natural Resources, Injection and Mining Division, LR 46: Department of Natural Resources – Office of Conservation.

Richard P. Ieyoub
Commissioner

Family Impact Statement

In compliance with Act 1183 of the 1999 Regular Session of the Louisiana Legislature, the impact of this proposed rule on the family has been considered. This proposed rule has a positive impact on family functioning, stability, or autonomy as described in R.S. 49:972.

Poverty Impact Statement

The proposed Rule should not have any known or foreseeable impact on any child, individual or family as defined by R.S. 49:973.B. In particular, there should be no known or foreseeable effect on:

1. the effect on household income, assets, and financial security;
2. the effect on early childhood development and preschool through postsecondary education development;
3. the effect on employment and workforce development;
4. the effect on taxes and tax credits;
5. the effect on child and dependent care, housing, health care, nutrition, transportation, and utilities assistance.

Small Business Analysis

Pursuant to R.S. 49:965.6, methods for reduction of the impact on small business, as defined in the Regulatory Flexibility Act, have been considered when creating this proposed Rule.

This proposed Rule is not anticipated to have an adverse impact on small businesses; therefore, a Small Business Economic Impact Statement has not been prepared.

Provider Impact Statement

The proposed Rule should not have any known or foreseeable impact on providers as defined by HCR 170 of 2014 Regular Legislative Session. In particular, there should be no known or foreseeable effect on:

1. the effect on the staffing level requirements or qualifications required to provide the same level of service;
2. the total direct and indirect effect on the cost to the providers to provide the same level of service; or
3. the overall effect on the ability of the provider to provide the same level of service.

Public Comments

Interested persons may submit written comments to Stephen Lee, Director of the Injection and Mining Division, Office of Conservation, Louisiana Department of Natural Resources, P.O. Box 94275, Baton Rouge, LA 70804-9275, or by faxing comments to (225) 242-3441. Written comments will be accepted through the close of business, 5:00 p.m. on December 1, 2020. A public hearing is not currently scheduled, but if requested will be held on the morning of Tuesday, December 1, 2020.

Richard P. Ieyoub
Commissioner of Conservation

FISCAL AND ECONOMIC IMPACT STATEMENT FOR ADMINISTRATIVE RULES

I. ESTIMATED IMPLEMENTATION COSTS (SAVINGS) TO STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There will be an increase in expenditures to the Louisiana Department of Natural Resources (LDNR) as a result of the proposed rules required by Act 517 of 2009. The proposed rules govern Class VI wells for the sequestration of carbon dioxide in subsurface geologic formations, ultimately limiting emissions of this greenhouse gas. LDNR anticipates minimal costs to the program in FY 21 (which will be absorbed within their existing budget) because LDNR will not receive approval from the United States Environmental Protection Agency (USEPA) to issue permits for these types of wells until FY 22.

Expenditures will increase over FY 22 and FY 23 as the program is fully staffed and implemented and will require approximately $1.135 M for full implementation by FY 23. Funding for the program will come from the newly created Carbon Dioxide Geologic Storage Trust Fund (CDGSTF), federal grants, and State General Fund (Direct) (SGF). The largest impact to the SGF will be in FY 23, with an expected impact of approximately $500,000. Reliance on the SGF is minimal for FY 24 and beyond as the CDGSTF is expected to have accrued sufficient funds for program operations, in addition to federal grants.

There will be no impact to local governmental units.

II. ESTIMATED EFFECT ON REVENUE COLLECTIONS OF STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There will be an increase in revenue collections to LDNR beginning in FY 22 and increasing each subsequent fiscal year. LDNR will experience small increases to the Oil and Gas Regulatory Fund each fiscal year ($10,000 by FY 23) and significant increases to the new CDGSTF each fiscal year ($315,000 by FY 23). LDNR anticipates 4 to 6 sites by the end of FY 24 with estimated revenue to the CDGSTF between $1.6 M - $2.4 M. Future grant funding will increase each fiscal year and will be based on the Class VI well count.

There will be an impact to the SGF to the extent that Class VI wells are constructed under state property thereby creating leasing revenues. However, the number and location of the Class VI wells is speculative

and future revenues are indeterminable.

III. ESTIMATED COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS, SMALL BUSINESSES, OR NON-GOVERNMENTAL GROUPS (Summary)

There will be positive economic benefits to individuals, businesses, and other non-governmental groups as a result of this program. Individuals who own surface rights in the area of Class VI sequestration projects will be able to negotiate leases for storage rights in the subsurface. Non-governmental groups in the industrial sector will benefit from increased construction as well as the federal tax credits received by the operator who is sequestering the carbon dioxide underground.

IV. ESTIMATED EFFECT ON COMPETITION AND EMPLOYMENT (Summary)

There will be a positive impact on employment in the industrial construction sector as there will be an increase in the availability of construction jobs in order to build pipeline infrastructure and injection sites for the Class VI wells. However, this is a new industry in the United States and therefore potential impacts, while positive, are indeterminable.

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
VI. Summary of Public Comment

John Bel Edwards
GOVERNOR

Thomas F. Harris
SECRETARY

Richard P. Ieyoub
COMMISSIONER OF CONSERVATION

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF CONSERVATION

April 21, 2021

David Gray
Regional Administrator
U.S. Environmental Protection Agency
Region 6
1201 Elm Street
Dallas, Texas, 75270

Re: Summary Report of Public Comment
Class VI Geologic Sequestration of Carbon Dioxide
Office of Conservation Rules and Regulations
LAC 43:XVII.Chapter 6 (Statewide Order 29-N-6)

Dear Mr. Gray:

The Louisiana Commissioner of Conservation promulgated new rule LAC 43:XVII.Chapter 6 on January 20, 2021. Prior to final publication, a comment period was held open from October 20, 2020 to December 1, 2020, which afforded interested parties an opportunity to comment on the proposed rule amendments.

The enclosed notice offered members of the public an opportunity to submit a comment regarding the proposed rule and also stated that a public hearing would be held upon request. No public hearing was requested, so a public hearing was not held.

The Office of Conservation received five (5) public comments. Copies of these comments are enclosed as well as the responses by the Louisiana Office of Conservation. No changes were made to the proposed rule as a result of the public comments.

Please contact me at 225-342-5569 if there are any questions or if any clarification of the above is needed.

Yours very truly,

Stephen H. Lee, Director
Injection and Mining Division
Louisiana Office of Conservation

SHL:ces

Enclosures

LDNR ATTACHMENT 2 of 3

LMOGA
Louisiana Mid-Continent Oil & Gas Association

December 1, 2020

Transmitted via hand delivery

OFFICE OF CONSERVATION

DEC 01 2020

INJECTION & MINING DIVISION

Stephen Lee
Director
Injection and Mining Division
Office of Conservation
Louisiana Department of Natural Resources
PO Box 94275
Baton Rouge, LA 70804

Re: Comments on Proposed Regulations for Class VI Wells

Dear Stephen,

The Louisiana Mid-Continent Oil and Gas Association (LMOGA) appreciates the opportunity to comment on the Louisiana Department of Natural Resources' (the Department's) notice of intent to establish regulations governing Class VI wells, which are for permanent carbon sequestration.

LMOGA is a state trade association which represents all aspects of the oil and gas industry in the State of Louisiana. The companies which make up LMOGA's membership consider safety and environmental stewardship to be core values in all aspects of their operations, and carbon sequestration will play a key role in Louisiana's recently announced emissions reduction goals.

LMOGA commends the Department for the work it does to manage Louisiana's bountiful natural resources in a responsible and environmentally conscious manner.

Additionally, LMOGA fully supports the Department as it works with the Environmental Protection Agency (EPA) Region 6, to become the primary regulator for Class VI wells.

LMOGA recognizes that the Class VI regulations proposed in the October issue of the Louisiana Register represent a critical step in the Department's primacy efforts, and as such, LMOGA supports the Department's notice of intent.

To ensure a fully functional and useable Class VI program, LMOGA respectfully requests that the Department would consider the following recommended changes to the proposed regulations:

Miscellaneous Wording
To ensure clarity, LMOGA recommends changing the wording in paragraph 609.C.5.a from "submitted a plugging and abandonment report" to "submitted a Well Closure Report and complied with closure and post-closure requirements according to paragraph 633." LMOGA also recommends adding a definition of Well Closure Report to these rules.

Reporting Requirements
There appears to be a discrepancy between a reporting deadline in the EPA rules compared to the Department's proposed rules. Specifically, the 14-day reporting requirement specified in the

LMOGA

Louisiana Mid-Continent
Oil & Gas Association

proposed paragraph 609.L.5 is shorter than the 30-day period outlined in the corresponding EPA rule at 40 CFR 144.51(l)(5).

A 14-day reporting requirement presents somewhat of a challenge, and LMOGA respectfully requests that the Department would consider making this requirement 30 days to reflect the requirement in the EPA rule.

In conclusion, LMOGA supports this rulemaking action by the Department, and LMOGA appreciates the opportunity to provide comments and participate in the rulemaking process.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Nathan McBride
Regulatory Affairs Manager
Louisiana Mid-Continent Oil and Gas Association

OFFICE OF CONSERVATION

DEC 01 2020

INJECTION & MINING DIVISION

EDF
ENVIRONMENTAL DEFENSE FUND®
Finding the ways that work

December 1, 2020

Stephen Lee
Director, Injection and Mining Division
Office of Conservation
Louisiana Department of Natural Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275

Submitted via email to Stephen Lee and via fax

Re: Louisiana Class VI Regulations in Advance of Primacy Application

Dear Mr. Lee,

The Environmental Defense Fund (EDF) appreciates the opportunity to provide comments in response to the Louisiana Department of Natural Resources, Office of Conservation's proposal to adopt Statewide Order No. 29-N-6 providing rules for Class VI injection wells in advance of Louisiana's application for primacy over Class VI regulation from the U.S. Environmental Protection Agency.

In general, EDF supports the proposed regulations and Louisiana's intention to achieve Class VI primacy. Carbon Capture and Sequestration (CCS) is an important suite of technologies for removing carbon dioxide from industrial waste streams and the air, and securely sequestering it in subsurface geology – CCS is well suited for Louisiana's abundance of CO2 sources and sinks, and is a sensible component of Louisiana's approach to curbing climate pollution and saving its coastal areas from inundation.

The proposed rules are a result of significant collaboration with the EPA, and appear to meet EPA's minimum requirements for UIC programs under Section 1422 of the Safe Drinking Water Act. At the same time, EDF would like to highlight areas deserving the Office of Conservation's special attention. These are: 1) liability management; 2) agency resources and staff training; 3) scope of protection.

1) Liability management

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CCS projects are long-lived, and Class VI requires an extended period of post-site care and monitoring. Many proponents of CCS, especially equity investors, are eager to derisk these projects through statutory elimination of liability, or transfer of liability to taxpayers.

EDF is concerned about this socializing of CCS liability for several reasons.

First, the risk of liability acts as a powerful motivator for high quality operations. Project developers who do not face commensurate consequences for negligent behavior will tend to behave negligently to save money. Elimination or transfer of liability introduces a moral hazard that potentially endangers workers, community members, and the environment.

Second, elimination or transfer of liability creates a rhetorical contradiction for CCS proponents who claim that the activity is well understood and safe, while simultaneously lobbying to escape from liability in case something goes wrong – this mixed message is absorbed by the public and creates skepticism about the reliability of CCS, which can be quite damaging in these early stages of widespread rollout.

Liability management is outside the scope of Class VI primacy, but is nevertheless an essential component of a state's overall CCS regulatory program. Since 2009, Louisiana has had statutory provisions addressing liability arising from CCS projects at La. R.S. §§ 30:1109-1111. EDF supports strengthening this system to hold operators more responsible for the consequences of their actions. However, had the Louisiana legislature adopted language proposed in early 2020 eliminating operator liability arising prior to the issuance of a certificate of completion of injection operations and eliminating the cap on operator liability release pegged to the solvency of the Carbon Dioxide Geologic Storage Trust Fund, EDF would not have been able to support CCS in Louisiana.

2) Agency resources and staff training

Louisiana policymakers are well aware that Class VI permitting and oversight is a resource-intensive activity, requiring a well-funded and well-trained regulator to facilitate safe and secure project development. Class VI oversight requires, for example, extensive modeling efforts outside the current scope of the Department of Natural Resource's workstream. The expected implementation costs that the DNR provides in its Notice of Intent are commensurate with estimates by the Ground Water Protection Council. EDF agrees with the Department that federal grants will be needed, especially in the early years while industry funding of oversight ramps up, to develop the regulatory program, and supports appropriations to make this happen at sufficient scale.

In particular, EDF supports the Department of Natural Resources' efforts to hire and train staff for Class VI permitting, modeling, inspections, and other oversight needs. Given the self-imposed short timelines for the Department to evaluate an application's completeness and then approve applications after the closure of public comment periods, it is especially important for the Department staff to be adequately trained and resourced to react quickly, knowledgeably and effectively on permitting decisions.

3) Scope of protection

EPA's Class VI program, as part of the Safe Drinking Water Act, is focused on the protection of Underground Sources of Drinking Water. While the Department of Natural Resources' proposed language is consistent with this mandate, Wyoming's recently approved Class VI primacy application extends the scope of protection, and emphasizes in at least seventeen different places that its rules are intended to protect human health, safety, and the environment in addition to USDWs.[1] While the concept of regulating to safeguard human health, safety and the environment is not absent from the Department's proposal, these issues are surely central to the Department's approach, and the Department should take this opportunity to add language similar to that used by Wyoming in its rules.

* * *

EDF again appreciates the opportunity to comment on this important rule as Louisiana prepares its Class VI primacy application. We look forward to working with Louisiana policymakers and other stakeholders as the state continues to develop a robust CCS oversight framework.

Respectfully submitted,

Adam Peltz
Senior Attorney, Energy
Environmental Defense Fund
257 Park Ave South, 17th floor
New York, NY 10010

[1] See, e.g., Wyoming DEQ Water Quality Ch. 24, Sec 2(tt); Sec 4(c)(i)(R)(I); Sec 8(c)(i)(B); Sec 12(a)(i) and (ii); Sec 14(b)(ix); Sec 17(a)(ii)(A).

Comment 1 – LMOGA

Miscellaneous Wording: To ensure clarity, LMOGA recommends changing the wording in paragraph 609.C.5.a from "submitted a plugging and abandonment report" to "submitted a Well Closure Report and complied with closure and post-closure requirements according to paragraph 633." LMOGA also recommends adding a definition of Well Closure Report to these rules.

Comment 1 LDNR Response: The Louisiana Department of Natural Resources (LDNR) has noted the comment and the suggested changes will be considered in future rule-making.

Comment 2 – LMOGA

Reporting Requirements: There appears to be a discrepancy between a reporting deadline in the EPA rules compared to the Department's proposed rules. Specifically, the 14-day reporting requirement specified in the proposed paragraph 609.L.5 is shorter than the 30-day period outlined in the corresponding EPA rule at 40 CFR 144.51(I)(5).

A 14-day reporting requirement presents somewhat of a challenge, and LMOGA respectfully requests that the Department would consider making this requirement 30 days to reflect the requirement in the EPA rule.

Comment 2 LDNR Response: LDNR has noted the comment and the suggested changes will be considered in future rule-making.

Comment 3 – Environmental Defense Fund

Liability Management: CCS projects are long-lived, and Class VI requires an extended period of post-site care and monitoring. Many proponents of CCS, especially equity investors, are eager to derisk these projects through statutory elimination of liability, or transfer of liability to taxpayers.

EDF is concerned about this socializing of CCS liability for several reasons.

First, the risk of liability acts as a powerful motivator for high quality operations. Project developers who do not face commensurate consequences for negligent behavior will tend to behave negligently to save money. Elimination or transfer of liability introduces a moral hazard that potentially endangers workers, community members, and the environment.

Second, elimination or transfer of liability creates a rhetorical contradiction for CCS proponents who claim that the activity is well understood and safe, while simultaneously lobbying to escape from liability in case something goes wrong – this mixed message is absorbed by the public and creates skepticism about the reliability of CCS, which can be quite damaging in these early stages of widespread rollout.

Liability management is outside the scope of Class VI primacy, but is nevertheless an essential component of a state's overall CCS regulatory program. Since 2009, Louisiana has had statutory provisions addressing liability arising from CCS projects at La. R.S. §§ 30:1109-1111. EDF supports

strengthening this system to hold operators more responsible for the consequences of their actions. However, had the Louisiana legislature adopted language proposed in early 2020 eliminating operator liability arising prior to the issuance of a certificate of completion of injection operations and eliminating the cap on operator liability release pegged to the solvency of the Carbon Dioxide Geologic Storage Trust Fund, EDF would not have been able to support CCS in Louisiana.

Comment 3 LDNR Response: LDNR certainly recognizes the importance of long-term liability management associated with CCS projects. As mentioned in the comment, the purview of the proposed rule does not extend to liability release and any changes to the current structure of liability management would require statutory changes. Therefore, no change to the proposed rule is warranted.

Comment 4 – Environmental Defense Fund

Agency resources and staff training: Louisiana policymakers are well aware that Class VI permitting and oversight is a resource-intensive activity, requiring a well-funded and well-trained regulator to facilitate safe and secure project development. Class VI oversight requires, for example, extensive modeling efforts outside the current scope of the Department of Natural Resource's workstream. The expected implementation costs that the DNR provides in its Notice of Intent are commensurate with estimates by the Ground Water Protection Council. EDF agrees with the Department that federal grants will be needed, especially in the early years while industry funding of oversight ramps up, to develop the regulatory program, and supports appropriations to make this happen at sufficient scale.

In particular, EDF supports the Department of Natural Resources' efforts to hire and train staff for Class VI permitting, modeling, inspections, and other oversight needs. Given the self-imposed short timelines for the Department to evaluate an application's completeness and then approve applications after the closure of public comment periods, it is especially important for the Department staff to be adequately trained and resourced to react quickly, knowledgeably and effectively on permitting decisions.

Comment 4 LDNR Response: LDNR concurs with this comment. Staffing and funding are not included within the scope of the proposed regulations. Therefore, no change to the proposed rule is warranted.

Comment 5 – Environmental Defense Fund

Scope of Protection: EPA's Class VI program, as part of the Safe Drinking Water Act, is focused on the protection of Underground Sources of Drinking Water. While the Department of Natural Resources' proposed language is consistent with this mandate, Wyoming's recently approved Class VI primacy application extends the scope of protection, and emphasizes in at least seventeen different places that its rules are intended to protect human health, safety, and the environment in addition to USDWs.1 While the concept of regulating to safeguard human health, safety and the environment is not absent from the Department's proposal, these issues are surely central to the Department's approach, and the Department should take this opportunity to add language similar to that used by Wyoming in its rules.

Comment 5 LDNR Response: LDNR concurs with the importance of protecting human health, safety, and the environment. The Louisiana State Constitution in Article IX, Section 1, mandates that the natural resources of the state "shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people." Although these protections are only explicitly stated in LAC 45:XVII.603.H.4 of the proposed rule, they are already enumerated in the mission of the LDNR as laid out in the Louisiana Constitution.

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
VII. Crosswalk for Louisiana UIC Regulations

Crosswalk for Louisiana UIC Regulations Submitted with Primacy Applications Under Section 1422 of the SDWA

The following tables compare the regulatory language submitted by Louisiana to EPA's regulations applicable to Class VI wells, specifically Parts 124, 144, and 146 under Title 40 of the CFR. Under Section 1422 of the SDWA, the State's program must meet the requirements of EPA UIC regulations. Cadmus reviewed the crosswalk and Louisiana's draft UIC regulations provided to EPA on April 2, 2020; notes of this review (completed in May 2020) are provided in the "Cadmus review" column. Cadmus reviewed an updated crosswalk in August 2020; any notes of this review are in the "Cadmus review" column, preceded by the text "August 2020 review." **Blue and/or track change text =LA additions or deletions**; **Purple text- EPA Review**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
PART 124--PROCEDURES FOR DECISION MAKING						
SUBPART A--GENERAL PROGRAM REQUIREMENTS						
40 CFR 124.3 Application for a permit						
1	40 CFR 124.3(a)(1) (See also 145.11(a)(24))	Applicable to State programs, see §145.11 (UIC). (1) Any person who requires a permit under the UIC programs shall complete, sign, and submit to the Director an application for each permit required under §144.1 (UIC~~). Applications are not required for underground injections authorized by rules (§§ 144.21 through 144.26).~~	§~~60~~3605.C through ~~60~~3605.C.1 -------- §~~60~~3603.E through ~~60~~3603.E.1	C. Application Required 1. Permit Application. New applicants, permittees, and any person required to have a permit shall complete, sign, and submit an application to the commissioner as described in this Section. a. the applicant shall submit one signed paper version of the application and an exact duplicate of the application in an electronic format approved by the commissioner. The commissioner may request additional paper copies of the application—either in its entirety or in part—as needed. b. the electronic version of the application shall contain the following certification statement: This document is an electronic version of the application titled (Insert Document Title) dated (Insert Application Date). This electronic version is an exact duplicate of the paper copy submitted in (Insert the Number of Volumes Comprising the Full Application) to the Louisiana Office of Conservation. c. The applicant shall submit the application identified in §~~60~~3605.C.1 above to the USEPA in an electronic format approved by the USEPA. --------- E. Authorization of Underground Injection by Rule 1. Class VI wells cannot be authorized by rule to inject carbon dioxide. Owners or operators of Class VI wells must obtain a permit.	Language has been added at §~~60~~3605.C to clarify requirements for submission of permit applications. These include more stringent requirements compared to the federal rule. The struck-out text of 40 CFR 124.3(a)(1) will not be adopted. Authorization by rule for Class VI wells will be prohibited.	Reviewed; no issues found.

Commented [LS1]: Note: LA regulation was updated from LAC 43:XVII.Chapter 6 to LAC 43:XVII.Chapter 36 upon final adoption. All chapter references under LA Citation, LA Rule Text, and Difference have been updated with the new chapter number.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

2	40 CFR 124.3(a)(2) (See also 145.11(a)(24))	The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See §144.31 (UIC).	§~~61~~3611.B.2 through ~~61~~3611.B.3	2. Check for completeness: a. the commissioner shall not issue a permit before receiving an application form and any required supplemental information which are completed to his satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity;~~the commissioner shall not issue a permit before receiving an application form and any required supplemental information which are completed to his satisfaction;~~ b. each application for a permit submitted for a new UIC injection well will be reviewed for completeness by the commissioner and the applicant will be notified of the commissioner's decision within 30 days of its receipt. Each application for a permit submitted for an existing injection well will be reviewed for completeness and the applicant will be notified of the commissioner's decision within ~~60 day~~60 days of receipt. Upon completing the review, the commissioner shall notify the applicant in writing whether the application is complete. 3. Incomplete Applications a. If the application is incomplete, the commissioner shall list in the notification in §~~61~~3611.B.2.b above, the information necessary to make the application complete. When the application is for an existing UIC injection well, the commissioner shall specify in the notice a date for submitting the necessary information. The commissioner shall notify the applicant that the application is complete upon receiving this information. The commissioner may request additional information from an applicant only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete. b. If an applicant fails or refuses to correct deficiencies found in the application, the permit may be denied and, for existing wells, appropriate enforcement actions may be taken under the applicable statutory provision.		Text is similar, with no impact on stringency. Note that ~~61~~611.B.3 was not in the crosswalk LA submitted; added in review. August 2020 review: revised text addresses the above comment; state provision is similar to CFR, except for emergency permits. No concerns for stringency.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

3	40 CFR 124.3(a)(3) (See also 145.11(a)(24))	Permit applications must comply with the signature and certification requirements of § 144.32 (UIC).	§~~60~~3605.E through ~~60~~3605.G	E. Signature Requirements. All permit applications shall be signed as follows. 1. Corporations. By a principal executive officer of at least the level of vice-president, or duly authorized representative of that person if the representative performs similar policy making functions for the corporation. A person is a duly authorized representative only if: a. the authorization is made in writing by a principle executive officer of at least the level of vice-president; b. the authorization specifies either an individual or position having responsibility for the overall operation of a sequestration well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and c. the written authorization is submitted to the Office of Conservation. 2. Limited Liability Company (LLC). By a member if the LLC is member-managed, by a manager if the LLC is manager-managed, or by a duly authorized representative only if: a. the authorization is made in writing by an individual who would otherwise have signature authority as outlined in §~~60~~3605.E.2 above; b. the authorization specifies either an individual or position having responsibility for the overall operation of a solution-mining well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and c. the written authorization is submitted to the Office of Conservation. 3. Partnership or Sole Proprietorship. By a general partner or proprietor, respectively; or 4. Public Agency. By either a principal executive officer or a ranking elected official of a municipality, state, federal, or other public agency. F. Signature Reauthorization. If an authorization under §~~60~~3605.E is no longer accurate	While the language at §~~60~~3607.E through ~~60~~3607.E.4 is not verbatim to 40 CFR 144.32, the intent of the federal rule is preserved; that being, designation of a duly authorized representative by applicants, permittees, or any person required to have a permit.	Text is similar, with no impact on stringency. See also 144.32 for specifics of the comparison to LA vs. CFR.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
				because a different individual or position has responsibility for the overall operation of a sequestration well, a new authorization satisfying the signature requirements must be submitted to the Office of Conservation before or concurrent with any reports, information, or applications required to be signed by an authorized representative. G. Certification. Any person signing a document under §~~60~~3605.E shall make the following certification on the application: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment."		
40 CFR 124.5 Modification, revocation and reissuance, or termination of permits.						
4	40 CFR 124.5(a) (See also 145.11(a)(25))	(Applicable to State programs, see §145.11 (UIC).) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Director's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in § 144.39 or 144.40 (UIC). All requests shall be in writing and shall contain facts or reasons supporting the request.	§~~61~~3613.B.2 through ~~61~~3613.B.3	2. The permittee shall furnish to the commissioner, within 30 days, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with the permit. The permittee shall also furnish to the commissioner, upon request, copies of records required to be kept by the permit. 3. The commissioner may, upon his own initiative or at the request of any interested person, review any permit to determine if cause exists to modify, revoke and reissue, or terminate the permit for the reasons specified in §~~61~~3613.C, D, and E. All requests shall be in writing and shall contain facts or reasons supporting the request.	In addition to the text at 40 CFR 145.11 the following language has been added at §~~61~~3613.B.2: the permittee shall furnish to the commissioner, within 30 days, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with the permit. The permittee shall also furnish to the commissioner, upon request, copies of records required to be kept by the permit.	Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
5	40 CFR 124.5(b)	If the Director decides the request is not justified, he or she shall send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings. Denials by the Regional Administrator may be informally appealed to the Environmental Appeals Board by a letter briefly setting forth the relevant facts. The Environmental Appeals Board may direct the Regional Administrator to begin modification, revocation and reissuance, or termination proceedings under paragraph (c) of this section. The appeal shall be considered denied if the Environmental Appeals Board takes no action on the letter within ~~60 day~~60 days after receiving it. This informal appeal is, under 5 U.S.C. 704, a prerequisite to seeking judicial review of EPA action in denying a request for modification, revocation and reissuance, or termination.	§~~61~~3613.B.4	4. If the commissioner decides the request is not justified, he shall send the person making the request a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings.		Text is identical but does not include "Denials by the Regional Administrator…" (that provision is specific to EPA decisions and not applicable to states).
6	40 CFR 124.5(c)(1) (See also 145.11(a)(25))	(Applicable to State programs, see 40 CFR 145.11 (UIC)). (1) If the Director tentatively decides to modify or revoke and reissue a permit under 404 CFR 144.39 (UIC), he or she shall prepare a draft permit under § 124.6 incorporating the proposed changes. The Director may request additional information and, in the case of a modified permit, may require the submission of an updated application. In the case of revoked and reissued permits, the Director shall require the submission of a new application.	§~~61~~3613.B.5	5. If the commissioner decides to modify or revoke and reissue a permit under §~~61~~3613.C, D, and E, he shall prepare a draft permit under §~~61~~3611.C incorporating the proposed changes. The commissioner may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the commissioner shall require, if necessary, the submission of a new application.		Text drops "tentatively" and makes the submission of a new application required only if necessary. No impact on stringency.
7	40 CFR 124.5(c)(2) (See also 145.11(a)(25))	In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.	§~~61~~3613.B.5	6. In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
8	40 CFR 124.5(c)(3) (See also 145.11(a)(25))	''Minor modifications'' as defined in § 144.41 (UIC) are not subject to the requirements of this section.	§~~61~~3613.D	D. Minor Modifications of Permits. Upon the consent of the permittee, the commissioner may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section without issuing a draft permit and providing for public comment. Minor modifications may only:		Text is similar, with no impact on stringency.
9	40 CFR 124.5(d)(1) (See also 145.11(a)(25))	(Applicable to State programs, see §145.11 (UIC) of this chapter.) (1) If the Director tentatively decides to terminate: A permit under § 144.40 (UIC) of this chapter, he or she shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under § 124.6 of this chapter.	§~~61~~3613.E.2	2. If the commissioner decides to terminate a permit, he shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under §~~61~~3611.C.		Text is similar, with no impact on stringency.
40 CFR 124.6 Draft permits.						
10	40 CFR 124.6(a) (See also 145.11(a)(26))	(Applicable to State programs, see §145.11 (UIC).) Once an application is complete, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.	§~~61~~3611.C.1	1. Once an application is complete, the commissioner shall prepare a draft permit or deny the application.		Text is similar, with no impact on stringency.
11	40 CFR 124.6(b)	If the Director tentatively decides to deny the permit application, he or she shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section. See § 124.6(e). If the Director's final decision (§ 124.15) is that the tentative decision to deny the permit application was incorrect, he or she shall withdraw the notice of intent to deny and proceed to prepare a draft permit under paragraph (d) of this section.	N/A			N/A. This provision is not required for state programs.
12	40 CFR 124.6(d) (See also 145.11(a)(26))	(Applicable to State programs, see §145.11 (UIC).) If the Director decides to prepare a draft permit, he or she shall prepare a draft permit that contains the following information:	§~~61~~3611.C.3	3. If the commissioner prepares a draft permit, it shall contain the following information where appropriate:	In addition to the text at 40 CFR 145.11(a)(26), the following language has been added at §~~61~~3611.C.3: where appropriate.	Text is similar, with no impact on stringency.
13	40 CFR 124.6(d)(1) (See also 145.11(a)(26))	All conditions under §144.51 and 144.42 (UIC);	§~~60~~3609.C.3.a	a. all conditions under §§~~60~~3609, ~~§61~~3615, ~~§ 61~~3617, ~~§61~~3619, ~~§62~~3621, ~~§62~~3623, ~~§62~~3625, ~~§62~~3627, ~~§62~~3629, and ~~§631~~3631;		Text is similar, with no impact on stringency. August 2020 review: minor edits, no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
14	40 CFR 124.6(d)(2) (See also 145.11(a)(26))	All compliance schedules under §144.53 (UIC);	§~~60~~3609.C.3.b	b. all compliance schedules under §~~60~~3609.N; and		Text is similar, with no impact on stringency.
15	40 CFR 124.6(d)(3) (See also 145.11(a)(26))	All monitoring requirements under §144.54 (UIC); and	§~~60~~3609.C.3.c	c. all monitoring requirements under applicable Paragraphs in §~~62~~3625.		Text is similar, with no impact on stringency.
16	40 CFR 124.6(d)(4)(ii) (See also 145.11(a)(26))	For: *** UIC permits, permit conditions under § 144.52;	§~~60~~3609.O, §~~61~~3617, §~~61~~3615.C, §~~62~~3621, §~~62~~3625, §~~60~~3609.C, §~~60~~3609.P	See §§ ~~60~~3609.O, ~~61~~3617, ~~61~~3615.C, ~~62~~3621, ~~62~~3625, ~~60~~3609.C, and ~~60~~3609.P.		Reviewed; no issues found.
17	40 CFR 124.6(e) (See also 145.11(a)(26))	(Applicable to State programs, see §145.11 (UIC).) Draft permits prepared by a State shall be accompanied by a fact sheet if required under § 124.8.	§~~61~~3611.C.4	4. All draft permits prepared under this Section may be accompanied by a fact sheet pursuant to §~~61~~3611.D, and shall be publicly noticed in accordance with §~~61~~3611.E, and made available for public comment pursuant to §~~61~~3611.F.		Text is similar, with no impact on stringency.
40 CFR 124.8 Fact sheet.						
18	40 CFR 124.8(a) (See also 145.11(a)(27))	A fact sheet shall be prepared for every draft permit for a major, UIC facility or activity, and for every draft permit which the Director finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Director shall send this fact sheet to the applicant and, on request, to any other person.	§~~61~~3611.D.1	1. A fact sheet shall be prepared for every draft permit for all major UIC facilities or activities and for every draft permit which the commissioner finds is the subject of wide-spread public interest or raises major issues. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permits. The commissioner shall send this fact sheet to the applicant and, on request, to any other person.		Text is similar, with no impact on stringency.
19	40 CFR 124.8(b) (See also 145.11(a)(27))	The fact sheet shall include, when applicable:	§~~61~~3611.D.2	2. The fact sheet shall include, when applicable:		Text is identical.
20	40 CFR 124.8(b)(1) (See also 145.11(a)(27))	A brief description of the type of facility or activity which is the subject of the draft permit;	§~~61~~3611.D.2.a	a. a brief description of the type of facility or activity which is the subject of the draft permit;		Text is identical.
21	40 CFR 124.8(b)(2) (See also 145.11(a)(27))	The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected~~, emitted, or discharged.~~	§~~61~~3611.D.2.b	b. the type and quantity of wastes, fluids, or pollutants which are proposed to be or are being injected;	The struck-out text of 40 CFR 124.8(b)(2) will not be adopted.	Text also does not include provisions for wastes being treated, stored, or disposed of. This is not an issue for CO_2 injection for GS.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
22	40 CFR 124.8(b)(4) (See also 145.11(a)(27))	A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;	§~~61~~3611.D.2.c	c. a brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions;		Text is identical.
23	40 CFR 124.8(b)(5) (See also 145.11(a)(27))	Reasons why any requested variances or alternatives to required standards do or do not appear justified;	§~~61~~3611.D.2.d	d. reasons why any requested variances or alternatives to required standards do or do not appear justified;		Text is identical.
24	40 CFR 124.8(b)(6) (See also 145.11(a)(27))	A description of the procedures for reaching a final decision on the draft permit including: (i) The beginning and ending dates of the comment period under § 124.10 and the address where comments will be received; (ii) Procedures for requesting a hearing and the nature of that hearing; and (iii) Any other procedures by which the public may participate in the final decision.	§§~~61~~3611.D.2.e.i though ~~61~~3611.D.2.e.iii	i. the beginning and ending dates of the comment period under §~~61~~3611.F and the address where comments will be received; ii. procedures for requesting a hearing and the nature of that hearing; and iii. any other procedures by which the public may participate in the final decision;		Text is identical. §611.D.2.e matches the introductory clause.
25	40 CFR 124.8(b)(7) (See also 145.11(a)(27))	Name and telephone number of a person to contact for additional information.	§~~61~~3611.D.2.f	f. name and telephone number of a person to contact for information.		Text is identical.
40 CFR 124.10 Public notice of permit actions and public comment period.						
26	40 CFR 124.10(a)(1) (See also 145.11(a)(28))	Scope. (1) The Director shall give public notice that the following actions have occurred:	§~~61~~3611.E.1.a	a. The commissioner shall give public notice that the following actions have occurred:		Text is identical.
27	40 CFR 124.10(a)(1)(i)	A permit application has been tentatively denied under § 124.6(b);	N/A			N/A. This provision is not required for state programs.
28	40 CFR 124.10(a)(1)(ii) (See also 145.11(a)(28))	(Applicable to State programs, see §145.11 (UIC).) A draft permit has been prepared under § 124.6(d);	§~~61~~3611.E.1.a.i	i. a draft permit has been prepared under §~~61~~3611.C; and		Text is similar, with no impact on stringency.
29	40 CFR 124.10(a)(1)(iii) (See also 145.11(a)(28))	(Applicable to State programs, see §145.11 (UIC).) A hearing has been scheduled under § 124.12;	§~~61~~3611.E.1.a.ii	ii. a hearing has been scheduled under §~~61~~3611.G.		Text is similar, with no impact on stringency.
30	40 CFR 124.10(a)(1)(iv)	An appeal has been granted under § 124.19(c);	N/A			N/A. This provision is not required for state programs.
31	40 CFR 124.10(a)(2)	No public notice is required when a request for permit modification, revocation and reissuance, or termination is denied under § 124.5(b). Written notice of that denial shall be given to the requester and to the permittee.	N/A			N/A. This provision is not required for state programs.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
32	40 CFR 124.10(b)(1) (See also 145.11(a)(28))	Timing (applicable to State programs, see §145.11 (UIC)). Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under paragraph (a) of this section shall allow ~~at least~~ 30 days for public comment.	§~~61~~3611.E.2.a	a. Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under §~~61~~3611.E.1 shall allow 30 days for public comment.	The struck-out text of 40 CFR 124.10(b)(1) will not be adopted.	§611.E.1 does not include notice of intent to deny a permit application. Elimination of the struck out text is acceptable as long as the comment period may not be shorter than 30 days. August 2020 review: the added text would address the above comment and make the state provision similar to the CFR. However, this text is not included in the July version of the Rule. EPA August Review: LA should add their inserted crosswalk text from the "LA Rule Text" column "(including a notice of intent to deny a permit application)" to LA Rule under 611.E.2.a EPA September Review: The added text addresses August comment; EPA has no further concerns.
33	40 CFR 124.10(b)(2) (See also 145.11(a)(28))	Public notice of a public hearing shall be given ~~at least~~ 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.)	§~~61~~3611.E.2.b	b. Public notice of a public hearing shall be given 30 days before the hearing. (Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined).	The struck-out text of 40 CFR 124.10(b)(2) will not be adopted.	Text is similar, with no impact on stringency. Elimination of the struck out text is acceptable as long as notice of a hearing may not be less than 30 days.
34	40 CFR 124.10(c)(1) (See also 145.11(a)(28))	Methods (applicable to State programs, see 40 CFR 145.11 (UIC)). Public notice of activities described in paragraph (a)(1) of this section shall be given by the following methods: (1) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits);	§~~61~~3611.E.3. through ~~61~~3611.E.3.a	3. Methods. Public notice of activities described in §~~61~~3611.E.1.a shall be given by the following methods: a. by electronic mailing (emailing) or by mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this Section may waive his rights to receive notice for any classes and categories of permits):	The following language has been added at §~~61~~3611.E.3.a: or by electronic mailing (e-mailing).	Clarification may be needed regarding whether all interested members of the public without email addresses will receive notice. August 2020 review: added text addresses the above comment; no concerns for stringency.
35	40 CFR 124.10(c)(1)(i) (See also 145.11(a)(28))	The applicant;	§~~61~~3611.E.3.a.i	i. the applicant;		Text is identical.

Commented [KS2]: Updated

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
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36	40 CFR 124.10(c)(1)(ii) (See also 145.11(a)(28))	Any other agency which the Director knows has issued or is required to issue a RCRA, UIC, PSD (or other permit under the Clean Air Act), NPDES, 404, sludge management permit, or ocean dumping permit under the Marine Research Protection and Sanctuaries Act for the same facility or activity (including EPA when the draft permit is prepared by the State);	§~~61~~3611.E.3.a.iii	ii. any other agency which the commissioner knows has issued or is required to issue a permit for the same facility or activity (including EPA);	While the language at §~~61~~3611.E.3.a.ii is not verbatim to 40 CFR 124.10(c)(1)(ii), the intent of the federal rule is preserved: that being, any agency that has issued or is required to issue a permit for the same facility or activity shall receive a copy of a public notice of activities.	Reviewed; no issues found.
37	40 CFR 124.10(c)(1)(iii) (See also 145.11(a)(28))	Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, including any affected States (Indian Tribes). (For purposes of this paragraph, and in the context of the Underground Injection Control Program only, the term State includes Indian Tribes treated as States.)	§~~61~~3611.E.3.a.iii	iii. federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, the State Archeological Survey and Antiquities Commission, the Director of the Public Water Supply Supervision program in the State, the Department of Natural Resources, and other appropriate government authorities, including any unit of local government having jurisdiction over the area where the facility is proposed to be located, any affected states or Indian Tribes; and	While the language at §~~61~~3611.E.3.a.iii is not verbatim to 40 CFR 124.10(c)(1)(iii), the intent of the federal rule is preserved: that being, although the state requirements do not specify that notice be given to the same entities required by the federal rule, they do include notice to "other appropriate government authorities."	Text does not include stipulation that Indian Tribes be treated as states, or that they are included as "appropriate government authorities." State is specifically defined under §601 to mean the state of Louisiana. August 2020 review: added text addresses the above comment; state provision is now similar to CFR.
38	40 CFR 124.10(c)(1)(ix)(A) (See also 145.11(a)(28))	Persons on a mailing list developed by: (A) Including those who request in writing to be on the list;	§~~61~~3611.E.3.a.iv and ~~61~~3611.E.3.a.iv.(a)	iv. persons on a UIC mailing list developed by: (a). including those who request in writing to be on the list;		Text is identical.
39	40 CFR 124.10(c)(1)(ix)(B) (See also 145.11(a)(28))	Soliciting persons for "area lists" from participants in past permit proceedings in that area; and	§~~61~~3611.E.3.a.iv	(b). soliciting persons for "area lists" from participants in past permit proceedings in that area; and		Text is identical.
40	40 CFR 124.10(c)(1)(ix)(C) (See also 145.11(a)(28))	Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The Director may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Director may delete from the list the name of any person who fails to respond to such a request.)	§~~61~~3611.E.3.a.iv	(c). notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The commissioner may update the mailing list from time to time by requesting written indication of continued interest from those listed. The commissioner may delete from the list the name of any person who fails to respond to such a request.)		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
41	40 CFR 124.10(c)(1)(x) (See also 145.11(a)(28))	(A) To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and (B) to each State agency having any authority under State law with respect to the construction or operation of such facility.	§~~61~~3611.E.3.a.ii through ~~61~~3611.E.3.a.iii	ii. any other agency which the commissioner knows has issued or is required to issue a permit for the same facility or activity (including EPA); iii. federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, the State Archeological Survey and Antiquities Commission, the Director of the Public Water Supply Supervision program in the State, the Department of Natural Resources, and other appropriate government authorities, including any unit of local government having jurisdiction over the area where the facility is proposed to be located, any affected states or Indian Tribes; and	While the language at 40 CFR 124.10(c)(1)(x) is not adopted, the intent of the federal rule is preserved, in that the notification process outlined at §~~61~~3611.E.3.a.ii though ~~61~~3611.E.3.a.iii sufficiently account for notification agencies or government bodies that might be deemed to have an interest in the proceedings even if that body is not explicitly enumerated in the text.	The text leaves out any provision for the notification of local units of government. August 2020 review: revised text addresses the above comment; state provision is now similar to CFR.
42	40 CFR 124.10(c)(1)(xi) (See also 145.11(a)(28))	For Class VI injection well UIC permits, mailing or emailing a notice to State and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery, the Director of the Public Water Supply Supervision program in the State, and all agencies that oversee injection wells in the State.	§~~61~~3611.E.3.a.iii	See above.	While the language at §~~61~~3611.E.3.a.iii is not verbatim to 40 CFR 124.10(c)(1)(xi), the intent of the federal rule is preserved: that being, ~~although the state requirements does not specify that notice be given to the same entities required by the federal rule, they do include notice to "other appropriate government authorities."~~the Department of Natural Resources, as the agency that regulates oil and gas, mineral exploration and recovery, and injection wells, will be notified.	The text does not stipulate whether State and local oil and gas regulatory agencies, or State agencies regulating mineral exploration and recovery, are considered "appropriate government authorities." It should be noted that LA chose to specifically mention the Director of the Public Water Supply Supervision program, but omitted the other agencies mentioned by the CFR text. August 2020 review: added text addresses the above comment.
43	40 CFR 124.10(c)(2)(i) (See also 145.11(a)(28))	~~For major permits~~ publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity;	§~~61~~3611.E.3.b	c. publication of a notice in a daily or weekly newspaper within the area affected by the facility or activity;	The struck-out text of 40 CFR 124.10(c)(2)(i) will not be adopted.	Reviewed; no issues found.
44	40 CFR 124.10(c)(3) (See also 145.11(a)(28))	When the program is being administered by an approved State, in a manner constituting legal notice to the public under State law; and	§~~61~~3611.E.3.c	c. in a manner constituting legal notice to the public under state law; and		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
45	40 CFR 124.10(c)(4) (See also 145.11(a)(28))	Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.	§~~61~~3611.E.3.d	d. any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other form or medium to elicit public participation.		Text is identical.
46	40 CFR 124.10(d)(1) (See also 145.11(a)(28))	Contents (applicable to State programs, see §145.11 (UIC))—(1) All public notices. All public notices issued under this part shall contain the following minimum information:	§~~61~~3611.E.4.a	a. All Public Notices. Public notices issued under this Section shall contain the following information:	While the language at §~~61~~3611.E.4.a is not verbatim to 40 CFR 124.10(d)(1), the intent of the federal rule is preserved: that being, the language in §~~61~~3611.E.4.a.vi indicates that preceding list of information items is not necessarily comprehensive.	Reviewed; no issues found.
47	40 CFR 124.10(d)(1)(i) (See also 145.11(a)(28))	Name and address of the office processing the permit action for which notice is being given;	§~~61~~3611.E.4.a.i	i. name and address of the Division of the Office of Conservation processing the permit action for which notice is being given;		Text is similar, with no impact on stringency.
48	40 CFR 124.10(d)(1)(ii) (See also 145.11(a)(28))	Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;	§~~61~~3611.E.4.a.ii	ii. name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;		Text is identical.
49	40 CFR 124.10(d)(1)(iii) (See also 145.11(a)(28))	A brief description of the business conducted at the facility or activity described in the permit application or the draft permit.	§~~61~~3611.E.4.a.iii	iii. a brief description of the business conducted at the facility or activity described in the permit application or the draft permit;		Text omits "draft permit;" assuming these refer to the same thing, this would not affect stringency. August 2020 review: added text addresses the above comment; state provision is similar to CFR.
50	40 CFR 124.10(d)(1)(iv) (See also 145.11(a)(28))	Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet, and the application; and	§~~61~~3611.E.4.a.iv	iv. name, address, and telephone number of a person from whom interested persons may obtain copies of the draft permit, the fact sheet, the application, and further information concerning the application;	In addition to the text at 40 CFR 124.10(d)(1)(iv), the following language has been added at §3611.E.4.a.iv: and further information concerning the application;	Text does not allow for obtaining the application itself. August 2020 review: added text addresses the above comment; state provision is similar to CFR.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
51	40 CFR 124.10(d)(1)(v) (See also 145.11(a)(28))	A brief description of the comment procedures required by §§ 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.	§~~61~~3611.E.4.a.v	v. a brief description of the comment procedures required by §~~61~~3611.F and the time and place of any hearing that will be held, including a *brief* statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision; and	In addition to the text at 40 CFR 124.10(d)(1)(v), the following emphasized language has been added: *brief.*	Text is similar, with no impact on stringency. Adds "brief" before statement. August 2020 review: added text in "difference" column addresses the above comment; state text is similar to CFR.
52	40 CFR 124.10(d)(1)(x) (See also 145.11(a)(28))	Any additional information considered necessary or proper.	§~~61~~3611.E.4.a.vi	vi. any additional information considered necessary or proper.		Text is identical. EPA August Review: FYI; EPA had an error in the original crosswalk template; The CFR citation is now correctly cited as 124.10 (d)(1)(x)
53	40 CFR 124.10(d)(2) (See also 145.11(a)(28))	Public notices for hearings. In addition to the general public notice described in paragraph (d)(1) of this section, the public notice of a hearing under § 124.12 shall contain the following information:	§~~61~~3611.E.4.b	b. Public Notices for Hearings. In addition to the general public notice described in §~~61~~3611.E.4.a, the public notice of a hearing under §~~61~~3611.G shall contain the following information:		Text is similar, with no impact on stringency.
54	40 CFR 124.10(d)(2)(i) (See also 145.11(a)(28))	Reference to the date of previous public notices relating to the permit;	§~~61~~3611.E.4.b.i	i. reference to the date of previous public notices relating to the permit;		Text is identical.
55	40 CFR 124.10(d)(2)(ii) (See also 145.11(a)(28))	Date, time, and place of the hearing;	§~~61~~3611.E.4.b.ii	ii. date, time, and place of the hearing; and		Text is identical.
56	40 CFR 124.10(d)(2)(iii) (See also 145.11(a)(28))	A brief description of the nature and purpose of the hearing, including the applicable rules and procedures;	§~~61~~3611.E.4.b.iii	iii. a brief description of the nature and purpose of the hearing, including the applicable rules and procedures.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
57	40 CFR 124.10(e) (See also 145.11(a)(28))	(Applicable to State programs, see §145.11 (UIC).) In addition to the general public notice described in paragraph (d)(1) of this section, all persons identified in paragraphs (c)(1) (i), (ii), (iii), and (iv) of this section shall be mailed a copy of the fact sheet, the permit application (if any) and the draft permit (if any).	§~~61~~3611.D.3	3. All persons identified in §~~61~~3611.E.3.a.i, ii, iii, and iv shall be mailed or emailed a copy of the fact sheet, the draft permit, and a notice that the permit application will be available online.	While the language at §~~61~~3611.D.3 is not verbatim to 40 CFR 124.10(e), the intent of the federal rule is preserved; that being, although copies of the draft application will not be mailed to all persons identified §~~61~~3611.E.3.a.i, ii, iii, and iv, they will be notified that the application is available online.	Clarification may be needed regarding whether all interested members of the public without Internet access will receive proper notice (i.e., if the permit application would be mailed upon request). Note that the draft rule text reads: 3. A copy of the fact sheet shall be mailed to all persons identified in §611.E.3.a.i, ii, iii, and iv. August 2020 review: the rule revision does not directly address the above comment. However, since 611.E.4.a.iv stipulates that the fact sheet include a contact for obtaining information concerning the application, this is likely acceptable.
40 CFR 124.11 Public comments and requests for public hearings.						
58	40 CFR 124.11 (See also 145.11(a)(29))	(Applicable to State programs, see §145.11 (UIC).) During the public comment period provided under§ 124.10, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in § 124.17.	§~~61~~3611.F	F. Public Comments and Requests for Public Hearings. During the public comment period provided under §~~61~~3611.G, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in §~~61~~3611.H.		Text is similar, with no impact on stringency.
40 CFR 124.12 Public hearings.						
59	40 CFR 124.12(a)(1) (See also 145.11(a)(30))	(Applicable to State programs, see §145.11 (UIC).) (1) The Director shall hold a public hearing whenever he or she finds, on the basis of requests, a significant degree of public interest in a draft permit(s);	§~~61~~3611.G.1	1. The commissioner shall hold a public hearing whenever he finds, on the basis of requests, a significant degree of public interest in (a) draft permit(s). The commissioner also may hold a public hearing at his discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of the hearing shall be given as specified in §~~61~~3611.G.	The language from 40 CFR 124.12(a)(2) and 40 CFR 124.12(a)(4) has been added to the text from 40 CFR 124.12(a)(1).	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
~~60~~60	40 CFR 124.12(a)(2) (See also 145.11(a)(30))	The Director may also hold a public hearing at his or her discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision;	§~~61~~3611.G.1	See above.	See above.	Reviewed; no issues found.
~~61~~61	40 CFR 124.12(a)(4) (See also 145.11(a)(30))	Public notice of the hearing shall be given as specified in § 124.10.	§~~61~~3611.G.1	See above.	See above.	Reviewed; no issues found.
~~62~~62	40 CFR 124.12(c)	Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under § 124.10 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.	§~~61~~3611.G.2	2. Any person may submit oral or written statements and data concerning the draft permit. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under §~~61~~3611.G shall automatically be extended to the close of any public hearing under this Section. The hearing officer may also extend the comment period by so stating at the hearing.		Text is similar, with no impact on stringency.
63	40 CFR 124.12(d)	A tape recording or written transcript of the hearing shall be made available to the public.	§~~61~~3611.G.3	3. A tape recording or written transcript of the hearing shall be made available to the public.		Text is identical.
40 CFR 124.15 Issuance and effective date of permit						
64	40 CFR 124.15 (a)	After the close of the public comment period under § 124.10 on a draft permit, the Regional Administrator shall issue a final permit decision. The Regional Administrator shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. ~~This notice shall include reference to the procedures for appealing a decision on a UIC permit under § 124.19 of this part.~~ For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.	§~~61~~3611.I	I. Permit Issuance and Effective Date 1. After closure of the public comment period, including any public hearing, under §~~61~~3611.G on a draft permit, the commissioner shall issue a final permit decision *within 30 days*. The commissioner shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedure for appealing a decision on a UIC permit under La. Title 30 R.S. §30:15. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.	In addition to the text at 40 CFR 124.15 (a), the following emphasized language has been added at §~~61~~3611.I.1: *within 30 days.* The struck-out text of 40 CFR 124.15 (a) will not be adopted.	LA comment omits emphasized addition: "within 30 days." The rule text as written has no impact on stringency. The state rule does not include a provision to describe procedures for appealing a permit decision. August 2020 review: added text addresses the above comments; state provision is similar to CFR. No concerns for stringency.
65	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~61~~3611.I.3	3. Approval or the granting of a permit to construct a Class VI well shall be valid for a period of one year and if not begun in that time, the permit shall be null and void. The permittee may request an extension of this one-year requirement; however, the commissioner shall approve the request for extenuating circumstances only.		Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
40 CFR 124.17 Response to comments.						
66	40 CFR 124.17(a) (See also 145.11(a)(31))	(Applicable to State programs, see § 145.11 (UIC).) At the time that any final permit decision is issued under § 124.15, the Director shall issue a response to comments. ~~States are only required to issue a response to comments when a final permit is issued.~~ This response shall:	§~~61~~3611.H.1	1. At the time that any final permit is issued the commissioner shall issue a response to comments. This response shall:	The struck-out text of 40 CFR 124.17(a) will not be adopted.	Reviewed; no issues found.
67	40 CFR 124.17(a)(1) (See also 145.11(a)(31))	Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and	§~~61~~3611.H.1.a	a. specify which provisions; if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and		Text is identical.
68	40 CFR 124.17(a)(2) (See also 145.11(a)(31))	Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.	§~~61~~3611.H.1.b	b. briefly describe and respond to all significant comments on the draft permit or the permit application raised during the public comment period, or during any hearing.		Text is similar, with no impact on stringency.
69	40 CFR 124.17(c) (See also 145.11(a)(31))	(Applicable to State programs, see §145.11 (UIC).) The response to comments shall be available to the public.	§~~61~~3611.H.2	2. The response to comments shall be available to the public.		Text is identical.
PART 144--UNDERGROUND INJECTION CONTROL PROGRAM						
SUBPART A--GENERAL PROVISIONS						
40 CFR 144.1 Purpose and scope of Part 144.						
70	40 CFR 144.1(f)(1)(viii	Subpart H of 40 CFR 146 sets forth requirements for owners or operators of Class VI injection wells.				No analogous state text; no impact on stringency. (This row was not in the state's original crosswalk.)

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
71	40 CFR 144.1(g)	*Scope of the permit or rule requirement.* The UIC permit program regulates underground injection by six classes of wells (see definition of ''well injection,'' 40 CFR 144.3). The six classes of wells are set forth in 40 CFR 144.6. All owners or operators of these injection wells must be authorized either by permit or rule by the Director. In carrying out the mandate of the SDWA, this subpart provides that no injection shall be authorized by permit or rule if it results in the movement of fluid containing any contaminant into underground sources of drinking water (USDWs –see 40 CFR 144.3 for definition), if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141 or may adversely affect the health of persons (40 CFR 144.12). Existing Class IV wells which inject hazardous waste directly into an underground source of drinking water are to be eliminated over a period of six months and new such Class IV wells are to be prohibited (40 CFR 144.13). For Class V wells, if remedial action appears necessary, a permit may be required (40 CFR 144.25) or the Director must require remedial action or closure by order (40 CFR 144.6(c)). During UIC program development, the Director may identify aquifers and portions of aquifers which are actual or potential sources of drinking water. This will provide an aid to the Director in carrying out his or her duty to protect all USDWs. An aquifer is a USDW if it fits the definition under § 144.3, even if it has not been "identified." The Director may also designate "exempted aquifers" using the criteria in 40 CFR 146.4 of this chapter.	N/A		Note that states are not expected to have language equivalent to this section, as the requirements mentioned here are described in more detail in other parts of the regulation. They are included here to provide background on and a summary of the UIC program. …	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
72	40 CFR 144.1(g) continued	Such aquifers are those which would otherwise qualify as "underground sources of drinking water" to be protected, but which have no real potential to be used as drinking water sources. Therefore, they are not USDWs. No aquifer is an exempted aquifer until it has been affirmatively designated under the procedures at § 144.7. Aquifers which do not fit the definition of "underground source of drinking water" are not "exempted aquifers." They are simply not subject to the special protection afforded USDWs. During initial Class VI program development, the Director shall not expand the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for Class VI injection wells and EPA shall not approve a program that applies for aquifer exemption expansions of Class II-Class VI exemptions as part of the program description. All Class II to Class VI aquifer exemption expansions previously issued by EPA must be incorporated into the Class VI program descriptions pursuant to requirements at § 145.23(f)(9).	N/A			Reviewed; no issues found.
40 CFR 144.3 Definitions.						
73	40 CFR 144.3	*Administrator* means the Administrator of the United States Environmental Protection Agency, or an authorized representative.	N/A		This language is required only if the state's regulation does not explicitly use the term "EPA Administrator" when referring to the EPA Administrator. For example, if the state refers to the EPA Administrator as simply "the Administrator," this definition is required. If the state uses the term "EPA Administrator" in its rule language, no definition is required.	Reviewed; no issues found. Note that the state regulations do not make any reference to the EPA Administrator. This provision is not required for state programs.
74		*Application* means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in approved States, including any approved modifications or revisions.	§~~60~~3601.A	Application—the filing by a person on the Office of Conservation forms for an underground injection permit, including any additions, revisions or modifications to the forms.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
75		*Appropriate Act and regulations* means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA); or Safe Drinking Water Act (SDWA), whichever is applicable; and applicable regulations promulgated under those statutes.	N/A			N/A. This provision is not required for state programs.
76		*Approved State Program* means a UIC program administered by the State or Indian Tribe that has been approved by EPA according to SDWA sections 1422 and/or 1425.	N/A			N/A. This provision is not required for state programs.
77		*Aquifer* means a geological "formation," group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.	§~~60~~3601.A	Aquifer—a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.		Text is identical.
78		*Area of review* means the area surrounding an injection well described according to the criteria set forth in § 146.06 or in the case of an area permit, the project area plus a circumscribing area the width of which is either 1⁄4 of a mile or a number calculated according to the criteria set forth in § 146.06.	N/A		A Class VI specific definition of area of review is included with the crosswalk analysis of definitions under 40 CFR 146.81(d).	No state equivalent. The state rules define the area of review for Class VI projects in §615.B.1 (see 146.84). August 2020 review: no concerns for stringency.
79		*Cesspool* means a "drywell" that receives untreated sanitary waste containing human excreta, and which sometimes has an open bottom and/or perforated sides.	N/A			N/A. This provision is not required for state programs.
80		*Contaminant* means any physical, chemical, biological, or radiological substance or matter in water.	§~~60~~3601.A	Contaminant—any physical, chemical, biological, or radiological substance or matter in water.		Text is identical.
81		*Director* means the Regional Administrator, the State director or the Tribal director as the context requires, or an authorized representative. When there is no approved State or Tribal program, and there is an EPA administered program, "Director" means the Regional Administrator. When there is an approved State or Tribal program, "Director" normally means the State or Tribal director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State or Tribal program. In such cases, the term "Director" means the Regional Administrator and not the State or Tribal director.	§~~60~~3601.A	Commissioner—the Assistant Secretary of the Office of Conservation, Department of Natural Resources.		Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference	Cadmus/EPA Review
82		*Draft permit* means a document prepared under §124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in §124.5 are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in §124.5 is not a "draft permit."	§~~60~~3601.A	Draft Permit—a document prepared under §~~61~~3611.C.1 indicating the commissioner's decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit and a notice of intent to deny a permit as discussed in §§§3613.E.2 and 3611.C ~~124.~~5 are types of "draft permits." A denial of request for modification, revocation and reissuance, or termination, as discussed in §~~61~~3613.B.4~~E~~ is not a draft permit.	~~The struck-out text of the federal definition will not be adopted. A notice of intent to terminate a permit and a notice to deny a permit will not be issued by the commissioner.~~	EPA September Review: No concerns for stringency. Note: the added text in LA Rule "as discussed in §124.5" .Should the citation reference LA's rule (such as §613?) instead of EPA's CFR citation (124.5)?
83		*Drilling mud* means a heavy suspension used in drilling an "injection well," introduced down the drill pipe and through the drill bit.	§~~60~~3601.A	Drilling Mud—heavy suspension used in drilling an injection well introduced down the drill pipe and through the drill bit.		Text is identical.
84		*Drywell* means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.	§~~60~~3601.A	Drywell—a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids.		Text is identical.
85		*Eligible Indian Tribe* is a Tribe that meets the statutory requirements established at 42 U.S.C. 300j-11(b)(1).	N/A			N/A. This provision is not required for state programs.
86		*Emergency permit* means a UIC "permit" issued in accordance with § 144.34.	§~~60~~3601.A	Emergency Permit—a UIC permit issued in accordance with §115 or §515.		Text is similar, with no impact on stringency.
87		*Environmental Protection Agency* ("EPA") means the United States Environmental Protection Agency.	§~~60~~3601.A	USEPA—the United States Environmental Protection Agency.		Text is similar, with no impact on stringency.
88		*Exempted aquifer* means an "aquifer" or its portion that meets the criteria in the definition of "underground source of drinking water" but which has been exempted according to the procedures in §144.7.	§~~60~~3601.A	Exempted Aquifer—an aquifer or its portion that meets the criteria of the definition of underground source of drinking water but which has been exempted according to the procedures set forth in §~~60~~3603.F.		Text is similar, with no impact on stringency.
89		*Existing injection* well means an "injection well" other than a "new injection well."	§~~60~~3601.A	Existing Injection Well or Project—an injection well or project other than a new injection well or project.	Language added to include injection projects.	Reviewed; no issues found.
90		*Facility or activity* means any UIC "injection well," or any other facility or activity that is subject to regulation under the UIC program.	§~~60~~3601.A	Facility or Activity—any facility or activity, including land or appurtenances thereto, that is subject to these regulations.	While the language at §~~60~~3601.A is not verbatim to the federal definition, the intent of the federal rule is preserved; that being, the facility, activity, and relevant features are subject to these regulations.	Reviewed; no issues found.
91		*Fluid* means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state.	§~~60~~3601.A	Fluid—any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas or any other form or state.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
92		*Formation* means a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.	§~~60~~3601.A	Formation—a body of consolidated or unconsolidated rock characterized by a degree of lithologic homogeneity revealingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.		Text omits reference to consolidated or unconsolidated. No impact on stringency. August 2020 review: definition is similar to CFR; no concerns for stringency.
93		*Formation fluid* means "fluid" present in a "formation" under natural conditions as opposed to introduced fluids, such as "drilling mud."	§~~60~~3601.A	Formation Fluid—fluid present in a formation under natural conditions as opposed to introduced fluids, such as drilling muds.		Text is similar, with no impact on stringency.
94		*Generator* means any person, by site location, whose act or process produces hazardous waste identified or listed in 40 CFR part 2~~61~~361.	§~~60~~3601.A	Generator—any person, by site location, whose act or process produces hazardous waste identified or listed in the Louisiana Hazardous Waste Management Program; or any person or entity who generates or causes to be generated any fluid for well injection.	In addition to the federal definition, the following language has been added: or any person or entity who generates or causes to be generated any fluid for well injection.	Reviewed; no issues found.
95		*Geologic sequestration* means the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.	§~~60~~3601.A	Geologic Sequestration—the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.		Text is identical.
96		*Ground water* means water below the land surface in a zone of saturation.	§~~60~~3601.A	Ground Water—water below the land surface in a zone of saturation.		Text is identical.
97		*Hazardous waste* means a hazardous waste as defined in 40 CFR 2~~61~~361.3.	§~~60~~3601.A	Hazardous Waste—a hazardous waste as defined in the Louisiana Hazardous Waste Management Program.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
98		*Hazardous waste management facility* ("HWM facility") means all contiguous land, and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combination of them). *HWM facility* means "Hazardous Waste Management facility"	N/A			N/A. This provision is not required for state programs.
99		*Improved sinkhole* means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface.	N/A			N/A. This provision is not required for state programs.
100		*Indian lands* means "Indian country" as defined in 18 U.S.C. 1151. That section defines Indian country as: (a) All land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (b) All dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State; and (c) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.	N/A			N/A. This provision is not required for state programs.
101		*Indian Tribe* means any Indian Tribe having a Federally recognized governing body carrying out substantial governmental duties and powers over a defined area.	N/A			N/A. This provision is not required for state programs.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
102		*Injection well* means a "well" into which "fluids" are being injected.	§~~60~~3601.A	Injection Well—a well into which fluids are being injected other than fluids associated with active drilling operations.	While the language at §~~60~~3601.A is not verbatim to the federal definition, the intent of the federal rule is preserved; that being, injected fluids are those that are injected for the purpose of storage or disposal. The description at §3601.A is a narrower definition of injection well that only applies to wells where fluids are injected for the purpose of storage and is more stringent compared to the federal rule.	Text applies only wells where fluid is injected for storage, which is a narrower definition of injection well than the federal regulation. This difference should not impact stringency for the purpose of CO_2 injection for GS. August 2020 review: no concerns for stringency.
103		*Injection zone* means a geological "formation" group of formations, or part of a formation receiving fluids through a "well."	N/A		A Class VI-specific definition is at §3601.A; see 40 CFR 146.81(d).	No state equivalent. A Class VI-specific definition is at §601.A; see 146.81(d). August 2020 review: no concerns for stringency.
104		*Interstate Agency* means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States or Indian Tribes having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the "appropriate Act and regulations."	N/A			N/A. This provision is not required for state programs.
105		*Major facility* means any UIC "facility or activity" classified as such by the Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director.	§~~60~~3601.A	Major Facility—any Class I or IV hazardous waste injection well facility or activity.		Text applies only to hazardous waste injection well facilities.
106		*Manifest* means the shipping document originated and signed by the "generator" which contains the information required by subpart B of 40 CFR part 2~~62~~362.	§~~60~~3601.A	Manifest—the shipping document originated and signed by the generator which contains the information required by the Hazardous Waste Management Program.		Text is similar, with no impact on stringency.
107		*New injection* wells means an "injection well" which began injection after a UIC program for the State applicable to the well is approved or prescribed.	§~~60~~3601.A	New Injection Well—a well which began injection after the Louisiana Underground Injection Control program is approved and the applicable (Office of Conservation) rules and regulations are promulgated.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
108		*Owner or operator* means the owner or operator of any "facility or activity" subject to regulation under the UIC program.	§~~60~~3601.A	Operator—the person recognized as being responsible to the Office of Conservation for the well, site, facility, or activity subject to regulatory authority under these rules and regulations. The operator can, but need not be, the owner of the well, site, facility, or activity. Owner—the person that owns any well, site, facility, or activity subject to regulation under the UIC program. The owner can, but need not be, the operator of the well, site, facility, or activity.		Text is similar, with no impact on stringency.
109		*Permit* means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of this part, parts 145, 146 and 124. "Permit" includes an area permit (§144.33) and an emergency permit (§144.34). Permit does not include UIC authorization by rule (§144.21), or any permit which has not yet been the subject of final agency action, such as a "draft permit."	§~~60~~3601.A	Permit—an authorization, license, or equivalent control document issued by the commissioner to implement the requirements of these regulations. Permit includes, but it is not limited to, area permits and emergency permits. Permit does not include UIC authorization by rule or any permit which has not yet been the subject of final agency action, such as a draft permit.		Text is similar, with no impact on stringency.
110		*Person* means an individual, association, partnership, corporation, municipality, state, federal, or tribal agency, or an agency or employee thereof	§~~60~~3601.A	Person—any natural person, individual, association, corporation, partnership, limited liability company, or other entity, receiver, tutor, curator, executor, administrator, fiduciary, municipality, state or federal agency, or an agent or employee of the aforementioned thereof.	In addition to the federal definition, the following language has been added: ~~partnership,~~ limited liability company, or other entity, receiver, tutor, curator, executor, administrator, fiduciary.	Reviewed; no issues found. Partnership is included in the CFR text. August 2020 review: no concerns for stringency.
111		*Plugging* means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.	§~~60~~3601.A	Plugging—the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.		Text is identical.
112		*Point of injection* means the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box—the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.	§~~60~~3601.A	Point of Injection—the last accessible sampling point prior to waste fluids being released into the subsurface environment through a Class V injection well. For example, the point of injection of a Class V septic system might be the distribution box, the last accessible sampling point before the waste fluids drain into the underlying soils. For a dry well, it is likely to be the well bore itself.		Text is identical.
113		*Project* means a group of wells in a single operation.	§~~60~~3601.A	Project—a group of wells in a single operation.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
114		*Radioactive Waste* means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR part 20, appendix B, table II, column 2.	§~~60~~3601.A	Radioactive Waste—any waste which contains radioactive material for which no use or reuse is intended and which is to be discarded.	While the language at §3601.A defines radioactive waste with regards to intended use or reuse of radioactive material rather than the concentration referenced in the federal language, the difference does not impact stringency of Class VI rules.	Text makes no reference to concentrations of said waste. No impact on stringency for Class VI purposes. August 2020 review: no concerns for stringency.
115		*RCRA* means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94–580, as amended by Pub. L. 95–~~60~~3609, Pub. L. 96–510, 42 U.S.C. 6901 et seq.).	§~~60~~3601.A	RCRA—the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (P.L. 94-580 as amended by P.L. 95-~~60~~3609, 42 U.S.C. 6901 et seq.).		Text is similar, with no impact on stringency.
116		*Regional Administrator* means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.	N/A			N/A. This provision is not required for state programs.
117		*Sanitary waste* means liquid or solid wastes originating solely from humans and human activities, such as wastes collected from toilets, showers, wash basins, sinks used for cleaning domestic areas, sinks used for food preparation, clothes washing operations, and sinks or washing machines where food and beverage serving dishes, glasses, and utensils are cleaned. Sources of these wastes may include single or multiple residences, hotels and motels, restaurants, bunkhouses, schools, ranger stations, crew quarters, guard stations, campgrounds, picnic grounds, day-use recreation areas, other commercial facilities, and industrial facilities provided the waste is not mixed with industrial waste.	N/A			N/A. This provision is not required for state programs.
118		*Schedule of compliance* means a schedule of remedial measures included in a "permit," including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the "appropriate Act and regulations."	N/A			N/A. This provision is not required for state programs.
119		*Septic system* means a "well" that is used to emplace sanitary waste below the surface and is typically comprised of a septic tank and subsurface fluid distribution system or disposal system.	N/A			N/A. This provision is not required for state programs.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
120		*SDWA* means the Safe Drinking Water Act (Pub. L. 93–523, as amended; 42 U.S.C. 300f et seq.).	N/A			N/A. This provision is not required for state programs.
121		*Site* means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.	§~~60~~3601.A	Site—the land or water area where any facility or activity is physically located or conducted including adjacent land used in connection with the facility or activity.		The state did not include the LA text in their crosswalk; added in review. Text is identical.
122		*State* means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, or an Indian Tribe treated as a State.	§~~60~~3601.A	State—the state of Louisiana.	The usage of the term "state" in these regulations does not encompass tribal entities.	The state did not include the LA text in their crosswalk; added in review. Text makes no mention of Indian tribes. August 2020 review: state comment is acknowledged; no concerns for stringency.
123		*State Director* means the chief administrative officer of any State, interstate, or Tribal agency operating an "approved program," or the delegated representative of the State director. If the responsibility is divided among two or more States, interstate, or Tribal agencies, "State Director" means the chief administrative officer of the State, interstate, or Tribal agency authorized to perform the particular procedure or function to which reference is made.	§~~60~~3601.A	Commissioner—the Assistant Secretary of the Office of Conservation, Department of Natural Resources.		Text is similar, with no impact on stringency.
124		*State/EPA agreement* means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs.	N/A			N/A. This provision is not required for state programs.
125		*Stratum* (plural strata) means a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.	§~~60~~3601.A	Stratum (plural Strata)—a single sedimentary bed or layer, regardless of thickness, that consists of generally the same kind of rock material.		Text is identical.
126		*Subsurface fluid distribution system* means an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.	§~~60~~3601.A	Subsurface Fluid Distribution System—an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground.		Text is identical.
127		*Total dissolved solids* means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR part 136.	§~~60~~3601.A	Total Dissolved Solids—the total dissolved filterable solids as determined by use of the method specified in the 14th edition, pp. 91-92, of Standard Methods for the Examination of Water and Waste Water.		Text is similar, with no impact on stringency. This provision is not required for state programs.
128		*Transferee* means the owner or operator receiving ownership and/or operational control of the well.	N/A			N/A. This provision is not required for state programs.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
129		*Transferor* means the owner or operator transferring ownership and/or operational control of the well.	N/A			N/A. This provision is not required for state programs.
130		*UIC* means the Underground Injection Control program under Part C of the Safe Drinking Water Act, including an "approved State program."	§~~60~~3601.A	UIC—the Louisiana State Underground Injection Control Program.		Text is similar, with no impact on stringency.
131		*Underground injection* means a "well injection."	§~~60~~3601.A	Underground Injection—a well injection.		Text is identical.
132		*Underground source of drinking water* (USDW) means an aquifer or its portion: (a)(1) Which supplies any public water system; or (2) Which contains a sufficient quantity of ground water to supply a public water system; and (i) Currently supplies drinking water for human consumption; or (ii) Contains fewer than 10,000 mg/l total dissolved solids; and (b) Which is not an exempted aquifer.	§~~60~~3601.A	Underground Source of Drinking Water (USDW)—an aquifer or its portion: a. which supplies any public water system; or b. which contains a sufficient quantity of ground water to supply a public water system; and i. currently supplies drinking water for human consumption; or ii. contains fewer than 10,000 mg/1 total dissolved solids; and which is not an exempted aquifer.		Text is identical.
133		*Well* means: A bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.	§~~60~~3601.A	Well—a bored, drilled or driven shaft, whose depth is greater than the largest surface dimension; or, a dug hole whose depth is greater than the largest surface dimension; or, an improved sinkhole; or, a subsurface fluid distribution system.		Text is similar, with no impact on stringency.
134		*Well injection* means the subsurface emplacement of fluids through a well.	§~~60~~3601.A	Well Injection—the subsurface emplacement of fluids through an injection well.		Text is identical.
40 CFR 144.5 Confidentiality of information.						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
135	40 CFR 144.5 (a)	In accordance with 40 CFR part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR part 2 (Public Information).	§~~60~~3603.I	I. Confidentiality of Information. Information obtained by any rule, regulations, order, or permit term or condition adopted or issued hereunder, or by any investigation authorized thereby, shall be available to the public, unless nondisclosure is requested in writing and such information is determined by the commissioner to require confidentiality to protect trade secrets, processes, operations, style of work, apparatus, statistical data, income, profits, losses, or in order to protect any plan, process, tool, mechanism, or compound; provided that such nondisclosure shall not apply to information that is necessary for use by duly authorized officers or employees of state or federal government in carrying out their responsibilities under these regulations or applicable federal or state law. If no claim is made at the time of submission, the commissioner may make the information available to the public without further notice. Claims of confidentiality for the following information shall be denied:	While the language at §~~60~~36031.A is not verbatim to the federal definition, the intent of the federal rule is preserved; that being, information that is not determined to require confidentiality shall be made available to the public.	Reviewed; no issues found.
136	40 CFR 144.5 (b) (See also 145.11(a)(1))	Claims of confidentiality for the following information will be denied: (1) The name and address of any permit applicant or permittee; (2) Information which deals with the existence, absence, or level of contaminants in drinking water.	§~~60~~3603.I through ~~60~~3603.I.2	1. the name and address of any permit applicant or permittee; and 2. information which deals with the existence, absence, or level of contaminants in drinking water or zones other than the approved injection zone.	The following language has been added at §3603.I.2: or zones other than the approved injection zone. This language is more restrictive than the federal equivalent as it refers to the presence of contaminants in any formation outside of the approved injection zone rather than just the USDW or in the drinking water.	EPA: legal staff input on the addition of "other than the approved injection zone" is requested. This should be acceptable, since the injection zone will by definition not be a USDW. August 2020 review: rule text addresses comment; no concerns for stringency.
40 CFR 144.6 Classification of wells						
137	40 CFR 144.6 (See also 145.11(a)(2))	Injection wells are classified as follows:				

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
137	40 CFR 144.6(f) (See also 145.11(a)(2))	*Class VI.* Wells that are not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW; ~~or, wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at § 146.95 of this chapter~~; or, wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to §§ 146.4 of this chapter and 144.7(d).	§~~60~~3603.C.1	1. Class VI. Wells not experimental in nature that are used for geologic sequestration of carbon dioxide beneath the lowermost formation containing a USDW; or wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to the appropriate parts of §~~60~~3603.F.	The struck-out text of 40 CFR 144.6(f) will not be adopted. Waivers of the injection depth requirements for Class VI wells will not be granted.	Reviewed; no issues found.
40 CFR 144.7 Identification of underground sources of drinking water and exempted aquifers						
138	40 CFR 144.7(a) (See also 145.11(a)(3))	The Director may identify (by narrative description, illustrations, maps, or other means) and shall protect as underground sources of drinking water, all aquifers and parts of aquifers which meet the definition of ''underground source of drinking water'' in § 144.3, except to the extent there is an applicable aquifer exemption under paragraph (b) of this section or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under paragraph (d) of this section. Other than EPA approved aquifer exemption expansions that meet the criteria set forth in § 146.4(d) of this chapter, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the Director, it is an underground source of drinking water if it meets the definition in § 144.3.	§~~60~~3603.F.1	1. The commissioner may identify (by narrative description, illustrations, maps, or other means) and shall protect as an underground source of drinking water, all aquifers or parts of aquifers which meet the definition of an underground source of drinking water~~.~~, except where there is an applicable aquifer exemption under §§~~60~~3603.F.2 and 4, or an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration under §~~103~~3603.F.4. Other than approved aquifer exemption expansions that meet the criteria set forth in §~~103~~3603.F.2.d, new aquifer exemptions shall not be issued for Class VI injection wells. Even if an aquifer has not been specifically identified by the commissioner, it is an underground source of drinking water if it meets the definition.		Text is similar, with no impact on stringency. Note, there is a typo (errant period) in state rule text. Should the references to §103.F.4. and §103.F.2.d refer to §603? August 2020 review: revised citations address the above comments; state provision is now similar to CFR.
139	40 CFR 144.7(b)(1) (See also 145.11(a)(3))	The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in 40 CFR 146.4.	§~~60~~3603.F.2	2. After notice and opportunity for a public hearing the commissioner may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the commissioner proposes to designate as exempted aquifers if they meet the following criteria:	In addition to the text at 40 CFR 144.7(b)(1), the following language has been added at §~~60~~3603.F.2: after notice and opportunity for a public hearing.	Reviewed; no issues found.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
140	40 CFR 144.7(b)(2) (See also 145.11(a)(3))	No designation of an exempted aquifer submitted as part of a UIC program shall be final until approved by the Administrator as part of a UIC program. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the Administrator as a revision to the applicable Federal UIC program under part 147 or as a substantial revision of an approved State UIC program in accordance with § 145.32 of this chapter.	§~~60~~3603.F.3	3. No designation of an exempted aquifer submitted as part of the state's UIC program shall be final until approved by the USEPA. No designation of an expansion to the areal extent of a Class II enhanced oil recovery or enhanced gas recovery aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration shall be final until approved by the USEPA as a substantial revision of the state's UIC program in accordance with 40 CFR 145.32.		Text is similar, with no impact on stringency.
141	40 CFR 144.7(d) (See also 145.11(a)(3))	*Expansion to the areal extent of existing Class II aquifer exemptions for Class VI wells.* ~~Owners or~~ operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the Director approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests must be treated as a revision to the applicable Federal UIC program under part 147 or as a substantial program revision to an approved State UIC program under § 145.32 of this chapter and will not be final until approved by EPA.	§~~60~~3603.F.4	4. Expansion to the Areal Extent of Existing Class II Aquifer Exemptions for Class VI Wells. Operators of Class II enhanced oil recovery or enhanced gas recovery wells may request that the commissioner approve an expansion to the areal extent of an aquifer exemption already in place for a Class II enhanced oil recovery or enhanced gas recovery well for the exclusive purpose of Class VI injection for geologic sequestration. Such requests are treated as a substantial program revision to the state's UIC program and will not be final until approved by USEPA.	The struck-out text of 40 CFR 144.7(d) will not be adopted. Based on the §3601 definitions of *operator* and *owner*, the language at §3603.F.4 will not impact the stringency of state requirements compared to the federal rule.	Text limits this provision to operators, not owners; no impact on stringency, given the definition of these terms. August 2020 review: no impact on stringency.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
142	40 CFR 144.7(d)(1) (See also 145.11(a)(3))	The ~~owner or~~ operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in § 146.4 of this chapter.	§~~60~~3603.F.4.a	a. The operator of a Class II enhanced oil recovery or enhanced gas recovery well that requests an expansion of the areal extent of an existing aquifer exemption for the exclusive purpose of Class VI injection for geologic sequestration must define (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) that are clear and definite, all aquifers or parts thereof that are requested to be designated as exempted using the criteria in §~~103~~3603.F.2.d.	The struck-out text of 40 CFR 144.7(d)(1) will not be adopted. Based on the §3601 definitions of *operator* and *owner*, the language at §3603.F.4 will not impact the stringency of state requirements compared to the federal rule.	Text limits this provision to operators, not owners; no impact on stringency, given the definition of these terms. Should the reference to §103.F.2.d refer to §603? August 2020 review: revised citation addresses the above comment. EPA August review: However, the July LA rule text should be corrected to read "§603.F.2.d" instead of "§103.F.2.d" EPA September Review: The added text addresses August comment; EPA has no further concerns regarding stringency.
143	40 CFR 144.7(d)(2) (See also 145.11(a)(3))	In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the Director must determine that the request meets the criteria for exemptions in § 146.4. In making the determination, the Director shall consider:	§~~60~~3603.F.4.b	b. In evaluating a request to expand the areal extent of an aquifer exemption of a Class II enhanced oil recovery or enhanced gas recovery well for the purpose of Class VI injection, the commissioner must determine that the request meets the criteria for exemptions. In making the determination, the commissioner shall consider:		Text is similar, with no impact on stringency.
144	40 CFR 144.7(d)(2)(i) (See also 145.11(a)(3))	Current and potential future use of the USDWs to be exempted as drinking water resources;	§~~60~~3603.F.4.b.i	i. current and potential future use of the USDWs to be exempted as drinking water resources;		Text is identical.
145	40 CFR 144.7(d)(2)(ii) (See also 145.11(a)(3))	The predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the GS project, as informed by computational modeling performed pursuant to § 146.84(c)(1), in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation;	§~~60~~3603.F.4.b.ii	ii. the predicted extent of the injected carbon dioxide plume, and any mobilized fluids that may result in degradation of water quality, over the lifetime of the project, as informed by computational modeling, in order to ensure that the proposed injection operation will not at any time endanger USDWs including non-exempted portions of the injection formation; and		Text is similar, with no impact on stringency.

Commented [LS5]: Updated

Commented [KS6]: Updated

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
146	40 CFR 144.7(d)(2)(iii) (See also 145.11(a)(3))	Whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review, pursuant to § 146.84(e); and	§~~60~~3603.F.4.b.iii	iii. whether the areal extent of the expanded aquifer exemption is of sufficient size to account for any possible revisions to the computational model during reevaluation of the area of review.~~iii. whether the areal extent of the expanded aquifer exemption is of sufficient size to b account for any possible revisions to the computational model during reevaluation of the area of review.~~		Text is similar, with no impact on stringency. Note typo (state rule text appears ok). August 2020 review: revised text addresses the above comment.
147	40 CFR 144.7(d)(2)(iv) (See also 145.11(a)(3))	Any information submitted to support a waiver request made by the owner or operator under § 146.95, if appropriate.	N/A		The language at 40 CFR 144.7(d)(2)(iv) will not be adopted. Waivers of the injection depth requirements for Class VI wells will not be granted.	Reviewed; no issues found.
40 CFR 144.8 Noncompliance and program reporting by the Director						
148	40 CFR 144.8(a) (See also 145.11(a)(4))	The Director shall prepare quarterly and annual reports as detailed below. When the State is the permit-issuing authority, the State Director shall submit any reports required under this section to the Regional Administrator. (a) *Quarterly reports.* The Director shall submit quarterly narrative reports for major facilities as follows:	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
149	40 CFR 144.8(a)(1)(i) (See also 145.11(a)(4))	*Format.* The report shall use the following format: (i) Provide an alphabetized list of permittees. When two or more permittees have the same name, the lowest permit number shall be entered first.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
150	40 CFR 144.8(a)(1)(ii) (See also 145.11(a)(4))	For each entry on the list, include the following information in the following order: (A) Name, location, and permit number of the noncomplying permittees. (B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee. (C) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance. (D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution. (E) Any details which tend to explain or mitigate the instance(s) of noncompliance.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
151	40 CFR 144.8(a)(2) (See also 145.11(a)(4))	*Instances of noncompliance to be reported.* Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
152	40 CFR 144.8(a)(2)(i) (See also 145.11(a)(4))	*Failure to complete construction elements.* When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required elements of the schedule within 30 days from the date a compliance schedule report is due under the permit.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
153	40 CFR 144.8(a)(2)(ii) (See also 145.11(a)(4))	*Modifications to schedules of compliance.* When a schedule of compliance in the permit has been modified under §§144.39 or 144.41 because of the permittee's noncompliance.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
154	40 CFR 144.8(a)(2)(iii) (See also 145.11(a)(4))	*Failure to complete or provide compliance schedule or monitoring reports.* When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
155	40 CFR 144.8(a)(2)(iv) (See also 145.11(a)(4))	*Deficient reports.* When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Director and thus impede the review of the status of compliance.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
156	40 CFR 144.8(a)(2)(v) (See also 145.11(a)(4))	*Noncompliance with other permit requirements.* Noncompliance shall be reported in the following circumstances:	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
157	40 CFR 144.8(a)(2)(v)(A) (See also 145.11(a)(4))	Whenever the permittee has violated a permit requirement (other than reported under paragraph (a)(2)(i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
158	40 CFR 144.8(a)(2)(v)(B) (See also 145.11(a)(4))	When the Director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
159	40 CFR 144.8(a)(2)(v)(C) (See also 145.11(a)(4))	When the Director determines significant permit noncompliance or other significant event has occurred, such as a migration of fluids into a USDW.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
1~~60~~60	40 CFR 144.8(a)(2)(vi) (See also 145.11(a)(4))	*All other.* Statistical information shall be reported quarterly on all other instances of noncompliance by major facilities with permit requirements not otherwise reported under paragraph (a) of this section.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
1~~61~~61	40 CFR 144.8(b)(1) (See also 145.11(a)(4))	*Annual reports* — (1) *Annual noncompliance report.* Statistical reports shall be submitted by the Director on nonmajor UIC permittees indicating the total number reviewed, the number of noncomplying nonmajor permittees, the number of enforcement actions, and number of permit modifications extending compliance deadlines. The statistical information shall be organized to follow the types of noncompliance listed in paragraph (a) of this section.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
1~~62~~62	40 CFR 144.8(b)(2)(i) (See also 145.11(a)(4))	For State-administered UIC Programs only. In addition to the annual noncompliance report, the State Director shall: Submit each year a program report to the Administrator (in a manner and form prescribed by the Administrator) consisting of:	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
163	40 CFR 144.8(b)(2)(i)(A) (See also 145.11(a)(4))	A detailed description of the State's implementation of its program;	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
164	40 CFR 144.8(b)(2)(i)(B) (See also 145.11(a)(4))	Suggested changes, if any to the program description (see § 145.23(f)) which are necessary to reflect more accurately the State's progress in issuing permits;	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
165	40 CFR 144.8(b)(2)(i)(C) (See also 145.11(a)(4))	An updated inventory of active underground injection operations in the State.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
166	40 CFR 144.8(b)(2)(ii) (See also 145.11(a)(4))	In addition to complying with the requirements of paragraph (b)(2)(i) of this section, the Director shall provide the Administrator, on February 28th and August 31st of each of the first two years of program operation, the information required in 40 CFR 146.13, 146.23, and 146.33.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
167	40 CFR 144.8(b)(2)(iii) (See also 145.11(a)(4))	All Class VI program reports shall be consistent with reporting requirements set forth in §146.91 of this chapter.	§~~62~~3629	A. Reporting Requirements. The owner or operator must provide, at a minimum, the following reports to the commissioner—and the USEPA as specified in §~~62~~3629.A.5—for each permitted Class VI well:		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
168	40 CFR 144.8(c)(1) (See also 145.11(a)(4))	Schedule. (1) For all quarterly reports. On the last working day of May, August, November, and February, the State Director shall submit to the Regional Administrator information concerning noncompliance with permit requirements by major facilities in the State in accordance with the following schedule. The Regional Administrator shall prepare and submit information for EPA-issued permits to EPA Headquarters in accordance with the same schedule. QUARTERS COVERED BY REPORTS ON NONCOMPLIANCE BY MAJOR FACILITIES [Date for completion of reports] January, February, and March: 1 May 31 April, May, and June: 1 Aug. 31 July, August, and September: 1 Nov. 30 October, November, and December: 1 Feb. 28 1 Reports must be made available to the public for inspection and copying on this date.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
169	40 CFR 144.8(c)(2) (See also 145.11(a)(4))	For all annual reports. The period for annual reports shall be for the calendar year ending December 31, with reports completed and available to the public no more than ~~60 day~~60 days later.	N/A	This is a requirement of the state, and it need not be included in a state's Class VI regulation.	This requirement is addressed in the Memorandum of Agreement.	This will be addressed in the primacy application review.
SUBPART B--GENERAL PROGRAM REQUIREMENTS						
40 CFR 144.11 Prohibition of unauthorized injection.						
170	40 CFR 144.11 (See also 145.11(a)(5))	Any underground injection, except into a well authorized by rule or except as authorized by permit issued under the UIC program, is prohibited. The construction of any well required to have a permit is prohibited until the permit has been issued.	§~~60~~3603.B	B. Prohibition of Unauthorized Injection. Any underground injection, except as authorized by a permit or rule, is prohibited after the effective date of these regulations. Construction or operation of any well required to have a permit under these regulations is prohibited until the permit has been issued.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
40 CFR 144.12 Prohibition of movement of fluid into underground sources of drinking water.						
171	40 CFR 144.12(a) (See also 145.11(a)(6))	No owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141~~2~~ or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this paragraph are met.	§~~60~~3603.D.1	1. No authorization by permit or rule shall allow the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR part 141~~2~~ or of the Louisiana Drinking Water Regulations, Chapter VIII of the State Sanitary Code or may otherwise adversely affect the health of persons. The applicant for a permit shall have the burden of showing that the requirements of this Section are met	While the language at §~~60~~3603.D.1 is not verbatim to 40 CFR 144.12(a), the intent of the federal rule is preserved; that being, injection activity that allows movement of any contaminant that may cause a violation of equivalent state regulations shall be prohibited. The following language has been added at §3603.D.1: or of the Louisiana Drinking Water Regulations, Chapter VIII of the State Sanitary Code	Does EPA want to recommend that this provision also reference the national primary drinking water regulations at 40 CFR 141 to ensure that it is always current to federal rulemakings? Note that reference to "authorization by … rule" would not apply to Class VI wells. August 2020 review: revised text addresses the above comment. However, the CFR reference should be to 40 CFR 141, the location of the primary drinking water regulations (there is a typo in the CFR).EPA August Review: This was due to an error in EPA's crosswalk template; CFR text should refer to 40 CFR part "141" not 142. Therefore, LA's rule text should be corrected to refer to "141". EPA September Review: The revision addresses EPA's August comment.

Commented [LS7]: Updated.

Commented [KS8]: Updated

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
172	40 CFR 144.12(b) (See also 145.11(a)(6))	For Class I, II, III, and VI wells, if any water quality monitoring of an underground source of drinking water indicates the movement of any contaminant into the underground source of drinking water, except as authorized under part 146, the Director shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with §144.39, or the permit may be terminated under §144.40 if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of wells authorized by rule, see §§ 144.21 through 144.24.	§~~60~~3603.D.2	2. For Class VI wells, if any water quality monitoring of a USDW indicates the movement of any contaminant into the USDW, except as authorized under §~~60~~3603.F, the commissioner shall prescribe such additional requirements for construction, corrective action, operation, monitoring, or reporting (including closure of the injection well) as are necessary to prevent such movement. In the case of wells authorized by permit, these additional requirements shall be imposed by modifying the permit in accordance with §~~61~~3613.C, or the permit may be terminated under §~~61~~3613.E if cause exists, or appropriate enforcement action may be taken if the permit has been violated. In the case of wells authorized by rule, see §~~60~~3603.E.1.		Text is similar, with no impact on stringency.
173	40 CFR 144.12(e) (See also 145.11(a)(6))	Notwithstanding any other provision of this section, the Director may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or underground source of drinking water may present an imminent and substantial endangerment to the health of persons.	§~~60~~3603.D.4	4. Notwithstanding any other provision of this Section, the commissioner may take emergency action upon receipt of information that a contaminant which is present in or likely to enter a public water system or underground source of drinking water may present an imminent and substantial endangerment to the health or safety of persons.		Text omits reference to entering an underground source of drinking water. This should be added for consistency with the non-endangerment intent of the CFR. August 2020 review: added text addresses the above comment; state provision is now similar to CFR.
40 CFR 144.15 Prohibition of non-experimental Class V wells for geologic sequestration						
174	40 CFR 144.15	The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.	§~~60~~3603.C.2	2. Prohibition of Non-Experimental Class V Wells for Geologic Sequestration. The construction, operation or maintenance of any non-experimental Class V geologic sequestration well is prohibited.		Text is identical.
40 CFR 144.16 Waiver of requirement by Director						
175	40 CFR 144.16	**40 CFR 144.16 Waiver of requirement by Director**	N/A			Note: this row was omitted from the template initially provided to the state. This provision is not required of state programs, however.
40 CFR 144.18 Requirements for Class VI wells.						

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
176	40 CFR 144.18	Owners or operators of Class VI wells must obtain a permit. Class VI wells cannot be authorized by rule to inject carbon dioxide.	§~~60~~3603.E.1	1. Class VI wells cannot be authorized by rule to inject carbon dioxide. Owners or operators of Class VI wells must obtain a permit.		Text is similar, with no impact on stringency.
40 CFR 144.19 Transitioning from Class II to Class VI.						
177	40 CFR 144.19(a)	Owners or operators that are injecting carbon dioxide for the primary purpose of long- term storage into an oil and gas reservoir must apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to USDWs compared to Class II operations. In determining if there is an increased risk to USDWs, the owner or operator must consider the factors specified in §144.19(b).	§~~60~~3603.G.1	1. ~~Wells~~ Operators of wells used to inject carbon dioxide for the primary purpose of long-term storage into an oil or gas reservoir must ~~be permitted for~~apply for and obtain a Class VI geologic sequestration permit when there is an increased risk to USDWs compared to Class II operations. The factors specified in §~~60~~3603.G.2 below must be considered in determining if there is an increased risk to USDWs.	While the language at §~~60~~3603.G.1 is not verbatim to 40 CFR 144.19(a), the intent of the federal rule is preserved; that being, a Class VI geologic sequestration permit must be obtained when there is an increased risk to USDWs compared to Class II operations.	Reviewed; no issues found. EPA recommends that the state rule clarify that the owner or operator must apply for a Class VI permit. August 2020 review: revised text addresses the above comment.
178	40 CFR 144.19(b)	The Director shall determine when there is an increased risk to USDWs compared to Class II operations and a Class VI permit is required. In order to make this determination the Director must consider the following:	§~~60~~3603.G.2	2 The commissioner shall determine when there is an increased risk to USDWs compared to Class II operations and when a Class VI permit is required. The commissioner must consider the following in order to make this determination:		Text is similar, with no impact on stringency.
179	40 CFR 144.19(b)(1)	Increase in reservoir pressure within the injection zone(s);	§~~60~~3603.G.2.a	a. increase in reservoir pressure within the injection zone(s);		Text is identical.
180	40 CFR 144.19(b)(2)	Increase in carbon dioxide injection rates;	§~~60~~3603.G.2.b	b. increase in carbon dioxide injection rates;		Text is identical.
181	40 CFR 144.19(b)(3)	Decrease in reservoir production rates;	§~~60~~3603.G.2.c	c. decrease in reservoir production rates;		Text is identical.
182	40 CFR 144.19(b)(4)	Distance between the injection zone(s) and USDWs;	§~~60~~3603.G.2.d	d. distance between the injection zone(s) and USDWs;		Text is identical.
183	40 CFR 144.19(b)(5)	Suitability of the Class II area of review delineation;	§~~60~~3603.G.2.e	e. suitability of the Class II enhanced oil or gas recovery area of review delineation;		Text is similar, with no impact on stringency.
184	40 CFR 144.19(b)(6)	Quality of abandoned well plugs within the area of review;	§~~60~~3603.G.2.f	f. quality of abandoned well plugs within the area of review;		Text is identical.
185	40 CFR 144.19(b)(7)	The owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;	§~~60~~3603.G.2.g	g. the owner's or operator's plan for recovery of carbon dioxide at the cessation of injection;		Text is identical.
186	40 CFR 144.19(b)(8)	The source and properties of injected carbon dioxide; and	§~~60~~3603.G.2.h	h. the source and properties of injected carbon dioxide; and		Text is identical.
187	40 CFR 144.19(b)(9)	Any additional site-specific factors as determined by the Director.	§~~60~~3603.G.2.i	i. any additional site-specific factors as determined by the commissioner.		Text is similar, with no impact on stringency.
SUBPART C—AUTHORIZATION OF UNDERGROUND INJECTION BY RULE						
40 CFR 144.22 Existing Class II enhanced recovery and hydrocarbon storage wells.						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
188	40 CFR 144.22(b) (See also 145.11(a)(9))	*Duration of well authorization by rule*. Well authorization under this section expires upon the effective date of a permit issued pursuant to § 144.19, § 144.25, § 144.31, § 144.33 or § 144.34; after plugging and abandonment in accordance with an approved plugging and abandonment plan pursuant to §§ 144.28(c) and 146.10 of this chapter; and upon submission of a plugging and abandonment report pursuant to § 144.28(k); or upon conversion in compliance with § 144.28(j).	§~~60~~3603.E.1.a	1. Class VI wells cannot be authorized by rule to inject carbon dioxide. Owners or operators of Class VI wells must obtain a permit. a. Any authorization by rule for an existing Class II enhanced recovery or hydrocarbon storage well shall expire upon the effective date of a Class VI permit issued pursuant to §~~60~~3603.G, or well plug and abandonment according to an approved plug and abandonment plan, or upon well conversion.	Authorization by rule for Class VI wells will be prohibited.	Reviewed; no issues found.
SUBPART D—AUTHORIZATION BY PERMIT						
40 CFR 144.31 Application for a permit; authorization by permit.						
189	40 CFR 144.31(a) (See also 145.11(a)(10))	Permit application. Unless an underground injection well is authorized by rule under subpart C of this part, all injection activities including construction of an injection well are prohibited until the owner or operator is authorized by permit. An owner or operator of a well currently authorized by rule must apply for a permit under this section unless well authorization by rule was for the life of the well or project. Authorization by rule for a well or project for which a permit application has been submitted terminates for the well or project upon the effective date of the permit. Procedures for applications, issuance and administration of emergency permits are found exclusively in § 144.34. A RCRA permit applying the standards of part 264, subpart C of this chapter will constitute a UIC permit for hazardous waste injection wells for which the technical standards in part 146 of this chapter are not generally appropriate.	§~~60~~3603.B	B. Prohibition of Unauthorized Injection. Any underground injection, except as authorized by a permit or rule, is prohibited after the effective date of these regulations. Construction or operation of any well required to have a permit under these regulations is prohibited until the permit has been issued.	While the language at §~~60~~3605.B is not verbatim to 40 CFR 144.31(a), the intent of the federal rule is preserved: that being, all injection activities are prohibited unless authorized by a permit.	Reviewed; no issues found.
190	40 CFR 144.31(b) (See also 145.11(a)(10))	Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.	§~~60~~3605.D	D. Who Applies. It is the duty of the owner of a facility or activity to submit an application for permit. When a facility is owned by one person and operated by another, it is the operator's duty to obtain a permit.	While the language at §~~60~~3605.D is not verbatim to 40 CFR 144.31(b), the intent of the federal rule is preserved: that being, it remains the operator's duty to obtain a permit if the facility is owned by another person.	Reviewed; no issues found.
191	40 CFR 144.31(c) (See also 145.11(a)(10))	Time to apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the Director in accordance with the UIC program as follows:	§~~60~~3605.C.2	2. Time to Apply. Any person who performs or proposes an underground injection for which a permit is or will be required shall submit an application to the commissioner.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
192	40 CFR 144.31(c)(2) (See also 145.11(a)(10))	For new injection wells, except new wells in projects authorized under § 144.21(d) ~~or authorized by an existing area permit under § 144.33(c),~~ a reasonable time before construction is expected to begin.	§~~60~~3605.C.2.a	a. for new Class VI injection wells, a reasonable time before construction is expected to begin.	The struck-out text of 40 CFR 144.31(c)(2) will not be adopted. Authorization by area permit for Class VI wells will be prohibited.	Reviewed; no issues found.
193	40 CFR 144.31(d) (See also 145.11(a)(10))	Completeness. The Director shall not issue a permit before receiving a complete application for a permit ~~except for emergency permits~~. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.	§~~61~~3611.B.2.a	a. the commissioner shall not issue a permit before receiving an application form and any required supplemental information which are completed to his satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity;	While the language at §~~61~~3611.B.2.a is not verbatim to 40 CFR 144.31(d), the intent of the federal rule is preserved: that being, the commissioner shall not issue a permit before receiving an application form and any supplemental information which are completed to his or her satisfaction. The struck-out text of 40 CFR 144.31(d) will not be adopted. Emergency permits will not be granted for Class VI wells.	Text does not make any provision for judging the status of an application independently of the status of any other application or permit for the same facility or activity. August 2020 review: added text addresses the above comment; state provision is similar to CFR, except for emergency permits. No concerns for stringency.
194	40 CFR 144.31(e) (See also 145.11(a)(10))	Information requirements. All applicants for Class I, II, III, and V permits shall provide the following information to the Director, using the application form provided by the Director. Applicants for Class VI permits shall follow the criteria provided in §146.82 of this chapter.	§~~60~~3607.C through ~~60~~3607.C.3	C. Application Contents: An application submitted to construct a new Class VI well or convert any existing well to Class VI shall contain the following geological and technical information: … 3. The commissioner shall notify in writing, any states or tribes within the area of review based on information provided by the applicant in §~~60~~3607.C.1.a.i and §~~60~~3607.C.2.s.	§~~60~~3607.C is an entirely new section specific to Class VI wells, being equivalent to 40 CFR Part 146, Subpart H. The remaining language of 40 CFR 144.31(e) already exists at LAC 43:XVII.105.E. and F., which was approved by the USEPA in prior amendments of LAC 43:XVII.Chapter 1. The underlined text in the far left column does not directly appear in the state requirements, but §~~60~~3607.C through ~~60~~3607.C.3 clearly contains the requirements for Class VI well permits.	Reviewed; no issues found. See also 146.82 below.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
195	40 CFR 144.31(e)(1) (See also 145.11(a)(10))	The activities conducted by the applicant which require it to obtain permits under RCRA, UIC, the National Pollution Discharge Elimination system (NPDES) program under the Clean Water Act, or the Prevention of Significant Deterioration (PSD) program under the Clean Air Act.	§~~60~~3607.B.7	7. the activity or activities conducted by the applicant which require the applicant to obtain a permit under these regulations;	While the language at §~~60~~3605.B.7 is not verbatim to 40 CFR 144.31(e)(1), the intent of the federal rule is preserved; that being, requiring the disclosure of all activities that require the applicant to obtain permits.	Reviewed; no issues found.
196	40 CFR 144.31(e)(2) (See also 145.11(a)(10))	Name, mailing address, and location of the facility for which the application is submitted.	§~~60~~3607.B.3	3. the name and mailing address of the applicant and the physical address of the sequestration well facility;		Text is similar, with no impact on stringency.
197	40 CFR 144.31(e)(3) (See also 145.11(a)(10))	Up to four SIC codes which best reflect the principal products or services provided by the facility.	§~~60~~3607.B.8	8. up to four SIC Codes which best reflect the principal products or services provided by the facility;		Text is identical.
198	40 CFR 144.31(e)(4) (See also 145.11(a)(10))	The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.	§~~60~~3607.B.4 through ~~60~~3607.B.5	4. the operator's name, address, telephone number, and e-mail address; 5. ownership status, and status as federal, state, private, public, or other entity;	In addition to the text at 40 CFR 144.31(e)(4), the following language has been added at §3607.B.4: and email address.	Text adds "e-mail address." August 2020 review: revised text addresses the above comment; state provision is similar to CFR.
199	40 CFR 144.31(e)(5) (See also 145.11(a)(10))	Whether the facility is located on Indian lands.	§~~60~~3607.B.10	10. acknowledgment as to whether the facility is located on Indian lands or other lands under the jurisdiction or protection of the federal government, or whether the facility is located on state water bottoms or other lands owned by or under the jurisdiction or protection of the state of Louisiana;	In addition to the text at 40 CFR 144.31(e)(5), the following language has been added at §~~60~~3607.B.10: or other lands under the jurisdiction or protection of the federal government, or whether the facility is located on state water bottoms or other lands owned by or under the jurisdiction or protection of the state of Louisiana;	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
200	40 CFR 144.31(e)(6) (See also 145.11(a)(10))	A listing of all permits or construction approvals received or applied for under any of the following programs:	§~~60~~3607.B.9	9. a listing of all permits or construction approvals that the applicant has received or applied for under any of the following programs ~~and~~ or which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought:	The following language has been added: or which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought. ~~In addition to the text at 40 CFR 144.31(e)(6), the following language has been added at §607.B.9: and which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought.~~	Text limits the listing to only permits which affect their legal or technical ability to conduct GS, rather than all permits. The rule text should be clarified to avoid unintentionally limiting this provision. August 2020 review: revised text addresses the above comment. No concerns for stringency.
201	40 CFR 144.31(e)(6)(i) (See also 145.11(a)(10))	Hazardous Waste Management program under RCRA.	§~~60~~3607.B.9.a	a. the Louisiana Hazardous Waste Management;	§~~60~~3607.B.9.a refers to the state equivalent of the federal program.	Reviewed; no issues found.
202	40 CFR 144.31(e)(6)(ii) (See also 145.11(a)(10))	UIC program under SDWA.	§~~60~~3607.B.9.b	b. this or any other Underground Injection Control Program;		Text is similar, with no impact on stringency.
203	40 CFR 144.31(e)(6)(iii) (See also 145.11(a)(10))	NPDES program under CWA.	§~~60~~3607.B.9.c	c. NPDES Program under the Clean Water Act;		Text is similar, with no impact on stringency.
204	40 CFR 144.31(e)(6)(iv) (See also 145.11(a)(10))	Prevention of Significant Deterioration (PSD) program under the Clean Air Act.	§~~60~~3607.B.9.d	d. Prevention of Significant Deterioration (PSD) Program under the Clean Air Act;		Text is identical.
205	40 CFR 144.31(e)(6)(v) (See also 145.11(a)(10))	Nonattainment program under the Clean Air Act.	§~~60~~3607.B.9.e	e. Nonattainment Program under the Clean Air Act;		Text is identical.
206	40 CFR 144.31(e)(6)(vi) (See also 145.11(a)(10))	National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.	§~~60~~3607.B.9.f	f. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
207	40 CFR 144.31(e)(6)(vii) (See also 145.11(a)(10))	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.	§~~60~~3607.B.9.g	g. Ocean Dumping Permit under the Marine Protection Research and Sanctuaries Act;		Text is similar, with no impact on stringency.
208	40 CFR 144.31(e)(6)(viii) (See also 145.11(a)(10))	Dredge and fill permits under section 404 of CWA.	§~~60~~3607.B.9.h	h. dredge or fill permits under Section 404 of the Clean Water Act; and		Text is similar, with no impact on stringency.
209	40 CFR 144.31(e)(6)(ix) (See also 145.11(a)(10))	Other relevant environmental permits, including State permits.	§~~60~~3607.B.9.i	i. other relevant environmental permits including, but not limited to any state permits issued under the Louisiana Coastal Resources Program, the Louisiana Surface Mining Program or the Louisiana Natural and Scenic Streams System;	While the language at §~~60~~3607.B.9.i is not verbatim to 40 144.31(e)(6)(ix), the intent of the federal rule is preserved: being that, all other relevant environmental permits including but not limited to the enumerated state permits must be listed by the applicant.	Reviewed; no issues found.
210	40 CFR 144.31(e)(8) (See also 145.11(a)(10))	A brief description of the nature of the business.	§~~60~~3607.B.6	6. a brief description of the nature of the business associated with the activity;		Text is similar, with no impact on stringency.
211	40 CFR 144.31(e)(9) (See also 145.11(a)(10))	For EPA-administered programs, the applicant shall identify and submit on a list with the permit application the names and addresses of all owners of record of land within one-quarter mile of the facility boundary. ~~This requirement may be waived by the Regional Administrator where the site is located in a populous area and the Regional Administrator determines that the requirement would be impracticable.~~	§~~60~~3607.B.12	12. names and addresses of all property owners within the area of review of the Class VI well or project.	The language at §3607.B.12 specifies the area of review rather than property within one-quarter mile of the facility boundary. The struck-out text of 40 CFR 144.31(e)(9) will not be adopted.	Text specifies area of review, rather than ¼ mile. August 2020 review: no concerns for stringency.
40 CFR 144.32 Signatories to permit applications and reports						
212	40 CFR 144.32(a) (See also 145.11(a)(11))	Applications. All permit applications~~, except those submitted for Class II wells (see paragraph (b) of this section)~~~~,~~ shall be signed as follows:	§~~60~~3605.E	E. Signature Requirements. All permit applications shall be signed as follows. ~~124.3(a)(3)~~	The struck-out text of 40 CFR 144.32(a) will not be adopted.	Reviewed; no issues found. Note that the draft rule text does not include 124.3(a)(3). August 2020 review: revision addresses comment; no concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
213	40 CFR 144.32(a)(1) (See also 145.11(a)(11))	For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means;	§~~60~~3605.E.1 through ~~60~~3605.E.1.c	1. Corporations. By a principal executive officer of at least the level of vice-president, or duly authorized representative of that person if the representative performs similar policy making functions for the corporation. A person is a duly authorized representative only if: a. the authorization is made in writing by a principle executive officer of at least the level of vice-president; b. the authorization specifies either an individual or position having responsibility for the overall operation of a solution-mining well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and c. the written authorization is submitted to the Office of Conservation.	While the language at §~~60~~3607.E through ~~60~~3607.E.4 is not verbatim to 40 CFR 144.32(a)(1), the intent of the federal rule is preserved; that being, requiring the signature of a responsible executive officer or that person's duly authorized representative.	Reviewed; no issues found.
214	40 CFR 144.32(a)(1)(i) (See also 145.11(a)(11))	A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or	§~~60~~3605.E.1.a through ~~60~~3605.E.1.c	See above.	See above.	Reviewed; no issues found.
215	40 CFR 144.32(a)(1)(ii) (See also 145.11(a)(11))	the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. NOTE: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 144.32(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 144.32(a)(1)(ii) rather than to specific individuals.	§~~60~~3605.E.1.a through ~~60~~3605.E.1.c	See above.	See above. Also, the language at 40 CFR 144.32(a)(1)(i) regarding facility size or sales requirements will not be adopted.	Text (see above) does not include similar facility size or sales requirements. August 2020 review: no concerns for stringency without this specificity.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
216	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~60~~3605.E.2	2. Limited Liability Company (LLC). By a member if the LLC is member-managed, by a manager if the LLC is manager-managed, or by a duly authorized representative only if:		Reviewed; no issues found.
217	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~60~~3605.E.2.a through ~~60~~3605.E.2.c	a. the authorization is made in writing by an individual who would otherwise have signature authority as outlined in §~~60~~3605.E.2 above; b. the authorization specifies either an individual or position having responsibility for the overall operation of a sequestration well, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and c. the written authorization is submitted to the Office of Conservation.		Reviewed; no issues found.
218	40 CFR 144.32(a)(2) (See also 145.11(a)(11))	For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or	§~~60~~3605.E.3	3. Partnership or Sole Proprietorship. By a general partner or proprietor, respectively; or		Text is identical.
219	40 CFR 144.32(a)(3) (See also 145.11(a)(11))	For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:	§~~60~~3605.E.4	4. Public Agency. By either a principal executive officer or a ranking elected official of a municipality, state, federal, or other public agency.		Text is similar, with no impact on stringency.
220	40 CFR 144.32(a)(3)(i) (See also 145.11(a)(11))	The chief executive officer of the agency, or	§~~60~~3605.E.4	See above.		No state equivalent.
221	40 CFR 144.32(a)(3)(ii) (See also 145.11(a)(11))	a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).	§~~60~~3605.E.4	See above.		No state equivalent.
222	40 CFR 144.32(c) (See also 145.11(a)(11))	*Changes to authorization*. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.	§~~60~~3605.F	F. Signature Reauthorization. If an authorization under §~~60~~3605.E is no longer accurate because a different individual or position has responsibility for the overall operation of a sequestration well, a new authorization satisfying the signature requirements must be submitted to the Office of Conservation before or concurrent with any reports, information, or applications required to be signed by an authorized representative.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
223	40 CFR 144.32(d) (See also 145.11(a)(11))	*Certification*. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	§~~60~~3605.G	G. Certification. Any person signing a document under §~~60~~3605.E shall make the following certification on the application: ~~"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment."~~ "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	While the language at §~~60~~3605.G is not verbatim to 40 144.32(d), the intent of the federal rule is preserved: that being, the signatory has done their due diligence to ensure that, to their belief, all attached information is true, accurate, and complete.	Reviewed; no issues found. State certification does not reference "a system designed to assure that qualified personnel properly gather and evaluate the information submitted." August 2020 review: certification statement is now identical to CFR.
40 CFR 144.33 Area permits.						
224	40 CFR 144.33(a) (See also 145.11(a)(12))	The Director may issue a permit on an area basis, rather than for each well individually, provided that the permit is for injection wells:	§~~60~~3605.B	B. The commissioner cannot issue a permit on an area basis for a Class VI well or permit.	Note that area permits are not allowed for Class VI wells; area permit provisions are included in this crosswalk only to show that they are banned for Class VI.	Reviewed; no issues found.
40 CFR 144.35 Effect of a permit.						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
225	40 CFR 144.35(a) (See also 145.11(a)(14))	Except for Class II and III wells, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Part C of the SDWA. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in §§ 144.39 and 144.40.	§~~60~~3609.J and §~~61~~3613	J. Compliance. Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with the act and these regulations. ----- §~~61~~3613. Permit Modification, Revocation and Reissuance, Termination, Transfer or Renewal	While the language at §~~60~~3609.J and §~~61~~3613 is not verbatim to 40 CFR 144.35(a), the intent of the federal rule is preserved; that being, effect of compliance with a permit and the potential for permit modification, revocation, reissuance, termination, transfer, or renewal for the causes set out in §~~61~~3613.	Reviewed; no issues found.
226	40 CFR 144.35(b) (See also 145.11(a)(14))	The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.	§~~60~~3609.K	K. Property Rights. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege or servitude.	In addition to the text at 40 CFR 144.35(b) the following language has been added at §~~60~~3609.K: servitude.	Reviewed; no issues found.
227	40 CFR 144.35(c) (See also 145.11(a)(14))	The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.	§~~60~~3609.Q	Q. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.		Text is identical.
40 CFR 144.36 Duration of permits.						
228	40 CFR 144.36(a) (See also 145.11(a)(15))	Permits for Class I and V wells shall be effective for a fixed term not to exceed 10 years. UIC permits for Class II and III wells shall be issued for a period up to the operating life of the facility. UIC permits for Class VI wells shall be issued for the operating life of the facility and the post-injection site care period. The Director shall review each issued Class II, III, and VI well UIC permit at least once every 5 years to determine whether it should be modified, revoked and reissued, terminated or a minor modification made as provided in §§144.39, 144.40, or 144.41.	§~~60~~3609.M.1	1. UIC permits for Class VI wells shall be issued for the operating life of the facility and the post-injection site care period. The commissioner shall review each issued Class VI well permit at least once every five years to determine whether it should be modified, revoked and reissued, terminated, or a minor modification made.	The language at §3609.M.1 is specific to Class VI well and conveys the Class VI-specific aspects of 40 CFR 144.36(a).	Text is specific to Class VI wells and conveys the Class VI-specific aspects of the CFR. August 2020 review: no concerns for stringency.
229	40 CFR 144.36(b) (See also 145.11(a)(15))	Except as provided in § 144.37, the term of a permit shall not be extended by modification beyond the maximum duration specified in this section.	§~~60~~3609.M.2	2. The term of a permit shall not be extended by modification beyond the maximum duration specified in this Section, except as provided in §~~60~~3609.M.4 below.		Text is similar, with no impact on stringency.
230	40 CFR 144.36(c) (See also 145.11(a)(15))	The Director may issue any permit for a duration that is less than the full allowable term under this section.	§~~60~~3609.M.3	3. The commissioner may issue, for cause, any permit for a duration that is less than the full allowable term under this Section.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
40 CFR 144.37 Continuation of expiring permits.						
231	40 CFR 144.37 (a)(1)	*EPA permits*. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of a new permit if: (1) The permittee has submitted a timely application which is a complete application for a new permit; and	§~~60~~3609.M.4	4. The conditions of an expired permit may continue in force until the effective date of a new permit if the permittee has submitted a timely and a complete application for a new permit, and the commissioner, through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit (e.g., when issuance is impracticable due to time or resource constraints).		Text is similar, with no impact on stringency.
232	40 CFR 144.37 (a)(2)	The Regional Administrator, through no fault of the permittee does not issue a new permit with an effective date on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).				Text is similar, with no impact on stringency. (see above)
233	40 CFR 144.37 (b)	*Effect*. Permits continued under this section remain fully effective and enforceable.	§~~60~~3609.M.4.a	a. Permits continued under this Section remain fully effective and enforceable.		Text is identical.
234	40 CFR 144.37 (c)(1)	*Enforcement.* When the permittee is not in compliance with the conditions of the expiring or expired permit the Regional Administrator may choose to do any or all of the following: (1) Initiate enforcement action based upon the permit which has been continued;	§~~60~~3609.M.4.b through ~~60~~3609.M.4.b.i	b. When the permittee is not in compliance with the conditions of the expiring or expired permit, the commissioner may choose to do any or all of the following: i. initiate enforcement action based upon the permit which has been continued;		Text is similar, with no impact on stringency.
235	40 CFR 144.37 (c)(2)	Issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;	§~~60~~3609.M.4.b .ii	ii. issue a notice of intent to deny the new permit. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;		Text is identical.
236	40 CFR 144.37 (c)(3)	Issue a new permit under part 124 with appropriate conditions; or	§~~60~~3609.M.4.b .iii	iii. issue a new permit under the requirements of these rules for issuing a new permit with appropriate conditions; or		Text is similar, with no impact on stringency.
237	40 CFR 144.37 (c)(4)	Take other actions authorized by these regulations.	§~~60~~3609.M.4.b .iv	iv. take other actions authorized by these regulations.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
238	40 CFR 144.37 (d)	*State continuation*. An EPA issued permit does not continue in force beyond its time expiration date under Federal law if at that time a State is the permitting authority. A State authorized to administer the UIC program may continue either EPA or State-issued permits until the effective date of the new permits, if State law allows. Otherwise, the facility or activity is operating without a permit from the time of expiration of the old permit to the effective date of the State-issued new permit.	N/A			N/A. This provision is not required for state programs.
40 CFR 144.38 Transfer of permits.						
239	40 CFR 144.38(a) (See also 145.11(a)(16))	Transfers by modification. Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 144.39(b)(2)), or a minor modification made (under § 144.41(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act.	§~~61~~3613.C.2 ~~and through~~ ~~61~~3613.C.2.~~db~~	2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit: a. cause exists for termination under §3613.E, and the commissioner determines that modification or revocation and reissuance is appropriate; or b. the commissioner has received notification of a proposed transfer of the permit and the transfer is determined not to be a minor modification (see §3613.D.4). A permit may be modified to reflect a transfer after the effective date (§3613.F.2.b) but will not be revoked and reissued after the effective date except upon the request of the new permittee; or. c. a determination that the waste being injected is a hazardous waste as defined in §3601 either because the definition has been revised, or because a previous determination has been changed; or d. to incorporate such other requirements as may be necessary under the Safe Drinking Water Act.~~2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:~~ ~~b. the commissioner has received notification of a proposed transfer of the permit and the transfer is determined not to be a minor modification (see §613.D.4). A permit may be modified to reflect a transfer after the effective date (§613.F.2.b) but will not be revoked and reissued after the effective date except upon the request of the new permittee.~~	While the language at §~~61~~3613.C.2 and ~~61~~3613.C.2.b is not verbatim to 40 144.38(a), the intent of the federal rule is preserved: that being, the procedure for permit transfer is outlined.	Text omits "incorporate such requirements as may be necessary under the SDWA." August 2020 review: EPA legal staff input requested. EPA August Review: LA did not adopt the above language. Clarification needed. Jay Przyborski: (R6, ORC) Why omit references to the SDWA here and in Line #311. EPA September Review: The added text addresses EPA's August comment; no further concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
240	40 CFR 144.38(b) (See also 145.11(a)(16))	Automatic transfers. As an alternative to transfers under paragraph (a) of this section, any UIC permit for a well not injecting hazardous waste or injecting carbon dioxide for geologic sequestration may be automatically transferred to a new permittee if:	N/A		Automatic transfer of permits for Class VI wells will be prohibited.	Reviewed; no issues found. (§609.L.4 allows transfers only upon approval by the commissioner.)
241	40 CFR 144.38(b)(1) (See also 145.11(a)(16))	The current permittee notifies the Director at least 30 days in advance of the proposed transfer date referred to in paragraph (b)(2) of this section;	N/A		See above.	Reviewed; no issues found.
242	40 CFR 144.38(b)(2) (See also 145.11(a)(16))	The notice includes a written agreement between the existing and new permittees containing a specific date for transfer or permit responsibility, coverage, and liability between them, and the notice demonstrates that the financial responsibility requirements of § 144.52(a)(7) will be met by the new permittee; and	N/A		See above.	Reviewed; no issues found.
243	40 CFR 144.38(b)(3) (See also 145.11(a)(16))	The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this paragraph may also be a minor modification under § 144.41. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.	N/A		See above.	Reviewed; no issues found.
40 CFR 144.39 Modification or revocation and *reissuance* of permits.						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
244	40 CFR 144.39 (See also 145.11(a)(17))	When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 144.51 of this chapter), receives a request for modification or revocation and reissuance under § 124.5, or conducts a review of the permit file) he or she may determine whether or not one or more of the causes listed in paragraphs (a) and (b) of this section for modification or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. ~~When a permit is modified, only the conditions subject to modification are reopened~~. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See § 124.5(c)(2) of this chapter. If cause does not exist under this section or § 144.41 of this chapter, the Director shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in § 144.41 for ''minor modifications'' the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in part 124 must be followed.	§~~61~~3613.B through ~~61~~3613.B.5	B. Permit Actions 1. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. 2. The permittee shall furnish to the commissioner, within 30 days, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with the permit. The permittee shall also furnish to the commissioner, upon request, copies of records required to be kept by the permit. 3. The commissioner may, upon his own initiative or at the request of any interested person, review any permit to determine if cause exists to modify, revoke and reissue, or terminate the permit for the reasons specified in §§~~61~~3613.C, D, and E. All requests shall be in writing and shall contain facts or reasons supporting the request. 4. If the commissioner decides the request is not justified, he shall send the person making the request a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings. 5. If the commissioner decides to modify or revoke and reissue a permit under §§~~61~~3613.C, D, and E, he shall prepare a draft permit under §~~61~~3611.C incorporating the proposed changes. *When a permit is modified, the entire permit is reopened and is subject to revision.* The commissioner may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the commissioner shall require, if necessary, the submission of a new application.	While the language at §~~61~~3613.B through ~~61~~3613.B.5 is not verbatim to 40 CFR 144.39, the intent of the federal rule is preserved: that being, permits may be reviewed for the purpose of modification, revocation, reissuance, or termination, and the commissioner may modify, revoke, reissue, or terminate accordingly if cause exists. The struck-out text of 40 CFR 144.39 will not be adopted. When a permit is modified, the entire permit ~~will~~ may be reopened and subject to revision. The following emphasized language has been added at §3613.B.5: *When a permit is modified, the entire permit is reopened and is subject to revision.*	Text does not specify that the entire permit is reopened and subject to revision (this is struck out, and reopening the entire permit would not limit stringency), and that the permit is reissued for a new term (which is not an issue, as Class VI permits are for the life of the facility and subject to 5 year review/AoR reevaluation). Note that 613.B.1 also includes the following text: "The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition." (No impact on stringency.) August 2020 review: no concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
245	40 CFR 144.39(a) (See also 145.11(a)(17))	Causes for modification. The following are causes for modification. ~~For Class I hazardous waste injection wells, Class II, Class III or Class VI wells the following may be causes for revocation and reissuance as well as modification; and for all other wells the following~~ may be cause for revocation or reissuance ~~as well as modification when the permittee requests or agrees~~.	§~~61~~3613.C.1	1. The following are causes for modification and may be causes for revocation and reissuance of permits.	The struck-out text of 40 CFR 144.39(a) will not be adopted.	Reviewed; no issues found.
246	40 CFR 144.39(a)(1) (See also 145.11(a)(17))	*Alterations*. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.	§~~61~~3613.C.1.a	a. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.		Text is identical.
247	40 CFR 144.39(a)(2) (See also 145.11(a)(17))	*Information.* The Director has received information. Permits other than for Class II and III wells may be modified during their terms for this ~~cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods)~~ and would have justified the application of different permit conditions at the time of issuance. ~~For UIC area permits (§ 144.33), this cause shall include any information indicating that cumulative effects on the environment are unacceptable~~.	§~~61~~3613.C.1.b	b. Information. The commissioner has received information pertinent to the permit that would have justified the application of different permit conditions at the time of issuance.	While the language at §~~61~~3613.C.1.b is not verbatim to 40 CFR 144.39(a)(2), the intent of the federal rule is preserved: that being, that information not available at the time of permit issuance is a valid cause for modification and may be a valid cause for revocation and reissuance. The struck-out text of 40 CFR 144.39(a)(2) will not be adopted.	Text does not specify that this applies only if the information was not available at the time of issuance. EPA August Review: While the text is not verbatim, stringency should not be impacted because the Director retains the ability to modify permits based on any available information, such as information that was not available at the time of permit issuance.
248	40 CFR 144.39(a)(3) (See also 145.11(a)(17))	*New regulations*. The standards or regulations on which the permit was based have been changed by promulgation of new or amended standards or regulations or by judicial decision after the permit was issued. Permits other than for Class I hazardous waste injection wells, Class II, Class III or Class VI wells may be modified during their permit terms for this cause only as follows:	§~~61~~3613.C.1.c.i	i. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. ~~and conformance with the changed standards or regulations is necessary for the protection of the health or safety of the public or the environment.~~ Permits for Class VI wells may be modified during their terms when:	While the language at §~~61~~3613.C.1.c.i is not verbatim to 40 CFR 144.39(a)(3), the intent of the federal rule is preserved: that being, that changes in standards or regulations due to amended regulations or judicial decision after the permit was issued are cause for permit modification.	Text as written appears to require permit modification only if conformance is necessary for the protection of the health or safety of the public or the environment; suggest clarification to better reflect the intent as described. August 2020 review: first sentence is now similar to CFR. No concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
249	40 CFR 144.39(a)(3)(i)(A) (See also 145.11(a)(17))	For promulgation of amended standards or regulations, when: (A) The permit condition requested to be modified was based on a promulgated part 146 regulation; and	§~~61~~3613.C.1.c.i.a	(a). the permit condition requested to be modified was based on a promulgated regulation or guideline;		Text is similar, with no impact on stringency.
250	40 CFR 144.39(a)(3)(i)(B) (See also 145.11(a)(17))	EPA has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based, and	§~~61~~3613.C.1.c.i.b	(b). there has been a revision, withdrawal, or modification of that portion of the regulation or guideline on which the permit condition was based; and		Text is similar, with no impact on stringency.
251	40 CFR 144.39(a)(3)(i)(C) (See also 145.11(a)(17))	A permittee requests modification in accordance with § 124.5 within ninety (90) days after Federal Register notice of the action on which the request is based.	§~~61~~3613.C.1.c.i.c	(c). a permittee requests modification within 90 days after Louisiana Register notice of the action on which the request is based.		Text is similar, with no impact on stringency.
252	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~61~~3613.C.1.c.ii	ii. When standards or regulations on which the permit was based have been changed by withdrawal of standards or regulations or by promulgation of amended standards or regulations which impose less stringent requirements on the permitted activity or facility and the permittee requests to have permit conditions based on the withdrawn or revised standards or regulations deleted from his permit~~, the permit may be modified as a minor modification without providing for public comment.~~		EPA review is requested to ensure that the public would be made aware of any changes that wouldn't be otherwise publicly known (this provision probably would only apply if the Class VI regs changed). August 2020 review: revision poses no concerns for stringency (minor permit mods do not require public comment).
253	40 CFR 144.39(a)(3)(ii) (See also 145.11(a)(17))	For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee in accordance with § 124.5 ~~within ninety (90) days of judicial remand~~.	§~~61~~3613.C.1.c.iii	iii. For judicial decisions, a court of competent jurisdiction has remanded and stayed Office of Conservation regulations or guidelines *and all appeals have been exhausted*, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee to have permit conditions based on the remanded or stayed standards or regulations deleted from his permit.	In addition to the text at 40 CFR 144.39(a)(3)(ii), the following emphasized language has been added at §3613.C.1.c.iii: *where appropriate*. The requirement for ninety (90) days of judicial remand has been omitted.	Text adds "all appeals have been exhausted," and omits the 90 day requirement. August 2020 review: no change.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
254	40 CFR 144.39(a)(4) (See also 145.11(a)(17))	*Compliance schedules.* The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy. See also § 144.41(c) (minor modifications).	§~~61~~3613.C.1.d	d. Compliance Schedules. The commissioner determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonable available remedy.		Text is similar, with no impact on stringency.
255	40 CFR 144.39(a)(5) (See also 145.11(a)(17))	*Basis for modification of Class VI permits.* Additionally, for Class VI wells, whenever the Director determines that permit changes are necessary based on:	§~~61~~3613.C.1.e	e. Additional Modification of Class VI Permits. For Class VI wells, whenever the commissioner determines that permit changes are necessary based on:		Text is similar, with no impact on stringency.
256	40 CFR 144.39(a)(5)(i) (See also 145.11(a)(17))	Area of review reevaluations under §146.84(e)(1) of this chapter;	§~~61~~3613.C.1.e.i	i. area of review reevaluations under §~~61~~3615.C.2;		Text is similar, with no impact on stringency.
257	40 CFR 144.39(a)(5)(ii) (See also 145.11(a)(17))	Any amendments to the testing and monitoring plan under §146.90(j) of this chapter;	§~~61~~3613.C.1.e.ii	ii. any amendments to the testing and monitoring plan under §~~62~~3625.A.10;		Text is similar, with no impact on stringency.
258	40 CFR 144.39(a)(5)(iii) (See also 145.11(a)(17))	Any amendments to the injection well plugging plan under §146.92(c) of this chapter;	§~~61~~3613.C.1.e.iii	iii. any amendments to the injection well plugging plan under §~~631~~3631.A.3;		Text is similar, with no impact on stringency.
259	40 CFR 144.39(a)(5)(iv) (See also 145.11(a)(17))	Any amendments to the post-injection site care and site closure plan under §146.93(a)(3) of this chapter;	§~~61~~3613.C.1.e.iv	iv. any amendments to the post-injection site care and site closure plan under §~~633~~3633.A.1.c;		Text is similar, with no impact on stringency.
2~~60~~60	40 CFR 144.39(a)(5)(v) (See also 145.11(a)(17))	Any amendments to the emergency and remedial response plan under §146.94(d) of this chapter; or	§~~61~~3613.C.1.e.v	v. any amendments to the emergency and remedial response plan under §~~62~~3625.A.4; or		Text is similar, with no impact on stringency.
2~~61~~61	40 CFR 144.39(a)(5)(vi) (See also 145.11(a)(17))	A review of monitoring and/or testing results conducted in accordance with permit requirements.	§~~61~~3613.C.1.e.vi	vi. a review of monitoring and testing results conducted in accordance with permit requirements.		Text changes "and/or" to "and."
2~~62~~62	40 CFR 144.39(b) (See also 145.11(a)(17))	Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:	§~~61~~3613.C.2	2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
263	40 CFR 144.39(b)(1) (See also 145.11(a)(17))	Cause exists for termination under § 144.40, and the Director determines that modification or revocation and reissuance is appropriate.	§~~61~~3613.C.2.a	a. cause exists for termination under §~~61~~3613.E, and the commissioner determines that modification or revocation and reissuance is appropriate;~~ or~~		Text is similar, with no impact on stringency. August 2020 review: revision has no impact on stringency.
264	40 CFR 144.39(b)(2) (See also 145.11(a)(17))	The Director has received notification (as required in the permit, see § 144.41(d)) of a proposed transfer of the permit. A permit also may be modified to reflect a transfer after the effective date of an automatic transfer (§ 144.38(b)) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.	§~~61~~3613.C.2.b	b. the commissioner has received notification of a proposed transfer of the permit *and the transfer is determined not to be a minor modification (see §~~61~~3613.D.4).* A permit may be modified to reflect a transfer after the effective date (§~~61~~3613.F.2.b) but will not be revoked and reissued after the effective date except upon the request of the new permittee; or~~-~~	In addition to the text at 40 CFR 144.39(b)(2), the following emphasized language has been added at §3613.C.2.b: *and the transfer is determined not to be a minor modification (see §3613.D.4).*	Text adds "determined not to be a minor modification." August 2020 review: revision has no impact on stringency.
265	40 CFR 144.39(b)(3) (See also 145.11(a)(17))	A determination that the waste being injected is a hazardous waste as defined in § 2~~61~~361.3 either because the definition has been revised, or because a previous determination has been changed.	§3613.C.2.c~~N/A~~	c. a determination that the waste being injected is a hazardous waste as defined in §3601 either because the definition has been revised, or because a previous determination has been changed.		Clarification is needed regarding whether the permit would need to be modified if the waste was determined to be hazardous. August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency. EPA August Review: Cannot find this on the LDNR draft Rule (page 18) LA's July Rule text should be edited to include the added crosswalk text under "LA Rule Text" column "c. a determination that…" EPA September Review: The added Rule text addresses EPA's August comment; no further concerns for stringency.

Commented [LS11]: Updated.

Commented [KS12]: Updated

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
266	40 CFR 144.39(c) (See also 145.11(a)(17))	Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.	§~~61~~3613.C.3	3. Facility Siting. Suitability of an existing facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that continued operations at the site pose a threat to the health or safety of persons or the environment which was unknown at the time of permit issuance. A change of injection site or facility location may require modification or revocation and issuance as determined to be appropriate by the commissioner.	In addition to the text at 40 CFR 144.39(c), the following language has been added at §~~61~~3613.C.3: a change of injection site or facility location may require modification or revocation and issuance as determined to be appropriate by the commissioner.	Reviewed; no issues found .
267	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~61~~3613.C.4	4. If a permit modification satisfies the criteria of this Section, a draft permit must be prepared and other applicable procedures must be followed.		Reviewed; no issues found.
40 CFR 144.40 Termination of permits.						
268	40 CFR 144.40(a) (See also 145.11(a)(18))	The Director may terminate a permit during its term~~, or deny a permit renewal application~~ for the following causes:	§~~61~~3613.E.1	1. The commissioner may terminate a permit during its term for the following causes:	The struck-out text of 40 CFR 144.40(a) will not be adopted.	Reviewed; no issues found. Text omits "deny a permit renewal application;" this would not apply to a Class VI permit. August 2020 review: no concerns for stringency.
269	40 CFR 144.40(a)(1) (See also 145.11(a)(18))	Noncompliance by the permittee with any condition of the permit;	§~~61~~3613.E.1.a	a. noncompliance by the permittee with any condition of the permit;		Text is identical.
270	40 CFR 144.40(a)(2) (See also 145.11(a)(18))	The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or	§~~61~~3613.E.1.b	b. the permittee's ~~intentional~~ failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or	~~In addition to the text at 40 CFR 144.40(a)(2), the following emphasized language has been added at §613.E.1.b: the permittee's *intentional* failure.~~	Clarification is needed regarding whether the permit would be terminated if relevant facts were *unintentionally* not disclosed. August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
271	40 CFR 144.40(a)(3) (See also 145.11(a)(18))	A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit ~~modification or~~ termination;	§~~61~~3613.E.1.c	c. a determination that the permitted activity endangers the health or safety of persons or the environment which activity cannot be regulated to acceptable levels by permit modification and can only be regulated to acceptable levels by permit termination.	The struck-out text of 40 CFR 144.40(a)(3) will not be adopted.	Text is limited to termination and specifically excludes modification. August 2020 review: no concerns for stringency. EPA August Review: Omitted text is included in draft rule and while not verbatim it appears to be more stringent since permits will only allow termination in certain cases.
272	40 CFR 144.40(b) (See also 145.11(a)(18))	The Director shall follow the applicable procedures in part 124 in terminating any permit under this section.	§~~61~~3613.E.2 through ~~61~~3613.E.3	2. If the commissioner decides to terminate a permit, he shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under §~~61~~3611.C. 3. The commissioner may alternatively decide to modify or revoke and reissue a permit for the causes in §~~61~~3613.E.1 (see §~~61~~3613.C.2.a).	While the language from §3613.E.2 and 3613.E.3 is not verbatim to 40 CFR 144.40(b), the intent of the federal rule is preserved, that being, the commissioner shall follow the reference applicable procedures for permit termination. This includes issuing a form of draft permit that must follow the procedures referenced in §3611.C.	Text is not equivalent, but appears to reference the applicable procedures. August 2020 review: no concerns for stringency.
40 CFR 144.41 Minor modifications of permits.						
273	40 CFR 144.41	Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in §144.39. Minor modifications may only:	§~~61~~3613.D	D. Minor Modifications of Permits. Upon the consent of the permittee, the commissioner may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section without issuing a draft permit and providing for public comment. Minor modifications may only:		Reviewed; no issues found.
274	40 CFR 144.41(a)	Correct typographical errors;	§~~61~~3613.D.1	1. correct typographical errors;		Text is identical.
275	40 CFR 144.41(b)	Require more frequent monitoring or reporting by the permittee;	§~~61~~3613.D.2	2. require more frequent monitoring or reporting by the permittee;		Text is identical.
276	40 CFR 144.41(c)	Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or	§~~61~~3613.D.3	3. change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;	~~The struck-out text of 40 CFR 144.41(c) will not be adopted.~~	Text drops the 120 day timeframe. August 2020 review: state provision is now identical to CFR (the note in the "difference" column is now incorrect).

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
277	40 CFR 144.41(d)	Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.	§~~61~~3613.D.4	4. allow for a change in ownership or operational control of a facility where the commissioner determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the commissioner (see §~~61~~3613.F);		Text is identical.
278	40 CFR 144.41(e)	Change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the Director, would not interfere with the operation of the facility or its ability to meet conditions described in the permit and would not change its classification.	§~~61~~3613.D.5	5. change quantities or types of fluids injected which are within the capacity of the facility as permitted and, in the judgment of the commissioner, would not interfere with the operation of the facility or its ability to meet conditions prescribed in the permit, and would not change its classification;		Text is identical.
279	40 CFR 144.41(f)	Change construction requirements approved by the Director pursuant to § 144.52(a)(1) (establishing UIC permit conditions), provided that any such alteration shall comply with the requirements of this part and part 146.	§~~61~~3613.D.6	6. change construction requirements or plans approved by the commissioner provided that any such alteration shall comply with the requirements of this Section and §~~61~~3617. No such changes may be physically incorporated into construction of the well prior to approval.	In addition to the text at 40 CFR 144.41(f), the following language has been added at §~~61~~3613.D.6: No such changes may be physically incorporated into construction of the well prior to approval; or.	Reviewed; no issues found.
280	40 CFR 144.41(h)	Amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the Director.	§~~61~~3613.D.7	7. amend a Class VI injection well testing and monitoring plan, plugging plan, post-injection site care and site closure plan, or emergency and remedial response plan where the modifications merely clarify or correct the plan, as determined by the commissioner.		Text is identical.
Subpart E - Permit Conditions						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
281	40 CFR 144.51 (See also 145.11(a)(19))40 CFR 144.51 Conditions applicable to all permits.	~~The following conditions apply to all UIC permits.~~ All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.	§~~60~~3609.A	A. Applicability. The rules and regulations of this Section set forth legal conditions for Class VI well permits. Permits for owners or operators of Class VI injection wells shall include conditions meeting applicable requirements of §§3609, 3615, 3617, 3619, 3621, 3623, 3625, 3627, 3629, and 3631~~§106~~. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit~~—~~	In addition to the text at 40 CFR 144.51, the following language has been added at §3609.A: Applicability. The rules and regulations of this Section set forth legal conditions for Class VI well permits. Permits for owners or operators of Class VI injection wells shall include conditions meeting applicable requirements of §§3609, 3615, 3617, 3619, 3621, 3623, 3625, 3627, 3629, and 3631 The struck-out text of 40 CFR 144.51 will not be adopted.	Text does not address incorporating conditions by reference. Note that instead of §106, the draft rule text lists "§609, §615, §617, §619, §621, §623, §625, §627, §629, and §631." (No impact on stringency.) August 2020 review: last 2 sentences have no concerns for stringency.
282	40 CFR 144.51(a) (See also 145.11(a)(19))	Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application; ~~except that the permittee need not comply with the provisions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit under §144.34.~~	§~~60~~3609.D	D. Duty to Comply. The permittee must comply with all conditions of a permit. Any permit noncompliance constitutes a violation of the act and is grounds for enforcement action or permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application if the commissioner determines that such noncompliance endangers underground sources of drinking water.	The struck-out text of 40 CFR 144.51(a) will not be adopted. Authorization by rule for Class VI wells will be prohibited. Emergency permits will not be granted for Class VI wells.	Reviewed; no issues found.
283	40 CFR 144.51(b) (See also 145.11(a)(19))	Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.	§~~60~~3609.E	E. Duty to Reapply. If the permittee wishes to continue an activity regulated by a permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.		Text is identical.
284	40 CFR 144.51(c) (See also 145.11(a)(19))	Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.	§~~60~~3609.F	F. Duty to Halt or Reduce Activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
285	40 CFR 144.51(d) (See also 145.11(a)(19))	Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.	§~~60~~3609.G	G. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment such as the contamination of underground sources of drinking water resulting from noncompliance with this permit.	In addition to the text at 40 CFR 144.51(d), the following emphasized language has been added at §~~60~~3609.G: on the environment *such as the contamination of underground sources of drinking water* resulting…	Reviewed; no issues found.
286	40 CFR 144.51(e) (See also 145.11(a)(19))	Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.	§~~60~~3609.H	H. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of his permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operation staffing and training, and adequate laboratory process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.		Text is identical.
287	40 CFR 144.51(f) (See also 145.11(a)(19))	Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.	§~~61~~3613.B.1	1. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.		Text is identical.
288	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~60~~3609.J	J. Compliance. Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with the act and these regulations.		Reviewed; no issues found.
289	40 CFR 144.51(g) (See also 145.11(a)(19))	Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.	§~~60~~3609.K	K. Property Rights. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege or servitude.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
290	40 CFR 144.51(h) (See also 145.11(a)(19))	Duty to provide information. The permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.	§~~61~~3613.B.2	2. The permittee shall furnish to the commissioner, within 30 days, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit, or to determine compliance with the permit. The permittee shall also furnish to the commissioner, upon request, copies of records required to be kept by the permit.		Text is similar, with no impact on stringency.

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291	40 CFR 144.51(i) (See also 145.11(a)(19))	Inspection and entry. The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:	§~~60~~3609.I	I. Inspection and Entry. Inspection and entry shall be allowed as prescribed in R.S. of 1950, Title 30, Sections 1104 and 1106.	While the language at §3609.I is not verbatim to 40 CFR 144.51(i), the intent of the federal rule is preserved. Per R.S. of 1950, Title 30, Section 1104, "(A) "The commissioner shall have authority to: (1) Regulate the development and operation of storage facilities and pipelines transmitting carbon dioxide to storage facilities, …" (3) Make such inquiries as he deems proper to determine whether or not waste, over which he has jurisdiction, exists or is imminent. In the exercise of this power the commissioner has the authority to collect data; *to make investigations and inspections; to examine properties, papers* …" ~~The commissioner has jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Chapter and all other laws relating to the conservation of oil or gas."~~ Per R.S. of 1950, Title 30, Section 1106 "(A) The commissioner shall have authority to perform any and all acts necessary to carry out the purposes and requirements of the federal Safe Drinking Water Act, as amended, relating to the state's participation in the underground injection control program established under that act with respect to the storage and sequestration of carbon dioxide." Inspection and entry by the commissioner or an authorized representative is allowed as prescribed by the commissioner's "~~jurisdiction and authority over~~	Text does not include the designation of an authorized representative. August 2020 review: clarification is noted; no concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference	Cadmus/EPA Review
					allauthority to: ~~persons and property necessary to enforce effectively the provisions of this Chapter and all other laws relating to the conservation of oil or gas~~make investigations and inspections; to examine properties, papers, books, and records;…," and under the commissioner's "authority to perform any and all acts necessary to carry out the purposes and requirements of the federal Safe Drinking Water Act, as amended, relating to this state's participation in the underground injection control program established under the act with respect to the storage and sequestration of carbon dioxide."	

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292	40 CFR 144.51(i)(1) (See also 145.11(a)(19))	Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;	R.S. of 1950, Title 30, Section ~~4, A through B~~1104.A.3	(A) The commissioner shall have authority to: (1) Regulate the development and operation of storage facilities and pipelines transmitting carbon dioxide to storage facilities, …" (3) Make such inquiries as he deems proper to determine whether or not waste, over which he has jurisdiction, exists or is imminent. In the exercise of this power the commissioner has the authority to collect data; to make investigations and inspections; to examine properties, papers, books, and records; to examine, survey, check, test, and gauge injection, withdrawal and other wells used in connection with carbon storage; to examine, survey, check, test, and gauge tanks, and modes of transportation; to hold hearings; to provide for the keeping of records and the making of reports; to require the submission of an emergency phone number by which the operator may be contacted in case of an emergency; and to take any action as reasonably appears to him to be necessary to enforce this Chapter. ~~A. The commissioner has jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Chapter and all other laws relating to the conservation of oil or gas.~~ ~~B. The commissioner shall make such inquiries as he thinks proper to determine whether or not waste, over which he has jurisdiction, exists or is imminent. In the exercise of this power the commissioner has the authority to collect data; to make investigations and inspections; to examine properties, leases, papers, books, and records; to examine, survey, check, test, and gauge oil and gas wells, tanks, refineries, and modes of transportation; to hold hearings; to provide for the keeping of records and the making of reports; to require the submission of an emergency phone number by which the operator may be contacted in case of an emergency; and to take any action as reasonably appears to him to be necessary to enforce this Chapter.~~	While the language at R.S. of 1950, Title 30, Section 41104 is not verbatim to 40 CFR 144.51(i)(1), the intent of the federal rule is preserved; that being, the commissioner holds authority to inspect and enter relevant premises to make the inquiries and data collections detailed in 40 CFR 144.519(i)(1) ~~through~~ and 144.519(i)(4.)	Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
293	40 CFR 144.51(i)(2) (See also 145.11(a)(19))	Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;	R.S. of 1950, Title 30, Section 1104. A.3	See above.	See above.	Text does not include copying records. August 2020 review: clarification is noted; no concerns for stringency.
294	40 CFR 144.51(i)(3) (See also 145.11(a)(19))	Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and	R.S. of 1950, Title 30, Section 1104. A.3~~R.S. of 1950, Title 30, Section 4~~	See above.	See above.	Text does not include "monitoring and control equipment." August 2020 review: clarification is noted; no concerns for stringency.
295	40 CFR 144.51(i)(4) (See also 145.11(a)(19))	Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.	R.S. of 1950, Title 30, Section 1104. A.3 ~~R.S. of 1950, Title 30, Section 4~~	See above.	See above.	Likely covered by "collect data" in text. August 2020 review: clarification is noted; no concerns for stringency.
296	40 CFR 144.51(j)(1) (See also 145.11(a)(19))	Monitoring and records. (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.	§~~62~~3625.B and ~~62~~3625.B.1	B. Monitoring and records. 1. samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.		Text is identical.
297	40 CFR 144.51(j)(2) (See also 145.11(a)(19))	The permittee shall retain records of all monitoring information, including the following:	§~~62~~3625.B.2	2. The permittee shall retain records of all monitoring information, including the following:		Text is identical.
298	40 CFR 144.51(j)(2)(i) (See also 145.11(a)(19))	Calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time; and	§~~62~~3625.B.2.a	a. calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the commissioner at any time; and		Text is identical.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
299	40 CFR 144.51(j)(2)(ii) (See also 145.11(a)(19))	The nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under §144.52(a)(6), or under part 146 subpart G as appropriate. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.	§~~62~~3625.B.2.b	b. the nature and composition of all injected fluids until three years after the completion of any plugging and abandonment procedures specified under §~~62~~3629. The commissioner may require the owner or operator to deliver the records to the commissioner at the conclusion of the retention period.		Text is similar, with no impact on stringency.
300	40 CFR 144.51(j)(3) (See also 145.11(a)(19))	Records of monitoring information shall include:	§~~62~~3625.B.3	3. Records of monitoring information shall include:		Text is identical.
301	40 CFR 144.51(j)(3)(i) (See also 145.11(a)(19))	The date, exact place, and time of sampling or measurements;	§~~62~~3625.B.3.a	a. the date, exact place, and time of sampling or measurements;		Text is identical.
302	40 CFR 144.51(j)(3)(ii) (See also 145.11(a)(19))	The individual(s) who performed the sampling or measurements;	§~~62~~3625.B.3.b	b. the individual(s) who performed the sampling or measurements;		Text is identical.
303	40 CFR 144.51(j)(3)(iii) (See also 145.11(a)(19))	The date(s) analyses were performed;	§~~62~~3625.B.3.c	c. the date(s) analyses were performed;		Text is identical.
304	40 CFR 144.51(j)(3)(iv) (See also 145.11(a)(19))	The individual(s) who performed the analyses;	§~~62~~3625.B.3.d	d. the individual(s) who performed the analyses;		Text is identical.
305	40 CFR 144.51(j)(3)(v) (See also 145.11(a)(19))	The analytical techniques or methods used; and	§~~62~~3625.B.3.e	e. the analytical techniques or methods used; and		Text is identical.
306	40 CFR 144.51(j)(3)(vi) (See also 145.11(a)(19))	The results of such analyses.	§~~62~~3625.B.3.f	f. the results of such analyses.		Text is identical.
307	40 CFR 144.51(j)(4) (See also 145.11(a)(19))	Owners or operators of Class VI wells shall retain records as specified in subpart H of part 146, including §§146.84(g), 146.91(f), 146.92(d), 146.93(f), and 146.93(h) of this chapter.	§~~62~~3625.B.4	4. Owners or operators of Class VI wells shall retain records as specified in §§~~61~~3615.C.4, ~~62~~3629.A.6, ~~631~~3631.A.5, ~~633~~3633.A.6, and ~~633~~3633.A.8 of this chapter.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
308	40 CFR 144.51(k) (See also 145.11(a)(19))	Signatory requirement. All applications, reports, or information submitted to the Administrator shall be signed and certified. (See §144.32.)	§~~60~~3609.B --- §~~60~~3603.H.2 and ~~60~~3603.H.3	B. Signatories. All reports required by permits and other information requested by the commissioner shall be signed as in applications by a person described in §~~60~~3605.D. --- 2. All applications, reports, plans, requests, maps, cross-sections, drawings, opinions, recommendations, calculations, evaluations, or other submittals including or comprising geoscientific work as defined by La. R.S. 37:711.1 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Geoscientist (P.G.) authorized to practice by and in good standing with the Louisiana Board of Professional Geoscientists. 3. All applications, reports, plans, requests, specifications, details, calculations, drawings, opinions, recommendations, evaluations or other submittals including or comprising the practice of engineering as defined by La. R.S. 37:.681 et seq. must be prepared, sealed, signed, and dated by a licensed Professional Engineer (P.E.) authorized to practice by and in good standing with the Louisiana Professional Engineering and Land Surveying Board.	While the language at §~~60~~3609.B is not verbatim to 40 CFR 144.51(k), the intent of the federal rule is preserved; that being, all documents and information submitted to the commissioner shall be signed. --- The language at §~~60~~3603.H.2 and ~~60~~3603.H.3 has been added to detail requirements for technical certification by a P.E. or P.G., which is more stringent than federal requirements.	Reviewed; no issues found.
309	40 CFR 144.51(l)(1) (See also 145.11(a)(19))	Reporting requirements. (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.	§~~60~~3609.L.1	1. Planned Changes. The permittee shall give notice to the commissioner as soon as possible of any planned physical alterations or additions to the permitted facility~~.~~ ~~which may constitute a major modification of the permit.~~		Text adds, "which may constitute a major modification of the permit." The state rule should require reporting of any changes, regardless of whether they may require a modification. August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency.
310	40 CFR 144.51(l)(2) (See also 145.11(a)(19))	Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.	§~~60~~3609.L.3	3. Anticipated Noncompliance. The permittee shall give advance notice to the commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.		Text is identical.

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
311	40 CFR 144.51(l)(3) (See also 145.11(a)(19))	Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act. (See §144.38; in some cases, modification or revocation and reissuance is mandatory.)	§~~60~~3609.L.4	4. Transfers. A permit is not transferable to any person except after notice to the commissioner. The commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Safe Drinking Water Act. (See §~~61~~3613.)		Text is similar, with no impact on stringency. EPA August Review: Jay Przyborski (R6, ORC): Clarification needed on why they omit references to the SDWA in this line # and in Line 239. EPA September Review: The added text addresses EPA's August comment; no further concerns for stringency.
312	40 CFR 144.51(l)(4) (See also 145.11(a)(19))	Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.	N/A		The language at 40 CFR 144.51(l)(4) will not be adopted since reporting requirements are detailed in full at §~~62~~3629.	Reviewed; no issues found. See §629/146.91.
313	40 CFR 144.51(l)(5) (See also 145.11(a)(19))	Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 30 days following each schedule date.	§~~60~~3609.L.5	5. Compliance Schedules. Report of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in these regulations shall be submitted to the commissioner no later than 14 days following each schedule date.	§~~60~~3609.L.5 includes more stringent requirements compared to the federal rule, specifically implementing at 14 day period in lieu of the 30 day period in 40 CFR 144.51(l)(5).	Reviewed; no issues found.

Commented [LS13]: Updated.

Commented [KS14]: Updated.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
314	40 CFR 144.51(l)(6) (See also 145.11(a)(19))	Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment, including:	§~~60~~3609.L.6.a through ~~60~~3609.L.6.b	a. The permittee shall report to the commissioner any noncompliance which may endanger health or the environment. Any information pertinent to the noncompliance shall be reported by telephone at (225) 342-5515 within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances and shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance. b. The following additional information must be reported within the 24-hour period provided above:	Parts of the language from 40 CFR 144.51(l)(6)(ii) have been added to the text from 40 CFR 144.51(l)(6) at §~~60~~3609.L.6.a: any information pertinent to the noncompliance shall be reported by telephone at (225) 342-5515 within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances and shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.	Reviewed; no issues found.
315	40 CFR 144.51(l)(6)(i) (See also 145.11(a)(19))	Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW; or	§~~60~~3609.L.6.b.i	i. any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW;		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
316	40 CFR 144.51(l)(6)(ii) (See also 145.11(a)(19))	Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.	§~~60~~3609.L.6.b.ii And ~~60~~3609.L.6.a	ii. any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs. ------- a. The permittee shall report to the commissioner any noncompliance which may endanger health or the environment. Any information pertinent to the noncompliance shall be reported by telephone at (225) 342-5515 within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances and shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance.	Parts of the language from 40 CFR 144.51(l)(6)(ii) has been added to the text from 40 CFR 144.51(l)(6) at §~~60~~3609.L.6.a.	Reviewed; no issues found.
317	40 CFR 144.51(l)(7) (See also 145.11(a)(19))	Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l) (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.	§~~60~~3609.L.8	8. Other Noncompliance. The permittee shall report all instances of noncompliance not reported under §§~~60~~3609.L.5 and ~~60~~3609.L.6, at the time quarterly reports are submitted. The reports shall contain the information listed in §~~60~~3609.L.6.		Text is similar, with no impact on stringency.
318	40 CFR 144.51(l)(8) (See also 145.11(a)(19))	Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.	§~~60~~3609.L.9	9. Other Information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the commissioner, it shall promptly submit such facts or information.		Text is identical.

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
319	40 CFR 144.51(m) (See also 145.11(a)(19))	Requirements prior to commencing injection. Except for all new wells authorized by an area permit under §144.33(c), a new injection well may not commence injection until construction is complete, and	§~~60~~3609.L.2	2. Notice of Well Completion. A new injection well injection well may not commence injection until construction is complete, a notice of completion has been submitted to the commissioner, the commissioner has inspected or otherwise reviewed the injection well and finds it is in compliance with the conditions of the permit, and the commissioner has given approval to begin injection.	Language from 40 CFR 144.51(m)(1) and 40 CFR 144.51(m)(2)(i) has been added to the text from 40 CFR 144.51(m) at §~~60~~3609.L.2.a.	Reviewed; no issues found.
320	40 CFR 144.51(m)(1) (See also 145.11(a)(19))	The permittee has submitted notice of completion of construction to the Director; and	§~~60~~3609.L.2	See above.	See above.	Reviewed; no issues found.
321	40 CFR 144.51(m)(2)(i) (See also 145.11(a)(19))	The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or	§~~60~~3609.L.2	See above.	See above.	Reviewed; no issues found.
322	40 CFR 144.51(m)(2)(ii) (See also 145.11(a)(19))	The permittee has not received notice *from* the Director of his or her intent to inspect or otherwise review the new injection well within 13 days of the date of the notice in paragraph (m)(1) of this section, in which case prior inspection or review is waived and the permittee may commence injection. The Director shall include in his notice a reasonable time period in which he shall inspect the well.	§~~60~~3609.L.2	See above.	The language at 144.51(m)(2)(ii) will not be adopted since §~~60~~3609.L.2.c includes more stringent requirements compared to the federal rule, specifically that inspection or review of the injection well will not be waived and that injection may not commence until the inspection or review has taken place.	Reviewed; no issues found.
323	40 CFR 144.51(n) (See also 145.11(a)(19))	The permittee shall notify the Director at such times as the permit requires before conversion or abandonment of the well or in the case of area permits before closure of the project.	§~~60~~3609.L.7	7. The permittee shall notify the commissioner at such times as the permit requires before conversion or abandonment of the well or before closure of the project.		Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
324	40 CFR 144.51(o) (See also 145.11(a)(19))	~~A Class I, II or III permit shall include and a Class V permit may include conditions which meet the applicable requirements of §146.10 of this chapter to ensure that plugging and abandonment of the well will not allow the movement of fluids into or between USDWs. Where the plan meets the requirements of §146.10 of this chapter, the Director shall incorporate the plan into the permit as a permit condition. Where the Director's review of an application indicates that the permittee's plan is inadequate, the Director may require the applicant to revise the plan, prescribe conditions meeting the requirements of this paragraph, or deny the permit.~~ A Class VI permit shall include conditions which meet the requirements set forth in §146.92 of this chapter. Where the plan meets the requirements of §146.92 of this chapter, the Director shall incorporate it into the permit as a permit condition. For purposes of this paragraph, temporary or intermittent cessation of injection operations is not abandonment.	§~~631~~3631.A.1	1. A Class VI permit shall include conditions that meet the requirements set forth in this subsection and shall be incorporated into the permit as a permit condition. For purposes of this subsection, temporary or intermittent cessation of injection operations is not abandonment.	The struck-out text of 40 CFR 144.51(o) will not be adopted.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
325	40 CFR 144.51(q)(1) (See also 145.11(a)(19))	*Duty to establish and maintain mechanical integrity.* The owner or operator of a Class I, II, III or VI well permitted under this part shall establish mechanical integrity prior to commencing injection or on a schedule determined by the Director. Thereafter the owner or operator of Class I, II, and III wells must maintain mechanical integrity as defined in §146.8 of this chapter and the owner or operator of Class VI wells must maintain mechanical integrity as defined in §146.89 of this chapter.	§~~60~~3609.P	P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, ~~the owner or operator of~~ Class VI injection wells must maintain mechanical integrity as defined in §~~62~~3627. The Class VI injection well owner or operator ~~commissioner~~ shall give ~~written~~ notice to the commissioner ~~Class VI injection well owner or operator~~ when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the commissioner that the owner or operator has demonstrated mechanical integrity pursuant to §3627.	In addition to the text at 40 CFR 144.51(q)(1), the following language from 40 CFR 144.51(q)(2) has been added to §3609.P: the commissioner shall give written notice to the Class VI injection well owner or operator when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the commissioner that the owner or operator has demonstrated mechanical integrity pursuant to §3627. ——— ~~In addition to the text at 40 CFR 144.51(q)(2), the following language has been added at §609.P: upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner.~~	The rule text as written appears to imply that the commissioner, not the operator, would determine the well lacks MI, therefore not providing for discovery of a loss of MI by the operator (i.e., via a MIT) and potentially delaying follow up actions. Clarification is requested. August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency. Note: Cadmus edited the "Rule text" column to reflect the actual rule change.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
326	40 CFR 144.51(q)(2) (See also 145.11(a)(19))	When the Director determines that a Class I, II, III or VI well lacks mechanical integrity pursuant to §§146.8 or 146.89 of this chapter for Class VI of this chapter, he/she shall give written notice of his/her determination to the owner or operator. ~~Unless the Director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the Director's determination. The Director may allow plugging of the well pursuant to the requirements of §146.10 of this chapter or require the permittee to perform such additional construction, operation, monitoring, reporting and corrective action as is necessary to prevent the movement of fluid into or between USDWs caused by the lack of mechanical integrity.~~ The owner or operator may resume injection upon written notification from the Director that the owner or operator has demonstrated mechanical integrity pursuant to §146.8 of this chapter.	§~~60~~3609.P	P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, the owner or operator of Class VI injection wells must maintain mechanical integrity as defined in §~~62~~3627. The Class VI injection well owner or operator shall give notice to the commissioner ~~The commissioner shall give written notice to the Class VI injection well owner or operator~~ when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the commissioner that the owner or operator has demonstrated mechanical integrity pursuant to §3627.	As noted above, the language at §3609.P is taken from text in 40 CFR 144.51(q)(1) and 144.51(q)(1). The struck-out language at 40 CFR 144.51(q)(2) will not be adopted. §~~60~~3609.P includes more stringent requirements the operator shall immediately cease injection into the well upon receipt of written notice from the commissioner. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. While the potential courses of action in the federal language are not explicitly enumerated in §3609.P, the commissioner has authority to require whatever remedial actions are deemed necessary until mechanical integrity is restored to the satisfaction of the commissioner.	See above. Clarification is requested. August 2020 review: see above. Note: Cadmus edited the "Rule text" column to reflect the actual rule change. EPA September Review: LA Rule text ("Thereafter, Class VI injection wells…") does not match crosswalk text ("Thereafter, the owner or operator of"). Small edit needed but otherwise no further concerns for stringency.

Commented [LS15]: Updated in draft rule

Commented [KS16]: Updated.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
327	40 CFR 144.51(q)(3) (See also 145.11(a)(19))	The Director may allow the owner or operator of a well which lacks mechanical integrity pursuant to § 146.8(a)(1) of this chapter to continue or resume injection, if the owner or operator has made a satisfactory demonstration that there is no movement of fluid into or between USDWs.	~~§609.P~~N/A	~~P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, Class VI injection wells must maintain mechanical integrity as defined in §627 The commissioner shall give written notice to the Class VI injection well owner or operator when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner.~~	The language at 40 CFR 144.51(q)(3) will not be adopted. §~~60~~3609.P includes more stringent requirements the well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. See above.	See above. Clarification is requested. August 2020 review: see above.
40 CFR 144.52 Establishing permit conditions.						
328	40 CFR 144.52(a) (See also 145.11(a)(20))	(a) In addition to conditions required in § 144.51, the Director shall establish conditions, as required on a case-by-case basis under § 144.36 (duration of permits), § 144.53(a) (schedules of compliance), § 144.54 (monitoring), ~~and for EPA permits only § 144.53(b) (alternate schedules of compliance), and § 144.4 (considerations under Federal law). Permits for owners or operators of hazardous waste injection wells shall include conditions meeting the requirements of § 144.14 (requirements for wells injecting hazardous waste), paragraphs (a)(7) and (a)(9) of this section, and subpart G of part 146.~~ Permits for owners or operators of Class VI injection wells shall include conditions meeting the requirements of subpart H of part 146. Permits for other wells shall contain the following requirements, when applicable.	§~~60~~3609.A	A. Applicability. The rules and regulations of this Section set forth legal conditions for Class VI well permits. Permits for owners or operators of Class VI injection wells shall include conditions meeting applicable requirements of §~~60~~3609, §~~61~~3615, §~~61~~3617, §~~61~~3619, §~~62~~3621, §~~62~~3623, §~~62~~3625, §~~62~~3627, §~~62~~3629, and §~~631~~3631.	The struck through language at 40 CFR 144.52 will not be adopted.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
329	40 CFR 144.52(a)(1) (See also 145.11(a)(20))	Construction requirements as set forth in part 146. Existing wells shall achieve compliance with such requirements according to a compliance schedule established as a permit condition. The owner or operator of a proposed new injection well shall submit plans for testing, drilling, and construction as part of the permit application. Except as authorized by an area permit, no *construction* may commence until a permit has been issued containing construction requirements (see §144.11). New wells shall be in compliance with these requirements prior to commencing injection operations. Changes in construction plans during construction may be approved by the Administrator as minor modifications (§144.41). No such changes may be physically incorporated into construction of the well prior to approval of the modification by the Director.	§~~60~~3609.A ----- §~~60~~3603.B	See above. -------- B. Prohibition of Unauthorized Injection. Any underground injection, except as authorized by a permit or rule, is prohibited after the effective date of these regulations. Construction or operation of any well required to have a permit under these regulations is prohibited until the permit has been issued.	While the language at 40 CFR 144.52(a)(1) is not adopted verbatim, §~~60~~3609.A stipulates that construction activities required by §~~61~~3617 be incorporated into Class VI permits. Prohibition of construction before issuance of a permit under these regulations is already accounted for under §~~60~~3603.B.	Reviewed; no issues found.
330	40 CFR 144.52(a)(2) (See also 145.11(a)(20))	Corrective action as set forth in §§144.55, 146.7, and 146.84 of this chapter.	§~~60~~3609.A	See above.	While the language at 40 CFR 144.52(a)(2) is not adopted verbatim, §~~60~~3609.A stipulates that corrective actions required by §~~61~~3615.C be incorporated into Class VI permits.	Reviewed; no issues found.
331	40 CFR 144.52(a)(3) (See also 145.11(a)(20))	Operation requirements as set forth in 40 CFR part 146; the permit shall establish any maximum injection volumes and/or pressures necessary to assure that fractures are not initiated in the confining zone, that injected fluids do not migrate into any underground source of drinking water, that formation fluids are not displaced into any underground source of drinking water, and to assure compliance with the part 146 operating requirements.	§~~60~~3609.A	See above.	While the language at 40 CFR 144.52(a)(3) is not adopted verbatim, §~~60~~3609.A stipulates that operation activities required by §~~62~~3621 be incorporated into Class VI permits.	Reviewed; no issues found.
332	40 CFR 144.52(a)(5) (See also 145.11(a)(20))	Monitoring and reporting requirements as set forth in 40 CFR part 146. The permittee shall be required to identify types of tests and methods used to generate the monitoring data.	§~~60~~3609.A	See above.	While the language at 40 CFR 144.52(a)(5) is not adopted verbatim, §~~60~~3609.A stipulates that monitoring and reporting activities required by §~~62~~3625 be incorporated into Class VI permits.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
333	40 CFR 144.52(a)(7)(i) (See also 145.11(a)(20))	Financial responsibility. (i) The permittee, including the transferor of a permit, is required to demonstrate and maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner prescribed by the Director until:	§~~60~~3609.C.5	5. The permit shall require the permittee to maintain financial responsibility as specified at §~~60~~3609.C.1 until:	While the language at 40 CFR 144.52(a)(5) is not adopted verbatim, the description of the scope of financial responsibility is captured at §~~60~~3609.C.1.	Reviewed; no issues found. Note that the draft rule text cites §609.C, rather than C.1. August 2020 review: suggested edit was made to the rule; no concerns for stringency.
334	40 CFR 144.52(a)(7)(i)(A) (See also 145.11(a)(20))	The well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to §§144.51(o), 146.10, and 146.92 of this chapter, and submitted a plugging and abandonment report pursuant to §144.51(p); or	§~~60~~3609.C.5.a	a. the well has been plugged and abandoned in accordance with an approved plugging and abandonment plan pursuant to §~~631~~3631 and submitted a plugging and abandonment report pursuant to §~~631~~3631.A.5;~~ or~~		Text is similar, with no impact on stringency.
335	40 CFR 144.52(a)(7)(i)(B) (See also 145.11(a)(20))	The well has been converted in compliance with the requirements of §144.51(n); or	§~~60~~3609.C.5.b	b. ~~t~~The well has been converted in compliance with the requirements of §~~60~~3609.L.7; or		Text is similar, with no impact on stringency. (Citation added in review.) August 2020 review: No concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
336	40 CFR 144.52(a)(7)(i)(C) (See also 145.11(a)(20))	The transferor of a permit has received notice from the Director that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well.	~~La. R.S. 30:1110.A.1 through 1110.B.6~~§~~60~~3609.C.5.c	c. the transferor of a permit has received notice from the commissioner that the owner or operator receiving transfer of the permit, the new permittee, has demonstrated financial responsibility for the well. ~~A.(1) There is hereby established a fund in the custody of the state treasurer to be known as the Carbon Dioxide Geologic Storage Trust Fund, hereinafter referred to as the "fund", which shall constitute a special custodial trust fund which shall be administered by the commissioner, who shall make disbursements from the fund solely in accordance with the purposes and uses authorized by this Chapter. Et seq.~~ ~~B. The following monies shall be placed into the fund:~~ ~~(1) The fees, penalties, and bond forfeitures collected pursuant to this Chapter. All fees and self-generated revenue remaining on deposit for the office of conservation at the end of any fiscal year shall be deposited into the fund.~~ ~~(2) Private contributions.~~ ~~(3) Interest earned on the funds deposited in the fund.~~ ~~(4) Civil penalties for violation of any rules or permit conditions imposed under this Chapter, or costs recovered from responsible parties for geologic storage facility closure or remediation pursuant to this Section and R.S. 30:1104, 1105, and 1106.~~ ~~(5) Any grants, donations, and sums allocated from any source, public or private, for the purposes of this Chapter.~~ ~~(6) Site-specific trust accounts; however, the monies of such accounts shall not be used for any geologic storage facility other than that specified for each respective account.~~	~~The language at 40 CFR 144.52(a)(7)(i)(C) is not adopted because La. R.S. 30:1110 provides for site-specific trust accounts held in the custody of the state treasurer.~~	EPA input requested: is there evidence that the state's trust fund would be adequately funded to cover all financial responsibility needs of all active Class VI permits? Is this to be addressed in the primacy application? August 2020 review: state provision is similar to CFR. No concerns for stringency. EPA August Review: Crosswalk LA Citation §609.C.5.c instead of LA R.S. 30 1110 A.1 through B.6 Otherwise ok EPA September Review: The Crosswalk text revision addresses August Comment. No further concerns for stringency.

Commented [KS17]: Updated.

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~~R.S. 1109EP A September Review: LA Rule text shows a "6" instead of a "D"; Also since this crosswalk row is related to Class VI closure specifically we suggest moving it from this Section (144.52 Establishing Permit Conditions) to one of the following crosswalk sections~~	40 CFR 144.52(a)(7)(ii) (See also 145.11(a)(20))	The permittee shall show evidence of such financial responsibility to the Director by the submission of a surety bond, or other adequate assurance, such as a financial statement or other materials acceptable to the Director. The owner or operator of a well injecting hazardous waste must comply with the financial responsibility requirements of subpart F of this part. For Class VI wells, the permittee shall show evidence of such financial responsibility to the Director by the submission of a qualifying instrument (see §146.85(a) of this chapter), such as a financial statement or other materials acceptable to the Director. The owner or operator of a Class VI well must comply with the financial responsibility requirements set forth in §146.85 of this chapter.	§~~60~~3609.C.1~~.A~~	1. The permit shall require the permittee to maintain financial responsibility and resources to close, plug, and abandon the underground injection wells and, where necessary, related surface facility, and for post-injection site care and site closure in a manner prescribed by the commissioner. Class VI well operators must also comply with §3609.C.4. The permittee must show evidence of financial responsibility to the commissioner by the submission of:~~See above.~~	While the language at 40 CFR 144.52(a)(7)(ii) is not adopted verbatim, §~~60~~3609.C.1.~~A stipulates~~ describes the permittee's ~~that the~~ obligation to show evidence of financial responsibility to the commissioner by the submission of a qualifying instrument as ~~required by §609.C be incorporated into Class VI permits.~~detailed in the subsequent sections.	See above. EPA August Review: Should the LA Crosswalk cite §609.C instead of A? EPA September Review: Crosswalk revision addresses August Comment. No further concerns for stringency.

Commented [KS19]: Updated.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference	Cadmus/EPA Review
~~: 146.85 (FR). 146.93 (Post injection Site Care and Closure) or some other Class VI related column header. Otherwise, EPA has no further concerns for stringency.~~ 337						

Commented [KS18]: Updated.

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
338	40 CFR 144.52(a)(8) (See also 145.11(a)(20))	*Mechanical integrity*. A permit for any Class I, II, III or VI well or injection project which lacks mechanical integrity shall include, and for any Class V well may include, a condition prohibiting injection operations until the permittee shows to the satisfaction of the Director under §§146.8, or 146.89 for Class VI, that the well has mechanical integrity.	§~~60~~3609.P	P. Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, Class VI injection wells must maintain mechanical integrity as defined in §3627. The ~~commissioner shall give written notice to the~~ Class VI injection well owner or operator shall give notice to the commissioner when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner. The owner or operator may resume injection upon written notification from the ~~Director~~commissioner that the owner or operator has demonstrated mechanical integrity pursuant to §~~62~~3627.~~Mechanical integrity. A permit for any Class VI well may include, a condition prohibiting injection operations until the permittee shows to the satisfaction of the commissioner under §627 that the well has mechanical integrity.~~		Note that the draft rule text at 609.P reads as follows: "Duty to Establish and Maintain Mechanical Integrity. The permittee of a Class VI injection well shall establish mechanical integrity prior to commencing injection and on a schedule determined by these rules or the commissioner. Thereafter, Class VI injection wells must maintain mechanical integrity as defined in §627. The commissioner shall give written notice to the Class VI injection well owner or operator when it is determined the injection well is lacking mechanical integrity. Upon receiving such notice, the operator shall immediately cease injection into the well. The well shall remain out of injection service until such time as well mechanical integrity is restored to the satisfaction of the commissioner." This has a similar intent as the CFR and there is no concern for stringency. August 2020 review: state provision is similar to CFR. No concerns for stringency. Note edits made in "Rule Text" column to match the state rule.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
339	40 CFR 144.52(a)(9) (See also 145.11(a)(20))	*Additional conditions*. The Director shall impose on a case-by-case basis such additional conditions as are necessary to prevent the migration of fluids into underground sources of drinking water.	§~~60~~3609.O	O. Additional Conditions. The commissioner shall impose on a case-by-case basis such additional conditions as are necessary to protect underground sources of drinking water.	While the language at §3609.O is not verbatim to 40 CFR 144.52(a)(9), the intent of the federal rule is preserved; that being, the commissioner shall impose conditions to prevent risk to underground sources of drinking water.	"To prevent the migration of fluids into USDWs" changed to "to protect USDWs." August 2020 review: no concerns for stringency.
340	40 CFR 144.52(b)(1) (See also 145.11(a)(20))	In addition to conditions required in all permits the Director shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and parts 144, 145, 146 and 124.	§~~60~~3609.R	R. In addition to conditions required in all permits the ~~Director~~ commissioner shall establish conditions in permits as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the SDWA and 40 CFR Parts 144, 145, 146 and 124.		Text is similar, with no impact on stringency. EPA August Review: should LA Rule use "commissioner" instead of "Director" at 609.R?. EPA September Review: Rule and crosswalk edits address EPA's August comment.
341	40 CFR 144.52(b)(2) (See also 145.11(a)(20))	For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of the permit. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in §144.39.	§~~60~~3609.S	S. New permits, and to the extent allowed under §~~61~~3613 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section. An applicable requirement is a State statutory or regulatory requirement that takes effect prior to final administrative disposition of the permit. An applicable requirement is also any requirement that takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in §~~61~~3613.		Text is similar, with no impact on stringency.
342	40 CFR 144.52(b)(3) (See also 145.11(a)(20))	New or reissued permits, and to the extent allowed under §144.39 modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in §144.52.	§~~60~~3609.S	See above.		Text is similar, with no impact on stringency.
343	40 CFR 144.52(c) (See also 145.11(a)(20))	Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.	§~~60~~3609.T	T. Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.		Text is identical.
40 CFR 144.53 Schedule of compliance.						

Commented [KS20]: Updated.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
344	40 CFR 144.53(a) (See also 145.11(a)(21))	General. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the SDWA and parts 144, 145, 146, and 124.	§~~60~~3609.N	N. Schedules of Compliance. The permit may, when appropriate, specify a schedule of compliance leading to compliance with the act and these regulations.		Text is similar, with no impact on stringency.
345	40 CFR 144.53(a)(1) (See also 145.11(a)(21))	Time for compliance. Any schedules of compliance shall require compliance as soon as possible, and in no case later than 3 years after the effective date of the permit.	§~~60~~3609.N.1	1. Time for Compliance. Any schedules of compliance under this Section shall require compliance as soon as possible but not later than three years after the effective date of the permit.		Text is similar, with no impact on stringency.
346	40 CFR 144.53(a)(2) (See also 145.11(a)(21))	Interim dates. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.	§~~60~~3609.N.2	2. Interim Dates. Except as provided in §~~60~~3609N.2.b, if a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.		Text is similar, with no impact on stringency.
347	40 CFR 144.53(a)(2)(i) (See also 145.11(a)(21))	The time between interim dates shall not exceed 1 year.	§~~60~~3609.N.2.a	a. The time between interim dates shall not exceed one year.		Text is identical.
348	40 CFR 144.53(a)(2)(ii) (See also 145.11(a)(21))	If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.	§~~60~~3609.N.2.b	b. If the time necessary for completion of any interim requirements (such as the construction of a control facility) is more than one year and is not readily divisible into stages for completion, the permit shall specify interim dates for submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.	In addition to the text at 40 CFR 144.53(a)(2)(ii), the following language has been added at §~~60~~3609.N.2.b: (such as the construction of a control facility).	Reviewed; no issues found.
349	40 CFR 144.53(a)(3) (See also 145.11(a)(21))	Reporting. The permit shall be written to require that if paragraph (a)(1) of this section is applicable, progress reports be submitted no later than 30 days following each interim date and the final date of compliance.	§~~60~~3609.N.3	3. Reporting. The permit shall be written to require that progress reports be submitted no later than 30 days following each interim date and the final date of compliance.		Text is similar, with no impact on stringency. Corrected citation in review.
40 CFR 144.54 Requirements for recording and reporting of monitoring results.						
350	40 CFR 144.54(a) (See also 145.11(a)(22))	All permits shall specify: Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);	§~~60~~3609.A	A. Applicability. The rules and regulations of this Section set forth legal conditions for Class VI well permits. Permits for owners or operators of Class VI injection wells shall include conditions meeting applicable requirements of §~~60~~3609, §~~61~~3615, §~~61~~3617, §~~61~~3619, §~~62~~3621, §~~62~~3623, §~~62~~3625, §~~62~~3627, §~~62~~3629, and §~~631~~3631.	While the language at 40 CFR 144.54(a) is not adopted verbatim, §~~60~~3609.A stipulates that all monitoring and reporting requirements stipulated by §~~62~~3625 and §~~62~~3629 be incorporated into Class VI permits.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
351	40 CFR 144.54(b) (See also 145.11(a)(22))	Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including when appropriate, continuous monitoring;	§~~60~~3609.A	See above.	See above.	Reviewed; no issues found.
352	40 CFR 144.54(c) (See also 145.11(a)(22))	Applicable reporting requirements based upon the impact of the regulated activity and as specified in part 146. Reporting shall be no less frequent than specified in the above regulations.	§~~60~~3609.A	See above.	See above.	Reviewed; no issues found.
PART 146--UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS						
40 CFR 146.3 Definitions						
353	40 CFR 146.3	*Abandoned well* means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.	§~~60~~3601.A	*Abandoned Well*—a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.		Text is identical.
354		*Casing* means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole.	§~~60~~3601.A	*Casing*—a metallic or nonmetallic tubing or pipe of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls form caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas or other fluid from entering or leaving the hole.		Text omits "leaving" the hole. August 2020 review: revised definition is similar to the CFR.
355		*Catastrophic collapse* means the sudden and utter failure of overlying "strata" caused by removal of underlying materials.	N/A	*Catastrophic Collapse*—the sudden and utter failure of overlying *strata* caused by removal of underlying materials.		Note that the draft rule text at 601.A reads "Catastrophic Collapse—the sudden and utter failure of overlying strata caused by removal of underlying materials." Text is similar, with no impact on stringency. August 2020 review: no concerns for stringency.
356		*Cementing* means the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.	§~~60~~3601.A	*Cementing*—the operation whereby a cement slurry is pumped into a drilled hole and/or forced behind the casing.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
357		*Confining bed* means a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.	§3601.A~~N/A~~	*Confining Bed*—a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers.		Note that the draft rule text reads "Confining Bed—a body of impermeable or distinctly less permeable material stratigraphically adjacent to one or more aquifers." Text is similar, with no impact on stringency. August 2020 review: no concerns for stringency.
358		*Confining zone* means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement above an injection zone.	§3601.A~~N/A~~	*Confining Zone*—a geological formation, group of formations, or part of a formation stratigraphically overlying the *injection zone* that acts as a barrier to fluid movement above an *injection zone*.		No state equivalent. Confining zone is defined at §601.A. August 2020 review: no concerns for stringency.
359		*Conventional mine* means an open pit or underground excavation for the production of minerals.	N/A			No state equivalent.
3~~60~~60		*Disposal well* means a well used for the disposal of waste into a subsurface stratum.	§3601.A~~N/A~~	*Disposal Well*—a well used for the disposal of waste into a subsurface stratum.		Note that the draft rule text at 601.A reads Disposal Well—a well used for the disposal of waste into a subsurface stratum." Text is identical to CFR. August 2020 review: no concerns for stringency.
3~~61~~61		*Effective date* of a UIC program means the date that a State UIC program is approved or established by the Administrator.	N/A			N/A. This is not required of state programs.
3~~62~~62		*Experimental technology* means a technology which has not been proven feasible under the conditions in which it is being tested.	§~~60~~3601.A	Experimental Technology—a technology which has not been proven feasible under the conditions in which it is being tested		Text is identical.
363		*Fault* means a surface or zone of rock fracture along which there has been displacement.	§~~60~~3601.A	Fault—a surface or zone of rock fracture along which there has been displacement.		Text is identical.
364		*Flow rate* means the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.	§~~60~~3601.A	Flow Rate—the volume per time unit given to the flow of gases or other fluid substance which emerges from an orifice, pump, turbine or passes along a conduit or channel.		Text omits "gases." August 2020 review: revised definition is similar to the CFR.
365		*Lithology* means the description of rocks on the basis of their physical and chemical characteristics.	§~~60~~3601.A	Lithology—the description of rocks on the basis of their physical and chemical characteristics.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
366		*Owner or operator* means the owner or operator of any facility or activity subject to regulation under the RCRA, UIC, NPDES, or 404 programs.	§~~60~~3601.A	Operator—the person recognized as being responsible to the Office of Conservation for the well, site, facility, or activity subject to regulatory authority under these rules and regulations. The operator can, but need not be, the owner of the well, site, facility, or activity. Owner—the person that owns any well, site, facility, or activity subject to regulation under the UIC program. The owner can, but need not be, the operator of the well, site, facility, or activity.		Text is similar, with no impact on stringency.
367		*Packer* means a device lowered into a well to produce a fluid-tight seal.	§~~60~~3601.A	Packer—a device lowered into a well to produce a fluid tight seal within the casing.	The following language has been added: within the casing.	Text adds "within the casing." August 2020 review: no impact on stringency.
368		*Permit* means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this part and parts 124, 144, and 145. Permit does not include RCRA interim status (§122.23), UIC authorization by rule (§§144.21 to 144.26 and 144.15), or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."	§3601.A	Permit—an authorization, license, or equivalent control document issued by the commissioner to implement the requirements of these regulations. Permit includes, but it is not limited to, area permits and emergency permits. Permit does not include UIC authorization by rule or any permit which has not yet been the subject of final agency action, such as a draft permit.		Text is similar, with no impact on stringency. Note: this row was omitted from the template provided to the state. Note that the state noted elsewhere that emergency permits will not be issued for Class VI wells. August 2020 review: added citation noted.
369		*Plugging* means the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.	§~~60~~3601.A	Plugging—the act or process of stopping the flow of water, oil or gas into or out of a formation through a borehole or well penetrating that formation.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
370		*Plugging record* means a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures.	§~~60~~3601.A	*Plugging Record*— a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration and waste injection wells, and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures. ~~Plugging Record—a systematic listing of permanent or temporary abandonment of water, oil, gas, test, exploration, and waste injection wells.~~		Text omits "and may contain a well log, description of amounts and types of plugging material used, the method employed for plugging, a description of formations which are sealed and a graphic log of the well showing formation location, formation thickness, and location of plugging structures." However, Class VI plugging report requirements are similar to CFR; see 40 CFR 146.92(d)/§631.A.5. August 2020 review: revised definition is similar to the CFR.
371		*Pressure* means the total load or force per unit area acting on a surface.	§~~60~~3601.A	Pressure—the total load or force per unit area acting on a surface.		Text is identical.
372		*Sole or principal source aquifer* means an aquifer which has been designated by the Administrator pursuant to section 1424 (a) or (e) of the SDWA.	§~~60~~3601.A	Sole or Principal Source Aquifer—an aquifer which is the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.		Text is similar, with no impact on stringency.
373		*Subsidence* means the lowering of the natural land surface in response to: Earth movements; lowering of fluid pressure; removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (Hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.	N/A			No state equivalent.
374		*Surface casing* means the first string of well casing to be installed in the well.	§~~60~~3601.A	Surface Casing—the first string of casing to be installed in the well, excluding conductor casing.		Text excludes conductor casing.
375		*Well plug* means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.	§~~60~~3601.A	Well Plug—a fluid-tight seal installed in a borehole or well to prevent movement of fluids.		Text is similar, with no impact on stringency.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
376		*Well stimulation* means several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.	§~~60~~3601.A	Well Stimulation—several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for fluids to move more readily into the formation, and includes, but may not be limited to: a. surging; b. jetting; c. blasting; d. acidizing; or e. hydraulic fracturing.	~~The struck-out text of the federal definition will not be adopted and will be substituted with "fluids." The following language has been also added: but may not be limited to.~~	LA did not indicate which part of the text was struck out. Text appears similar. August 2020 revision: clarification noted. No concerns for stringency.
377		*Well monitoring* means the measurement by on-site instruments or laboratory methods, of the quality of water in a well	§~~60~~3601.A	Well monitoring—the measurement by on-site instruments or laboratory methods, of the quality of water in a well.		Text is identical.
40 CFR 146.4 Criteria for exempted aquifers						
378	40 CFR 146.4	An aquifer or a portion thereof which meets the criteria for an "underground source of drinking water" in §146.3 may be determined under §144.7 of this chapter to be an "exempted aquifer" for Class I–V wells if it meets the criteria in paragraphs (a) through (c) of this section. Class VI wells must meet the criteria under paragraph (d) of this section:	§~~60~~3603.F.2	After notice and opportunity for a public hearing the commissioner may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the commissioner proposes to designate as exempted aquifers if they meet the following criteria	While the language at §3603.F.2 is not verbatim to 40 CFR 146.4, the intent of the federal rule is preserved; that being, introducing the necessary criteria for designation of exempted aquifers.	Text is similar, with no impact on stringency. LA rule text added to table in review. August 2020 review: no concerns for stringency.
379	40 CFR 146.4(a)	It does not currently serve as a source of drinking water; and	§~~60~~3603.F.2.a	a. the aquifer does not currently serve as a source of drinking water; and		Text is similar, with no impact on stringency.
380	40 CFR 146.4(b)	It cannot now and will not in the future serve as a source of drinking water because:	§~~60~~3603.F.2.b	b. the aquifer cannot now and will not in the future serve as a source of drinking water because:		Text is identical.
381	40 CFR 146.4(b)(1)	It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a ~~Class II or~~ III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible.	§~~60~~3603.F.2.b.i	i. it is mineral, hydrocarbon or geothermal energy producing or can be demonstrated by a permit applicant as part of a permit application for a Class III operation to contain minerals or hydrocarbons that considering their quantity and location are expected to be commercially producible;	The struck-out text of 40 CFR 146.4(b)(1) will not be adopted as Louisiana does not permit solution mining wells as Class II operations.	Reviewed; no issues found.
382	40 CFR 146.4(b)(2)	It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;	§~~60~~3603.F.2.b.ii	ii. it is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;		Text is identical.
383	40 CFR 146.4(b)(3)	It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or	§~~60~~3603.F.2.b.iii	iii. it is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or		Text is identical.
384	40 CFR 146.4(b)(4)	It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or	§~~60~~3603.F.2.b.iv	iv. it is located over a Class III well mining area subject to subsidence or catastrophic collapse; or		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
385	40 CFR 146.4(c)	The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.	§~~60~~3603.F.2.c	c. the total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/1 and it is not reasonably expected to supply a public water system.		Text is identical.
386	40 CFR 146.4(d)	The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under §144.7(d) of this chapter if it meets the following criteria:	§~~60~~3603.F.2.d	d. the areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under §~~103~~3603.F.4 if it meets the following criteria:		Text is similar, with no impact on stringency. Should the reference to §103.F.4. refer to §603? August 2020 review: citation revised; no concerns for stringency.
387	40 CFR 146.4(d)(1)	It does not currently serve as a source of drinking water; and	§~~60~~3603.F.2.d.i	i. it does not currently serve as a source of drinking water; and		Text is identical.
388	40 CFR 146.4(d)(2)	The total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and	§~~60~~3603.F.2.d.ii	ii. the total dissolved solids content of the ground water is more than 3,000 mg/l and less than 10,000 mg/l; and		Text is identical.
389	40 CFR 146.4(d)(3)	It is not reasonably expected to supply a public water system.	§~~60~~3603.F.2.d.iii	iii. it is not reasonably expected to supply a public water system.		Text is identical.
Subpart H - Criteria and Standards Applicable to Class VI Wells						
40 CFR 146.81 Applicability.						
390	40 CFR 146.81(a)	This subpart establishes criteria and standards for underground injection control programs to regulate any Class VI carbon dioxide geologic sequestration injection wells.	§~~60~~3603.A through ~~60~~3603.A.1	A. Applicability. These rules and regulations apply to all owners and operators of proposed and existing Class VI injection wells and projects in the state of Louisiana. 1. The commissioner shall administer the provisions of Act 517 and these regulations promulgated thereunder for geologic sequestration of carbon dioxide.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
391	40 CFR 146.81(b)	This subpart applies to any wells used to inject carbon dioxide specifically for the purpose of geologic sequestration, i.e., the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations.	§~~60~~3603.A.2	2. The provisions of this Chapter only apply to geologic sequestration of carbon dioxide in underground reservoirs as defined in §~~60~~36001 above. The geologic sequestration of carbon dioxide is not permitted in solution-mined salt caverns under these provisions.	While the language at §3603.A.2 is not verbatim to 40 CFR 146.81(b), the intent of the federal rule is preserved; that being, the introduction of provisions pertaining to injection of carbon dioxide for the purposes of long term containment. The language at §3603.A.2 does not specify the phase of the carbon dioxide stream, however, all phases are referenced in the definition in §3601. The following language has been added at §3603.A.2: the geologic sequestration of carbon dioxide is not permitted in solution-mined salt caverns under these provisions.	Text does not specify the phase of the carbon dioxide stream (although all phases are referenced in definition in §601). Adds stipulation about salt caverns. August 2020 review: clarification is noted; no concerns for stringency.
392	40 CFR 146.81(c)	This subpart also applies to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the Director that the wells were engineered and constructed to meet the requirements at 40 CFR 146.86(a) and ensure protection of USDWs, in lieu of requirements at 40 CFR 146.86(b) and 146.87(a). By December 10, 2011, owners or operators of either Class I wells previously permitted for the purpose of geologic sequestration or Class V experimental technology wells no longer being used for experimental purposes that will continue injection of carbon dioxide for the purpose of GS must apply for a Class VI permit. A converted well must still meet all other requirements under part 146.	§~~60~~3603.A.3	3. This provisions of this Chapter also apply to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the ~~Director~~ commissioner that the wells were engineered and constructed to meet the requirements at §~~61~~36117.A.1 and ensure protection of USDWs, in lieu of requirements at §§~~61~~36117.A.2 and §~~61~~36117.B.1 By December 10, 2011, owners or operators of either Class I wells previously permitted for the purpose of geologic sequestration or Class V experimental technology wells no longer being used for experimental purposes that will continue injection of carbon dioxide for the purpose of GS must apply for a Class VI permit. A converted well must still meet all other requirements under this Chapter.		Text is similar, with no impact on stringency. EPA August Review: Should Reg text at 603.A.3 say Commissioner instead of Director? EPA September Review: Edit addresses EPA's August Comment. No further concerns.

Commented [KS21]: Updated.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
393	40 CFR 146.81(d)	*Definitions*. The following definitions apply to this subpart. To the extent that these definitions conflict with those in 40 CFR 144.3 or 146.3, these definitions govern for Class VI wells:	§~~60~~3601.A	A. The following definitions apply to all regulations in this Chapter. Terms not defined in this Section for Class VI wells have the meaning given by R.S. (1950) Title 30, Section 1103.	While the language at §3601.A is not verbatim to 40 CFR 146.81(d), the intent of the federal rule is preserved; that being, the introduction of definitions. The language regarding potential conflicting definitions will not be adopted since §3601.A is the only section of definitions in the state rule and pertain to Class VI wells.	Text does not cover conflicting definitions. August 2020 review: clarification is noted; no concerns for stringency.
394		Area of review means the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and displaced fluids, and is based on available site characterization, monitoring, and operational data as set forth in § 146.84.	§~~60~~3601.A	Area of Review—the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity, and is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and displaced fluids, and is based on available site characterization, monitoring, and operational data as set forth in §§~~61~~3615.B. and ~~§61~~3615.C.		Text is similar, with no impact on stringency.
395		Carbon dioxide plume means the extent underground, in three dimensions, of an injected carbon dioxide stream.	§~~60~~3601.A	Carbon Dioxide Plume—the extent underground, in three dimensions, of an injected carbon dioxide stream.		Text is identical.
396		Carbon dioxide stream means carbon dioxide that has been captured from an emission source (e.g., a power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This subpart does not apply to any carbon dioxide stream that meets the definition of a hazardous waste under 40 CFR part 2~~61~~361.	§~~60~~3601.A	Carbon Dioxide Stream—the carbon dioxide that has been captured from an emission source (e.g., a power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This meaning does not apply to any carbon dioxide stream meeting the definition of a hazardous waste under Title 40, Code of Federal Regulations, Part 2~~61~~361.		Text is similar, with no impact on stringency.
397		Confining zone means a geologic formation, group of formations, or part of a formation stratigraphically overlying the injection zone(s) that acts as barrier to fluid movement. ~~For Class VI wells operating under an injection depth waiver, confining zone means a geologic formation, group of formations, or part of a formation stratigraphically overlying and underlying the injection zone(s).~~	§~~60~~3601.A	Confining Zone—a geological formation, group of formations, or part of a formation stratigraphically overlying the injection zone that acts as a barrier to fluid movement above an injection zone.	The struck-out text of the federal definition will not be adopted. Waivers of the injection depth requirements for Class VI wells will not be granted.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
398		Corrective action means the use of Director-approved methods to ensure that wells within the area of review do not serve as conduits for the movement of fluids into underground sources of drinking water (USDW).	§~~60~~3601.A	Corrective Action—the use of UIC program-approved methods to ensure that wells within the area of review do not serve as conduits for the movement of fluids into USDWs.		Text is similar, with no impact on stringency.
399		Geologic sequestration means the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.	§~~60~~3601.A	Geologic Sequestration—the long-term containment of a gaseous, liquid, or supercritical carbon dioxide stream in subsurface geologic formations. This term does not apply to carbon dioxide capture or transport.		Text is identical.
400		Geologic sequestration project means an injection well or wells used to emplace a carbon dioxide stream beneath the lowermost formation containing a USDW; or, wells used for geologic sequestration of carbon dioxide that have been granted a waiver of the injection depth requirements pursuant to requirements at § 146.95; or, wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to §§ 146.4 and 144.7(d) of this chapter. It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated area of elevated pressure, and displaced fluids, as well as the surface area above that delineated region.	§~~60~~3601.A	Geologic Sequestration Project—an injection well or wells used to emplace a carbon dioxide stream beneath the lowermost formation containing a USDW; or wells used for geologic sequestration of carbon dioxide that have received an expansion to the areal extent of an existing Class II enhanced oil recovery or enhanced gas recovery aquifer exemption pursuant to §~~60~~3603.F of this chapter. It includes the subsurface three-dimensional extent of the carbon dioxide plume, associated area of elevated pressure, and displaced fluids, as well as the surface area above that delineated region.		Text is similar, with no impact on stringency.
401		Injection zone means a geologic formation, group of formations, or part of a formation that is of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a geologic sequestration project.	§~~60~~3601.A	Injection Zone—a geological formation, group of formations or part of a formation receiving fluids through a well. For Class VI projects, it must also be of sufficient areal extent, thickness, porosity, and permeability to receive carbon dioxide through a well or wells associated with a geologic sequestration project.		Text is similar, with no impact on stringency.
402		Post-injection site care means appropriate monitoring and other actions (including corrective action) needed following cessation of injection to ensure that USDWs are not endangered, as required under § 146.93.	§~~60~~3601.A	Post-Injection Site Care—the appropriate monitoring and other actions (including corrective action) needed following cessation of geologic sequestration injection to ensure that USDWs are not endangered, as required under §~~633~~3633.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
403		Pressure front means the zone of elevated pressure that is created by the injection of carbon dioxide into the subsurface. For the purposes of this subpart, the pressure front of a carbon dioxide plume refers to a zone where there is a pressure differential sufficient to cause the movement of injected fluids or formation fluids into a USDW.	§~~60~~3601.A	Pressure Front—the zone of elevated pressure in the subsurface created by injection where there is a pressure differential sufficient to cause the movement of injected fluids or formation fluids into a USDW.		Text is similar, with no impact on stringency.
404		Site closure means the point/time, as determined by the Director following the requirements under § 146.93, at which the owner or operator of a geologic sequestration site is released from post-injection site care responsibilities.	§~~60~~3601.A	Site Closure—the point or time, as determined by the UIC program following the requirements under §~~633~~3633, at which the owner or operator of a geologic sequestration site is released from post-injection site care responsibilities.		Text is similar, with no impact on stringency.
405		Transmissive fault or fracture means a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.	§~~60~~3601.A	Transmissive Fault or Fracture—a fault or fracture that has sufficient permeability and vertical extent to allow fluids to move between formations.		Text is identical.
40 CFR 146.82 Required Class VI permit information.						
406	40 CFR 146.82	This section sets forth the information which must be considered by the Director in authorizing Class VI wells. For converted Class I, Class II, or Class V experimental wells, certain maps, cross-sections, tabulations of wells within the area of review and other data may be included in the application by reference provided they are current, readily available to the Director, and sufficiently identified to be retrieved.	§~~60~~3607.A	A. The following minimum information required in §~~60~~3607 shall be submitted with a permit application to construct a new Class VI well or convert any existing well for Class VI service. The applicant shall also refer to the appropriate application form for any additional information that may be required. For information already on file with the office of conservation, the commissioner may accept the required information by reference provided they are current, readily available to the commissioner, and sufficiently identified to be retrieved..		Text is similar, with no impact on stringency. Suggest clarifying that referenced information be current, readily available to the Director, and sufficiently identified to be retrieved. August 2020 review: revision addresses the above comment. No concerns for stringency.
407	40 CFR 146.82(a)	Prior to the issuance of a permit for the construction of a new Class VI well or the conversion of an existing Class I, Class II, or Class V well to a Class VI well, the owner or operator shall submit, pursuant to 40 CFR 146.91(e), and the Director shall consider the following:	§~~60~~3607.A	See above.		Text is similar, with no impact on stringency.

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408	40 CFR 146.82(a)(1)	Information required in 40 CFR 144.31 (e)(1) through (6);	§~~60~~3607.B through ~~60~~3607.B.12	B. Administrative information: 1. all required state application form(s); 2. the nonrefundable application fee(s) as per LAC 43:XIX.Chapter 7 or successor document; 3. the name and mailing address of the applicant and the physical address of the sequestration well facility; 4. the operator's name, address, telephone number, and e-mail address; 5. ownership status as federal, state, private, public, or other entity; 6. a brief description of the nature of the business associated with the activity; 7. the activity or activities conducted by the applicant which require the applicant to obtain a permit under these regulations; 8. up to four SIC Codes which best reflect the principal products or services provided by the facility; 9. a listing of all permits or construction approvals that the applicant has received or applied for under any of the following programs and which specifically affect the legal or technical ability of the applicant to undertake the activity or activities to be conducted by the applicant under the permit being sought: a. the Louisiana Hazardous Waste Management; b. this or any other Underground Injection Control Program; c. NPDES Program under the Clean Water Act; d. Prevention of Significant Deterioration (PSD) Program under the Clean Air Act; e. Nonattainment Program under the Clean Air Act; f. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act; g. Ocean Dumping Permit under the Marine Protection Research and Sanctuaries Act; h. dredge or fill permits under Section 404 of the Clean Water Act; and i. other relevant environmental permits including, but not limited to any state permits issued		Reviewed; no issues found. See also 144.31(e)/§607.B.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
				under the Louisiana Coastal Resources Program, the Louisiana Surface Mining Program or the Louisiana Natural and Scenic Streams System; 10. acknowledgment as to whether the facility is located on Indian lands or other lands under the jurisdiction or protection of the federal government, or whether the facility is located on state water bottoms or other lands owned by or under the jurisdiction or protection of the state of Louisiana; 11. documentation of financial responsibility or documentation of the method by which proof of financial responsibility will be provided as required in §~~60~~3609.C. Before making a final permit decision, final (official) documentation of financial responsibility must be submitted to and approved by the Office of Conservation; 12. names and addresses of all property owners within the area of review of the Class VI well or project.		

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409	40 CFR 146.82(a)(2)	A map showing the injection well for which a permit is sought and the applicable area of review consistent with 40 CFR 146.84. Within the area of review, the map must show the number or name, and location of all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or EPA-approved subsurface cleanup sites, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells, other pertinent surface features including structures intended for human occupancy, State, Tribal, and Territory boundaries, and roads. ~~The map should also show faults, if known or suspected.~~ Only information of public record is required to be included on this map;	§~~60~~3607.C.1.a.i through ~~60~~3607.C.1.v	1. Maps and Related Information a. map(s) showing property boundaries of the facility, the location of the proposed Class VI well, and the applicable area of review consistent with §§~~61~~3615.B and ~~61~~3615.C . USGS topographic maps with a scale of 1:24,000 may be used. The map boundaries must extend at least two miles beyond the area of review and include as applicable: i. the section, township and range of the area where the activity is located and any parish, city, municipality, state, and tribal boundaries. ii. within the area of review, the map(s) must identify all injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, State- or USEPA-approved subsurface cleanup sites, surface bodies of water, springs, surface and subsurface mines, quarries, water wells, other pertinent surface features including structures intended for human occupancy, and roads. iii. only information of public record is required to be included on the map(s), however, the applicant is required to make a diligent search to locate all wells not listed in the public record. iv. for water wells on the facility property and adjacent property, submit a tabulation of well depth, water level, owner, chemical analysis, and other pertinent data. If these wells do not exist, submit this information for a minimum of three other wells in the area of review or a statement why this information was not included. v. the protocol followed to identify, locate, and ascertain the condition of all wells within the area of review that penetrate the injection or confining zone.	While the language at §~~60~~3607.C.1.a.i through ~~60~~3607.C.1.v is not verbatim to 40 CFR 146.82(a)(2), the intent of the federal rule is preserved; that being, maps of the well and the applicable area of review should include all pertinent information legal boundaries, wells, boreholes, cleanup sites, bodies of water, quarries, surface and subsurface mines, and other pertinent surface features including structures intended for human occupancy, and roads. The struck out text will not be adopted in this section because faults will be accounted for in §~~60~~3607.C.1.b.iii as a component of the information on the geologic structure and hydrogeologic properties of the proposed storage site required by §~~60~~3607.C.1.b. In addition to the text at 40 CFR 146.82(a)(2), the following language has been added at §~~60~~3607.C.1.iv through ~~60~~3607.C.1.v: for water wells on the facility property and adjacent property, submit a tabulation of well depth, water level, owner, chemical analysis, and other pertinent data. If these wells do not exist, submit this information for a minimum of three other wells in the area of review or a statement why this information was not included; the protocol followed to identify, locate, and ascertain the condition of all wells within the area of review that	Reviewed; no issues found.

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text		
					penetrate the injection or confining zone.	
410	40 CFR 146.82(a)(3)	Information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, including:	§~~60~~3607.C.1.b	b. information on the geologic structure and hydrogeologic properties of the proposed sequestration site and overlying formations, to include:		Text is similar, with no impact on stringency.
411	40 CFR 146.82(a)(3)(i)	Maps and cross sections of the area of review;	N/A		The text at 40 CFR 146.82(a)(3)(i) will not be adopted in this section because maps and cross sections of the area of review will be accounted for in §~~60~~3607.C.1.b.i through ~~60~~3607.C.1.b.ii as the geologic and topographic maps and cross-sections required by 40 CFR 146.82(a)(3)(vi). These maps will provide equivalent information to the requirements of 40 CFR 146.82(a)(3)(i).	No state equivalent. The referenced maps should provide equivalent information. August 2020 review: clarification is noted; no concerns for stringency.
412	40 CFR 146.82(a)(3)(ii)	The location, orientation, and properties of known or suspected faults and fractures that may transect the confining zone(s) in the area of review and a determination that they would not interfere with containment;	§~~60~~3607.C.1.b.iii	iii. the location, orientation, and properties of known or suspected faults and fractures that may transect the confining zone(s) in the area of review and a determination that they would not interfere with containment;		Text is identical.
413	40 CFR 146.82(a)(3)(iii)	Data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;	§~~60~~3607.C.2.a	a. data on the depth, areal extent, thickness, mineralogy, porosity, permeability, and capillary pressure of the injection and confining zone(s); including geology/facies changes based on field data which may include geologic cores, outcrop data, seismic surveys, well logs, and names and lithologic descriptions;		Text is identical.
414	40 CFR 146.82(a)(3)(iv)	Geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);	§~~60~~3607.C.2.b	b. geomechanical information on fractures, stress, ductility, rock strength, and in situ fluid pressures within the confining zone(s);		Text is identical.
415	40 CFR 146.82(a)(3)(v)	Information on the seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and	§~~60~~3607.C.2.c	c. information on the region's seismic history including the presence and depth of seismic sources and a determination that the seismicity would not interfere with containment; and		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
416	40 CFR 146.82(a)(3)(vi)	Geologic and topographic maps and cross sections illustrating regional geology, hydrogeology, and the geologic structure of the local area.	§~~60~~3607.C.1.b.i through ~~60~~3607.C.1.b.ii	i. geologic and topographic maps and cross-sections illustrating regional geology, geologic structure, and hydrology. ii. maps and cross-sections to a scale needed to detail the local geology, geologic structure, and hydrology. The maps and cross-sections must extend at least two miles beyond the area of review	§~~60~~3607.C.1.b.ii includes more stringent requirements that maps and cross-sections must be drawn to a scale needed to detail the local geology and hydrology and that the maps and cross-sections must extend two miles beyond the area of review.	State rule does not require maps show geologic structure; this may be acceptable with the requirement at §607.C.1.b. August 2020 review: revision addresses the above comment. No concerns for stringency.
417	40 CFR 146.82(a)(4)	A tabulation of all wells within the area of review which penetrate ~~the injection or confining zone(s).~~ Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require;	§~~60~~3607.C.2.d	d. a tabulation of all wells within the area of review that penetrate *the base of the USDW*. Such data must include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any other information the commissioner may require;	The struck-out text of 40 CFR 146.82(a)(4) will not be adopted. The following emphasized language has been added instead: the base of the USDW.	Text changes "injection or confining zones" to "base of the USDW." No impact on stringency. August 2020 review: no concerns for stringency.
418	40 CFR 146.82(a)(5)	Maps and stratigraphic cross sections indicating the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their positions relative to the injection zone(s), and the direction of water movement, where known;	§~~60~~3607.C.1.b.iv	iv. maps and stratigraphic cross-sections showing the general vertical and lateral limits of all USDWs, water wells and springs within the area of review, their position relative to the injection zone(s) and the direction of water movement, if known.		Text is similar, with no impact on stringency.
419	40 CFR 146.82(a)(6)	Baseline geochemical data on subsurface formations, including all USDWs in the area of review;	§~~60~~3607.C.2.e	e. baseline geochemical data on subsurface formations, including injection zones, confining zones and all USDWs in the area of review;		Text is similar, with no impact on stringency.
420	40 CFR 146.82(a)(7)	Proposed operating data for the proposed geologic sequestration site:	§~~60~~3607.C.2.f	f. proposed operating data		Text is similar, with no impact on stringency.
421	40 CFR 146.82(a)(7)(i)	Average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;	§~~60~~3607.C.2.f.i	i. average and maximum daily rate and volume and/or mass and total anticipated volume and/or mass of the carbon dioxide stream;		Text is identical.
422	40 CFR 146.82(a)(7)(ii)	Average and maximum injection pressure;	§~~60~~3607.C.2.f.ii	ii. average and maximum injection pressure;		Text is identical.
423	40 CFR 146.82(a)(7)(iii)	The source(s) of the carbon dioxide stream; and	§~~60~~3607.C.2.f.iii	iii. source(s) of the carbon dioxide stream; and		Text is identical.
424	40 CFR 146.82(a)(7)(iv)	An analysis of the chemical and physical characteristics of the carbon dioxide stream.	§~~60~~3607.C.2.f.iv	iv. analysis of the chemical and physical characteristics of the carbon dioxide stream.		Text is identical.
425	40 CFR 146.82(a)(8)	Proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone(s) and confining zone(s) and that meets the requirements at 40 CFR 146.87;	§~~60~~3607.C.2.g	g. proposed pre-operational formation testing program to obtain an analysis of the chemical and physical characteristics of the injection zone(s) and confining zone(s) and that meets the requirements at §~~61~~3617.B;		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
426	40 CFR 146.82(a)(9)	Proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;	§~~60~~3607.C.2.h	h. proposed stimulation program, a description of stimulation fluids to be used and a determination that stimulation will not interfere with containment;		Text is identical.
427	40 CFR 146.82(a)(10)	Proposed procedure to outline steps necessary to conduct injection operation;	§~~60~~3607.C.2.i	i. proposed injection operation procedures;		Text is similar, with no impact on stringency.
428	40 CFR 146.82(a)(11)	Schematics or other appropriate drawings of the surface and subsurface construction details of the well;	§~~60~~3607.C.2.j	j. schematics or other appropriate drawings of the surface (wellhead and related appurtenances) and subsurface construction details of the well;		Text is similar, with no impact on stringency.
429	40 CFR 146.82(a)(12)	Injection well construction procedures that meet the requirements of 40 CFR 146.86;	§~~60~~3607.C.2.k	k. injection well construction procedures that meet the requirements of §~~61~~3617.A;		Text is similar, with no impact on stringency.
430	40 CFR 146.82(a)(13)	Proposed area of review and corrective action plan that meets the requirements under 40 CFR 146.84;	§~~60~~3607.C.2.l	l. proposed area of review and corrective action plan that meets the requirements under §§~~61~~3615.B and ~~§61~~3615.C;		Text is similar, with no impact on stringency.
431	40 CFR 146.82(a)(14)	A demonstration, satisfactory to the Director, that the applicant has met the financial responsibility requirements under 40 CFR 146.85;	§~~60~~3607.C.2.m	m. ~~the applicant's satisfactory demonstration of the financial responsibility requirements under~~a demonstration, satisfactory to the commissioner, that the applicant has met the financial responsibility requirements under §~~60~~3609.C.~~;~~		Text omits "to the Director." See also 146.85/§609.C. August 2020 review: revised state provision is now similar to CFR. No concerns for stringency.
432	40 CFR 146.82(a)(15)	Proposed testing and monitoring plan required by 40 CFR 146.90;	§~~60~~3607.C.2.n	n. proposed testing and monitoring plan required by §~~62~~3625;		Text is similar, with no impact on stringency.
433	40 CFR 146.82(a)(16)	Proposed injection well plugging plan required by 40 CFR 146.92(b);	§~~60~~3607.C.2.o	o. proposed injection well plugging plan required by §~~631~~3631;		Text is similar, with no impact on stringency.
434	40 CFR 146.82(a)(17)	Proposed post-injection site care and site closure plan required by 40 CFR 146.93(a);	§~~60~~3607.C.2.p	p. proposed post-injection site care and site closure plan required by §~~633~~3633.A.3;		Text is similar, with no impact on stringency.
435	40 CFR 146.82(a)(18)	At the Director's discretion, a demonstration of an alternative post-injection site care timeframe required by 40 CFR 146.93(c);	§~~60~~3607.C.2.q	q. at the commissioner's discretion, a demonstration of an alternative post-injection site care timeframe required by §~~633~~3633.A.3;		Text is similar, with no impact on stringency.
436	40 CFR 146.82(a)(19)	Proposed emergency and remedial response plan required by 40 CFR 146.94(a);	§~~60~~3607.C.2.r	r. proposed emergency and remedial response plan required (contingency plans for well failures or breaches) by §~~62~~3623;		Text is similar, with no impact on stringency. (Note that the Class VI E&RR plan addresses more than well failures or breaches; see 146.95.)
437	40 CFR 146.82(a)(20)	A list of contacts, submitted to the Director, for those States, Tribes, and Territories identified to be within the area of review of the Class VI project based on information provided in paragraph (a)(2) of this section; and	§~~60~~3607.C.2.s	s. a list of contacts, submitted to the commissioner for those states and tribes identified to be within the area of review based on information provided in §~~60~~3607.C.1.a.i; and		Text is similar, with no impact on stringency.
438	40 CFR 146.82(a)(21)	Any other information requested by the Director.	§~~60~~3607.C.2.t	t. any additional information required by the commissioner to evaluate the proposed project.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
439	40 CFR 146.82(b)	The Director shall notify, in writing, any States, Tribes, ~~or Territories~~ within the area of review of the Class VI project based on information provided in paragraphs (a)(2) and (a)(20) of this section of the permit application and pursuant to the requirements at 40 CFR 145.23(f)(13).	§~~60~~3607.C.3	3. The commissioner shall notify in writing, any states or tribes within the area of review based on information provided by the applicant in §§~~60~~3607.C.1.a.i and §~~60~~3607.C.2.s.	The struck out text of 40 CFR 146.82(b) will not be adopted since there are no Territories located in or adjacent to Louisiana.	Reviewed; no issues found. August 2020 review: no concerns for stringency.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text	Difference	Cadmus/EPA Review
~~440~~	~~No Equivalent Federal Requirement~~	~~No Equivalent Federal Requirement~~	~~§3607.C.4~~	~~4. The commissioner may grant a variance to application requirements upon proof that the exception does not present a danger to the USDW or to the health and safety of the public or the environment. Any requested variance or alternatives to required standards shall be included in the fact sheet in accordance with §3609.D.2.d~~	~~While the federal rule does not explicitly account for granting variances, reference to the consideration of variances is made at 40 CFR 124.8(b)(5).~~	August 2020 review: EPA legal review requested regarding whether any such variances may render the state's permit application requirements less stringent than the CFR. Note: a period is missing at the end of this sentence in the rule. EPA August Review: (HQ & Jay Przyborski): Needs clarification could be perceived as less stringent. While the federal rules contemplate a fact sheet that may include justification of "variances or alternatives to required standards[,]" the federal rules do not contemplate exceptions to application requirements. This would render the LA rules less stringent. We may need to discuss further, as LA's current UIC rules contain a very broad provision for variances and exceptions: "Except where noted in specific provisions of these rules and regulations, the Office of Conservation may allow, on a case-by-case basis, exceptions or variances to these rules and regulations." (§3103.F) The state provisions allowing such broad variances and exceptions may only pertain to rules issued under section 1425 of the SDWA. EPA September Review: Removal addresses EPA's August Comment. No further concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
441	40 CFR 146.82(c)	Prior to granting approval for the operation of a Class VI well, the Director shall consider the following information:	§~~61~~3619.A	A. Pre-Operating Requirements. The owner or operator of the well shall submit the following information to the commissioner. The commissioner shall consider the information before granting final approval for the operation of a Class VI well:		Text is similar, with no impact on stringency.
442	40 CFR 146.82(c)(1)	The final area of review based on modeling, using data obtained during logging and testing of the well and the formation as required by paragraphs (c)(2), (3), (4), (6), (7), and (10) of this section;	§~~61~~3619.A.1	1. the final area of review based on modeling, using data obtained during logging and testing of the well and subsurface formations as required by §~~61~~3619.A.2~~.~~, 3~~.~~, 4~~.~~, 6~~.~~, 7~~.~~, and 10;		Text is similar, with no impact on stringency.
443	40 CFR 146.82(c)(2)	Any relevant updates, based on data obtained during logging and testing of the well and the formation as required by paragraphs (c)(3), (4), (6), (7), and (10) of this section, to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of paragraph (a)(3) of this section;	§~~61~~3619.A.2	2. any relevant updates—based on data obtained during logging and testing of the well and subsurface formations as required by §~~61~~3619.A.3~~.~~, 4~~.~~, 6~~.~~, 7~~.~~, and 10—to the information on the geologic structure and hydrogeologic properties of the proposed storage site and overlying formations, submitted to satisfy the requirements of §~~60~~3607.C.1.b;		Text is similar, with no impact on stringency.
444	40 CFR 146.82(c)(3)	Information on the compatibility of the carbon dioxide stream with fluids in the injection zone(s) and minerals in both the injection and the confining zone(s), based on the results of the formation testing program, and with the materials used to construct the well;	§~~61~~3619.A.3 through ~~61~~3619.A.3.c	3. information on the compatibility of the carbon dioxide stream: a. with fluids in the injection zone(s); b. with minerals in both the injection and the confining zone(s), based on the results of the formation testing program; and c. with the materials used to construct the well;		Text is similar, with no impact on stringency.
445	40 CFR 146.82(c)(4)	The results of the formation testing program required at paragraph (a)(8) of this section;	§~~61~~3619.A.4	4. the results of the formation testing program required at §~~60~~3607.C.2.g;		Text is similar, with no impact on stringency.
446	40 CFR 146.82(c)(5)	Final injection well construction procedures that meet the requirements of 40 CFR 146.86;	§~~61~~3619.A.5	5. final injection well construction procedures that meet the requirements of §~~61~~3617.A;		Text is similar, with no impact on stringency.
447	40 CFR 146.82(c)(6)	The status of corrective action on wells in the area of review;	§~~61~~3619.A.6	6. the status of corrective action on wells in the area of review;		Text is identical.
448	40 CFR 146.82(c)(7)	All available logging and testing program data on the well required by 40 CFR 146.87;	§~~61~~3619.A.7	7. all available logging and testing program data on the well required by §~~61~~3617.B;		Text is similar, with no impact on stringency.
449	40 CFR 146.82(c)(8)	A demonstration of mechanical integrity pursuant to 40 CFR 146.89;	§~~61~~3619.A.8	8. a demonstration of mechanical integrity pursuant to §~~62~~3627;		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
450	40 CFR 146.82(c)(9)	Any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under paragraph (a) of this section, which are necessary to address new information collected during logging and testing of the well and the formation as required by all paragraphs of this section, and any updates to the alternative post-injection site care timeframe demonstration submitted under paragraph (a) of this section, which are necessary to address new information collected during the logging and testing of the well and the formation as required by all paragraphs of this section; and	§~~61~~3619.A.9	9. any updates to the proposed area of review and corrective action plan, testing and monitoring plan, injection well plugging plan, post-injection site care and site closure plan, or the emergency and remedial response plan submitted under §~~62~~3623, that are necessary to address new information collected during logging and testing of the well and the formation as required by §~~61~~3617.B, and any updates to the alternative post-injection site care timeframe demonstration submitted under §~~633~~3633, that are necessary to address new information collected during the logging and testing of the well and the formation as required by; and		Text is similar, with no impact on stringency.
451	40 CFR 146.82(c)(10)	Any other information requested by the Director.	§~~61~~3619.A.10	10. Any additional information requested by the commissioner.		Text is similar, with no impact on stringency.
452	40 CFR 146.82(d)	Owners or operators seeking a waiver of the requirement to inject below the lowermost USDW must also refer to 40 CFR 146.95 and submit a supplemental report, as required at 40 CFR 146.95(a). The supplemental report is not part of the permit application.	N/A		The text at 40 CFR 146.82(d) will not be adopted. Waivers of the requirement to inject below the lowermost USDW will not be granted.	Reviewed; no issues found.
40 CFR 146.83 Minimum criteria for siting.						
453	40 CFR 146.83(a)	Owners or operators of Class VI wells must demonstrate to the satisfaction of the Director that the wells will be sited in areas with a suitable geologic system. The owners or operators must demonstrate that the geologic system comprises:	§~~61~~3615	A. Minimum Criteria for Siting. Applicants, owners, or operators of Class VI wells must demonstrate to the satisfaction of the commissioner that the wells will be sited in areas with a suitable geologic system. The demonstration must show that the geologic system comprises:		Text is similar, with no impact on stringency.
454	40 CFR 146.83(a)(1)	An injection zone(s) of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;	§~~61~~3615.A.1	1. an injection zone of sufficient areal extent, thickness, porosity, and permeability to receive the total anticipated volume of the carbon dioxide stream;		Text is identical.
455	40 CFR 146.83(a)(2)	Confining zone(s) free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone(s).	§~~61~~3615.A.2	2. confining zone(s) free of transmissive faults or fractures and of sufficient areal extent and integrity to contain the injected carbon dioxide stream and displaced formation fluids, and allow injection at proposed maximum pressures and volumes without initiating or propagating fractures in the confining zone(s).		Text is identical.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
456	40 CFR 146.83(b)	The Director may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.	§~~61~~3615.A.2.a	a. The commissioner may require owners or operators of Class VI wells to identify and characterize additional zones that will impede vertical fluid movement, are free of faults and fractures that may interfere with containment, allow for pressure dissipation, and provide additional opportunities for monitoring, mitigation, and remediation.		Text is identical.
40 CFR 146.84 Area of review and corrective action.						
457	40 CFR 146.84(a)	The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.	§~~61~~3615.B.1	1. The area of review is the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity. The area of review is delineated using computational modeling that accounts for the physical and chemical properties of all phases of the injected carbon dioxide stream and is based on available site characterization, monitoring, and operational data.		Text is identical.
458	40 CFR 146.84(b)	The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for a proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of this section and is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application for approval by the Director, the owner or operator must submit an area of review and corrective action plan that includes the following information:	§~~61~~3615.B.2	2. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan to delineate the area of review for the proposed geologic sequestration project, periodically reevaluate the delineation, and perform corrective action that meets the requirements of these regulations and is acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. As a part of the permit application, the owner or operator must submit an area of review and corrective action plan that includes the following information:		Text is similar, with no impact on stringency.
459	40 CFR 146.84(b)(1)	The method for delineating the area of review that meets the requirements of paragraph (c) of this section, including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based;	§~~61~~3615.B.2.a	a. the method for delineating the area of review that meets the requirements of §~~61~~3615.B.3, including the model to be used, assumptions that will be made, and the site characterization data on which the model will be based;		Text is similar, with no impact on stringency.
4~~60~~60	40 CFR 146.84(b)(2)	A description of:	§~~61~~3615.B.2.b	b. a description of:		Text is identical.
4~~61~~61	40 CFR 146.84(b)(2)(i)	The minimum fixed frequency, not to exceed five years, at which the owner or operator proposes to reevaluate the area of review;	§~~61~~3615.B.2.b.i	i. the minimum fixed frequency—not to exceed five years—at which the owner or operator proposes to reevaluate the area of review;		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text		
4~~62~~62	40 CFR 146.84(b)(2)(ii)	The monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in paragraph (b)(2)(i) of this section.	§~~61~~3615.B.2.b.ii	ii. the monitoring and operational conditions that would warrant a reevaluation of the area of review prior to the next scheduled reevaluation as determined by the minimum fixed frequency established in §~~61~~3615.B.2.b.i.		Text is similar, with no impact on stringency.
463	40 CFR 146.84(b)(2)(iii)	How monitoring and operational data (e.g., injection rate and pressure) will be used to inform an area of review reevaluation; and	§~~61~~3615.B.2.b.iii	iii. how monitoring and operational data (e.g., injection rate and pressure) will be used to inform an area of review reevaluation; and		Text is identical.
464	40 CFR 146.84(b)(2)(iv)	How corrective action will be conducted to meet the requirements of paragraph (d) of this section, including what corrective action will be performed prior to injection and what, if any, portions of the area of review ~~will~~ have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.	§~~61~~3615.B.2.b.iv	iv. how corrective action will be conducted to meet the requirements of §~~61~~3615.C, including what corrective action will be performed prior to injection and what, if any, portions of the area of review *the operator proposes to* have corrective action addressed on a phased basis and how the phasing will be determined; how corrective action will be adjusted if there are changes in the area of review; and how site access will be guaranteed for future corrective action.	The struck-out text of 40 CFR 146.84(b)(2)(iv) will not be adopted. Instead the following emphasized language has been added: *the operator proposes to*. As such, §~~61~~3615.B.2.b.iv includes more stringent requirements compared to the federal rule, namely that a phased approach will be considered on a case-by-case basis.	Reviewed; no issues found.
465	40 CFR 146.84(c)	Owners or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:	§~~61~~3615.B.3	3. Area of Review Boundary Delineation. Owners or operators of Class VI wells must perform the following actions to delineate the area of review and identify all wells that require corrective action:		Text is identical.
466	40 CFR 146.84(c)(1)	Predict, using existing site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the Director. The model must:	§~~61~~3615.B.3.a	a. predict, using existing site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until the plume movement ceases, until pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or until the end of a fixed time period as determined by the commissioner. The model must:		Text is identical.

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
467	40 CFR 146.84(c)(1)(i)	Be based on detailed geologic data collected to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;	§~~61~~3615.B.3.a.i	i. be based on detailed geologic data collected to characterize the injection zone(s), confining zone(s) and any additional zones; and anticipated operating data, including injection pressures, rates, and total volumes over the proposed life of the geologic sequestration project;		Text is identical.
468	40 CFR 146.84(c)(1)(ii)	Take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and	§~~61~~3615.B.3.a.ii	ii. take into account any geologic heterogeneities, other discontinuities, data quality, and their possible impact on model predictions; and		Text is identical.
469	40 CFR 146.84(c)(1)(iii)	Consider potential migration through faults, fractures, and artificial penetrations.	§~~61~~3615.B.3.a.iii	iii. consider potential migration through faults, fractures, and artificial penetrations.		Text is identical.
470	40 CFR 146.84(c)(2)	Using methods approved by the Director, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that may penetrate the confining zone(s). Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require; and	§~~61~~3615.B.3.b	b. using methods approved by the commissioner, *the owner or operator shall at a minimum*, identify all penetrations, including active and abandoned wells and underground mines, in the area of review that penetrate the confining and injection zone(s). (See §~~60~~3603.H.4.) Provide a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the commissioner may require; and	In addition to the text at 40 CFR 146.84(c)(2), the following emphasized language has been added at §~~61~~3615.B.3.b: *the owner or operator shall at a minimum*.	Reviewed; no issues found.
471	40 CFR 146.84(c)(3)	Determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.	§~~61~~3615.B.3.c	c. determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs, including use of materials compatible with the carbon dioxide stream.		Text is identical.
472	40 CFR 146.84(d)	Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.	§~~61~~3615.C.1	1. Owners or operators of Class VI wells must perform corrective action on all wells in the area of review that are determined to need corrective action, using methods designed to prevent the movement of fluid into or between USDWs, including use of materials compatible with the carbon dioxide stream, where appropriate.		Text is identical.
473	40 CFR 146.84(e)	At the minimum fixed frequency, not to exceed five years, as specified in the area of review and corrective action plan, or when monitoring and operational conditions warrant, owners or operators must:	§~~61~~3615.C.2	2. At the minimum fixed frequency—not to exceed five years—as specified in the area of review and corrective action plan, or when monitoring and operational conditions warrant, owners or operators must:		Text is identical.
474	40 CFR 146.84(e)(1)	Reevaluate the area of review in the same manner specified in paragraph (c)(1) of this section;	§~~61~~3615.C.2.a	a. reevaluate the area of review in the same manner specified in §~~61~~3615.B.3.a;		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
475	40 CFR 146.84(e)(2)	Identify all wells in the reevaluated area of review that require corrective action in the same manner specified in paragraph (c) of this section;	§~~61~~3615.C.2.b	b. identify all wells in the reevaluated area of review that require corrective action in the same manner specified in §~~61~~3615.B.3;		Text is similar, with no impact on stringency.
476	40 CFR 146.84(e)(3)	Perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in paragraph (d) of this section; and	§~~61~~3615.C.2.c	c. perform corrective action on wells requiring corrective action in the reevaluated area of review in the same manner specified in §~~61~~3615.C.1; and		Text is similar, with no impact on stringency.
477	40 CFR 146.84(e)(4)	Submit an amended area of review and corrective action plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	§~~61~~3615.C.2.d	d. submit an amended area of review and corrective action plan or demonstrate to the commissioner through monitoring data and modeling results that no amendment to the area of review and corrective action plan is needed. Any amendments to the area of review and corrective action plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §~~61~~3613, as appropriate.		Text is similar, with no impact on stringency.
478	40 CFR 146.84(f)	The emergency and remedial response plan (as required by 40 CFR 146.94) and the demonstration of financial responsibility (as described by 40 CFR 146.85) must account for the area of review delineated as specified in paragraph (c)(1) of this section or the most recently evaluated area of review delineated under paragraph (e) of this section, regardless of whether or not corrective action in the area of review is phased.	§~~61~~3615.C.3	3. The emergency and remedial response plan (as required by §~~62~~3623) and the demonstration of financial responsibility (as described by §~~60~~3609.C must account for the area of review delineated as specified in §~~61~~3615.B.3.a or the most recently evaluated area of review delineated under §~~61~~3615.C.2, regardless of whether or not corrective action in the area of review is phased.		Text is similar, with no impact on stringency.
479	40 CFR 146.84(g)	All modeling inputs and data used to support area of review reevaluations under paragraph (e) of this section shall be retained for 10 years.	§~~61~~3615.C.4	4. All modeling inputs and data used to support area of review reevaluations under §~~61~~3615.C.2 shall be retained for at least 10 years.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
40 CFR 146.85 Financial responsibility.						
480	40 CFR 146.85(a)	The owner or operator must demonstrate and maintain financial responsibility as determined by the Director that meets the following conditions:	§~~60~~3609.C.1	1. The permit shall require the permittee to maintain financial responsibility and resources to close, plug, and abandon the underground injection wells and, where necessary, related surface facility, and for post-injection site care and site closure in a manner prescribed by the commissioner. Class VI well operators must also comply with §~~60~~3609.C.4. The permittee must show evidence of financial responsibility to the commissioner by the submission of:	While the language at §~~60~~3609.C.1 is not verbatim to 40 CFR 146.85(a), the intent of the federal rule is preserved; that being, establishing the permittee's obligation to maintain and demonstrate financial resources and responsibility for the full life cycle of the well and associated facility. Note: §~~60~~3609.C.1 only includes "financial responsibility and resources to close, plug, and abandon the underground injection wells ... and for post-injection site care and site closure." However, corrective action and emergency and remedial response are included later in §~~60~~3609.C.4.a.i through ~~60~~3609.C.4.a.iv.	Reviewed; no issues found. §609.C.4.a.i through 609.C.4.a.iv. address financial responsibility for the same activities as the CFR.
481	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~60~~3609.C.2	2. The amount of funds available in the financial instrument shall be no less than the amount identified in the cost estimate of the closure plan and any required post-injection site care and site closure, and must be approved by the commissioner.		Reviewed; no issues found.
482	40 CFR 146.85(a)(1)	The financial responsibility instrument(s) used must be from the following list of qualifying instruments:	N/A		The language at 40 CFR 146.85(a)(1) will not be adopted since §~~60~~3609.C.1 introduces the list of qualifying instruments (see the following rows).	Reviewed; no issues found.
483	40 CFR 146.85(a)(1)(i)	Trust Funds	§~~60~~3609.C.1.d	d. site-specific trust account, or		Text is similar, with no impact on stringency.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
484	40 CFR 146.85(a)(1)(ii)	Surety Bonds	§~~60~~3609.C.1.b	b. a performance bond (surety bond) in sole favor of the Office of Conservation in a form prescribed by the commissioner;	The text at 40 CFR 146.85(a)(1)(ii) has been expanded to include: a performance bond (surety bond) in sole favor of the Office of Conservation in a form prescribed by the commissioner.	Reviewed; no issues found.
485	40 CFR 146.85(a)(1)(iii)	Letter of Credit	§~~60~~3609.C.1.c	c. a letter-of-credit in sole favor of the Office of Conservation in a form prescribed by the commissioner;	In addition to the text at 40 CFR 146.85(a)(1)(iii), the following language at §~~60~~3609.C.1.c has been added: in sole favor of the Office of Conservation in a form prescribed by the commissioner.	Reviewed; no issues found.
486	40 CFR 146.85(a)(1)(iv)	Insurance	N/A		Insurance will not be accepted as a form of financial surety for the activities detailed at §3609.C.1 and 3609.C.2. This provision is separate from the §3609.C.4.iv requirement that the owner/operator must maintain insurance to respond to any emergency or to perform any remedial action.	Clarification is needed. The state rule requires the owner/operator to maintain insurance to respond to any emergency or to perform any remedial action (§609.C.4.iv). August 2020 review: limiting the acceptable instruments is more stringent than the CFR. If additional insurance is required for E&RR on top of the requirements at §609.C.1.a, that would not affect stringency.
487	40 CFR 146.85(a)(1)(v)	Self Insurance (i.e., Financial Test and Corporate Guarantee)	N/A		The language at 40 CFR 146.85(a)(1)(v) will not be adopted. Self insurance will not be an accepted form of financial assurance for the activities detailed at §3609.C.1 and 3609.C.2.	Clarification is needed. The state rule requires the owner/operator to maintain insurance to respond to any emergency or to perform any remedial action (§609.C.4.iv). August 2020 review: see above.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
488	40 CFR 146.85(a)(1)(vi)	Escrow Account	§609.C.1.eN/A	e. any other instrument of financial assurance in a form acceptable to the commissioner.	The language at 40 CFR 146.85(a)(1)(v) will not be adopted. Escrow will not be an accepted form of financial assurance for the activities detailed at §3609.C.1 and 3609.C.2. However, the owner/operator may establish a site specific trust account as detailed at §3609.C.1.d to be held in the Carbon Dioxide Geologic Storage Trust Fund as detailed at La. R.S. 30:1110.A.1 through 1110.B.6. The language at 40 CFR 146.85(a)(1)(vi) will not be adopted but could be considered an acceptable instrument of financial assurance at the commissioner's discretion.	No state equivalent. August 2020 review: limiting the acceptable instruments is more stringent than the CFR. No concerns for stringency. See below for comments about the Carbon Dioxide Geologic Storage Trust Fund.
489	40 CFR 146.85(a)(1)(vii)	Any other instrument(s) satisfactory to the Director	§603609.C.1.e	e. any other instrument of financial assurance in a form acceptable to the commissioner.		Text is similar, with no impact on stringency. August 2020 review: minor revision; no concerns for stringency. EPA August Review: The LA rule text (pg. 10) has the word "acceptable" deleted in addition to "in a form". EPA September Review: The LA Rule text revision addresses EPA's August comment.
490	40 CFR 146.85(a)(2)	The qualifying instrument(s) must be sufficient to cover the cost of:	§603609.C.4.a	a. qualifying financial responsibility instruments must be sufficient to cover the cost of meeting the requirements of:	While the language at §603609.C.4.a is not verbatim to 40 CFR 146.85(a)(2), the intent of the federal rule is preserved.	Reviewed; no issues found.
491	40 CFR 146.85(a)(2)(i)	Corrective action (that meets the requirements of 40 CFR 146.84);	§603609.C.4.a.i	i. corrective action of §613615.C;		Text is similar, with no impact on stringency.
492	40 CFR 146.85(a)(2)(ii)	Injection well plugging (that meets the requirements of 40 CFR 146.92);	§603609.C.4.a.ii	ii. injection well plugging of §6313631;		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
493	40 CFR 146.85(a)(2)(iii)	Post injection site care and site closure (that meets the requirements of 40 CFR 146.93); and	§~~60~~3609.C.4.a.iii	iii. post-injection site care and site closure of §~~633~~3633; and		Text is similar, with no impact on stringency.
494	40 CFR 146.85(a)(2)(iv)	Emergency and remedial response (that meets the requirements of 40 CFR 146.94).	§~~60~~3609.C.4.a.iv	iv. emergency and remedial response of §~~62~~3623. The owner/operator shall maintain third party insurance at a sufficient level to respond to any emergency or to perform any remedial action that meets the requirements of §~~62~~3623.	In addition to the text at 40 CFR 146.85(a)(2)(iv), the following language has been added at §~~60~~3609.C.4.a.iv: The owner/operator shall maintain third party insurance at a sufficient level to respond to any emergency or to perform any remedial action that meets the requirements of §~~62~~3623. This requirement is separate from the restriction on insurance as form of financial surety as detailed in the explanation given regarding 40 CFR 146.85(a)(1)(iv).	See comment above regarding insurance not being an accepted financial responsibility instrument. August 2020 review: if additional third-party insurance is required for E&RR on top of the requirements at §609.C.1.a, that would not affect stringency.
495	40 CFR 146.85(a)(3)	The financial responsibility instrument(s) must be sufficient to address endangerment of underground sources of drinking water.	§~~60~~3609.C.4.b	b. financial responsibility instruments must be sufficient to address endangerment of underground sources of drinking water.		Text is identical.
496	40 CFR 146.85(a)(4)	The qualifying financial responsibility instrument(s) must comprise protective conditions of coverage.	§~~60~~3609.C.4.c	c. qualifying financial responsibility instruments must comprise protective conditions of coverage. Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	In addition to the text at 40 CFR 146.85(a)(4) the following language has been added at §~~60~~3609.C.4.c: Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	Reviewed; no issues found.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
497	40 CFR 146.85(a)(4)(i)	Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	§~~60~~3609.C.4.c	c. qualifying financial responsibility instruments must comprise protective conditions of coverage. Protective conditions of coverage must include at a minimum cancellation, renewal, and continuation provisions, specifications on when the provider becomes liable following a notice of cancellation if there is a failure to renew with a new qualifying financial instrument, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	The language from 40 CFR 146.85(a)(4)(i) has been added to the text from 40 CFR 146.85(a)(4).	Reviewed; no issues found.
498	40 CFR 146.85(a)(4)(i)(A)	Cancellation – for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the Director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within ~~60 day~~60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable (or possible), any funds from the instrument being cancelled must be released within ~~60 day~~60 days of notification by the Director.	§~~60~~3609.C.4.c.i	i. Cancellation: an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the commissioner. The cancellation must not be final for 120 days after receipt of the cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within ~~60 day~~60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable or possible, any funds from the instrument being cancelled must be released within ~~60 day~~60 days of notification by the commissioner.		Text is similar, with no impact on stringency.
499	40 CFR 146.85(a)(4)(i)(B)	Renewal – for purposes of this part, owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.	§~~60~~3609.C.4.c.ii	ii. Renewal: owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
500	40 CFR 146.85(a)(4)(i)(C)	Cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration: the Director deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount due is paid.	§~~60~~3609.C.4.c.iii	iii. cancellation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration the commissioner deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the commissioner or a court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or the amount due is paid.		Text is similar, with no impact on stringency.
501	40 CFR 146.85(a)(5)	The qualifying financial responsibility instrument(s) must be approved by the Director.	§~~60~~3609.C.4.d	d. qualifying financial responsibility instruments must be approved by the commissioner.		Text is identical.
502	40 CFR 146.85(a)(5)(i)	The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (40 CFR 146.82).	§~~60~~3609.C.4.d.i	i. the commissioner shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project before issuing any authorization to begin geologic sequestration of carbon dioxide in a Class VI well.		Text is similar, with no impact on stringency.
503	40 CFR 146.85(a)(5)(ii)	The owner or operator must provide any updated information related to their financial responsibility instrument(s) on an annual basis and if there are any changes, the Director must evaluate,~~ within a reasonable time~~, the financial responsibility demonstration to confirm that the instrument(s) used remain adequate for use. The owner or operator must maintain financial responsibility requirements regardless of the status of the Director's review of the financial responsibility demonstration.	§~~60~~3609.C.4.d.ii	ii. the owner or operator must provide any updated information related to their financial responsibility instrument(s) annually and if there are any changes, the commissioner must evaluate the financial responsibility demonstration to confirm that the instrument(s) used remain adequate. The owner or operator must maintain financial responsibility requirements regardless of the status of the commissioner's review of the financial responsibility demonstration.	The struck-out text of 40 CFR 146.85(a)(5)(ii) will not be adopted.	Text omits "within a reasonable time." No impact on stringency. August 2020 review: no concerns for stringency.
504	40 CFR 146.85(a)(5)(iii)	The Director may disapprove the use of a financial instrument if he determines that it is not sufficient to meet the requirements of this section.	§~~60~~3609.C.4.d.iii	iii. the commissioner may disapprove the use of a financial instrument if he determines it is not sufficient to meet the financial responsibility requirements.		Text is similar, with no impact on stringency.
505	40 CFR 146.85(a)(6)	The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.	§~~60~~3609.C.4.e	e. The owner or operator may demonstrate financial responsibility by using one or multiple qualifying financial instruments for specific phases of the geologic sequestration project.		Text is identical.

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506	40 CFR 146.85(a)(6)(i)	In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance ~~(i.e., self insurance or performance bond),~~ for ~~example trust funds~~, surety bonds ~~guaranteeing payment into a trust fund~~, letters of credit, ~~escrow account, and insurance.~~ In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.	§~~60~~3609.C.4.e.i	i. In the event that the owner or operator combines more than one instrument for a specific geologic sequestration phase (e.g., well plugging), such combination must be limited to instruments that are not based on financial strength or performance, for example ~~trust funds,~~ certificates of deposit, surety bonds ~~guaranteeing payment into a trust fund~~, and letters of credit~~, escrow account~~. *guaranteeing payment to the Louisiana Office of Conservation upon failure of the Operator to meet permit conditions or obligations under this Chapter*. In this case, it is the combination of mechanisms, rather than the single mechanism, which must provide financial responsibility for an amount at least equal to the current cost estimate.	The struck-out text of 40 CFR 146.85(a)(6)(i) will not be adopted. Only instruments such as certificates of deposit, surety bonds, and letters of credit will be acceptable instruments to be used in combination. The language referencing trust funds and guaranteed payment into a trust fund will not be adopted. As part of the authority granted by La R.S. 30:4(R) and 30:4.1.B.1, the commissioner may require that instruments of financial responsibility be issued in sole favor of the Office of Conservation, thereby averting the need to establish a standby trust for third party instruments. The following emphasized language has been added: *guaranteeing payment to the Louisiana Office of Conservation upon failure of the Operator to meet permit conditions or obligations under this Chapter.* ~~Self-insurance and third party insurance will not be accepted forms of assurance, and performance bonds are acceptable as a form of surety bonds.~~	Above regulations do not specifically mention escrow accounts, but they are included here (see 40 CFR 146.85(a)(1)(vi) above). August 2020 review: EPA legal input requested regarding whether a CD is an acceptable financial instrument. (609C.1.a allows "a certificate of deposit issued in sole favor of the Office of Conservation in a form prescribed by the commissioner…"). Note also that the instruments mentioned under "difference" and the rule text are inconsistent. EPA August Review: Would like LA's input on their experience with this FA instrument and whether they have found it to be extremely vulnerable in bankruptcies. EPA has found that CDs are less vulnerable when operators are required to fully fund the CD and house it within a standby trust. EPA September Review: EPA considers a CD to be a form of an escrow account. While LA does not allow escrow accounts as a financial instrument, we assume CD's would be allowed per 40 CFR 146.85(a)(1)(vii) Any other instrument(s) satisfactory to the Director. LA clarified that their draft rule addresses any potential vulnerability by requiring that certificates of deposit be issued, "in sole favor of the Office of Conservation in a form prescribed by the commissioner." The commissioner has statutory authority to require that financial

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
						instruments (such as certificates of deposit) designate DNR-OC as beneficiary or recipient of the funds. EPA notes LA's clarification and has no further concerns for stringency.
507	40 CFR 146.85(a)(6)(ii)	When using a third-party instrument to demonstrate financial responsibility, the owner or operator must provide a proof that the third-party providers either have passed financial strength requirements based on credit ratings; or has met a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable.	§~~60~~3609.C.3	3. Any financial instrument filed in satisfaction of the financial responsibility requirements shall be issued by and drawn on a bank or other financial institution authorized under state or federal law to operate in the State of Louisiana.	While the language at §~~60~~3609.C.3 is not verbatim to 40 CFR 146.85(a)(6)(ii)~~. However,~~ by requiring that financial instruments shall be issued by and drawn on financial institutions currently authorized under state or federal law to operate in the State of Louisiana, this ensures that the financial strength or rating, capitalization, and ability to pass a bond of the financial institution in question has already been addressed under separate federal and state laws and requirements.	LA note is incomplete. State text is not equivalent to CFR. Clarification is needed. August 2020 review: limiting the acceptable instruments is more stringent than the CFR.

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508	40 CFR 146.85(a)(6)(iii)	An owner or operator using certain types of third party instruments must establish a standby trust to enable EPA to be party to the financial responsibility agreement without EPA being the beneficiary of any funds. The standby trust fund must be used along with other financial responsibility instruments (e.g., surety bonds, letters of credit, or escrow accounts) to provide a location to place funds if needed.	La R.S. 30:4(R) and 30:4.1.B.1 ~~La. R.S. 30:1110~~	R. The commissioner shall make, after notice and public hearings as provided in this Chapter, any rules, regulations, and orders that are necessary to require reasonable bond with security for the performance of the duty to plug each dry and abandoned well and the closure and to perform the site cleanup required by Item (C)(1)(a)(iv) of this Section. The rules, regulations, and orders may classify based on location of the well and shall provide for the following exceptions from the reasonable bond and security requirement: (1) To regulate, by rules, the drilling, casing, cementing, disposal interval, monitoring, plugging, and permitting of disposal wells which are used to inject hazardous waste products in the subsurface, and to regulate all surface and storage waste facilities incidental to oil and gas exploration and production, in such a manner as to prevent the escape of such hazardous waste product into a fresh groundwater aquifer or into oil or gas strata; may require the plugging of each abandoned well or each well which is of no further use and the closure of associated pits, the removal of equipment, structures, and trash, and the general site cleanup of such abandoned or unused well sites; and may require reasonable bond with security for the performance of the duty to plug each abandoned well or each well which is of no further use and to perform the site cleanup required by this Section. Only an owner as defined in R.S. 30:3(8) shall be held or deemed responsible for the performance of any actions required by the commissioner. ~~A.(1) There is hereby established a fund in the custody of the state treasurer to be known as the Carbon Dioxide Geologic Storage Trust Fund, hereinafter referred to as the "fund", which shall constitute a special custodial trust fund which shall be administered by the commissioner, who shall make disbursements from the fund solely in accordance with the purposes and uses authorized by this Chapter. Et seq.~~	40 CFR 146.85(a)(6)(iii)) will not be adopted. As part of the authority granted by La R.S. 30:4(R) and 30:4.1.B.1, the commissioner may require that instruments of financial responsibility be issued in sole favor of the Office of Conservation, thereby averting the need to establish a standby trust for third party instruments. ~~By statute, each facility will have a carbon dioxide geologic storage trust fundbe separately accounted for within the Carbon Dioxide Geologic Storage Trust Fund..~~ ~~Details regarding the Carbon Dioxide Geologic Storage Trust Fund will be included in the Program Description of the primacy application.~~	Clarification is needed as to how each GS project will be covered by the trust fund. August 2020 review: if the only distinction is where the money is held (but that it is earmarked for, and only for, the specific Class VI project), that would be acceptable. It is recommended that a careful review of the use of the Carbon Dioxide Geologic Storage Trust Fund in the Program Description be part of the primacy application review. EPA August Review: Clarification is needed as to how each GS project will be covered by the Trust Fund. How much money will be in the Trust Fund? Will it be enough? Will it stay that way? References to such state funds are usually accompanied by rules establishing (and describing in detail) the funds. A brief reference to the Program Description is insufficient. A full description of this Trust Fund should be in the LA code and should specify that there will be adequate resources to offer full coverage, if needed. If the trust fund is to be treated as "any other instruments satisfactory to the Director" [see 40 CFR 146.85(a)(1)(vii)], then it should be codified. EPA September Review: Per UIC guidance, a standby trust may not be needed if a state can be named as a recipient of funds or as a beneficiary as authorized by applicable state law. La R.S. 30:4(R) and 30:4.1.B.1 grants the

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						commissioner authority to require that instruments of financial responsibility be issued in sole favor of the Office of Conservation, thereby averting the need to establish a standby trust for third party instruments. Regarding the CDGSTF: The State set a maximum limit of 5 million dollars. LA clarified the CDGSTF is separate from instruments of financial surety required under the commissioner's UIC authority. Its intended uses include funding program administration and covering any activities that may take place after the site is closed and the commissioner has issued a certificate of completion of injection operations (necessary for liability release) in accordance with La R.S. 30:1109. However, as noted in La R.S. 30:1109.A.2, release of liability won't apply to the owner or last operator of record if it turns out that the CDGSTF balance for that site contains inadequate funds to address any issues that arise after the certificate of completion is issued post closure. The $5,000,000 cap on contributions from a particular operator won't hinder the commissioner in calling required financial surety documents (which again is separate) or from seeking payment into the CDGSTF from the owner/operator of record if the current CDGSTF balance isn't enough to cover something in that post closure period for the facility in question. The maximum

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text		
						balance pertains more to the operator's fee obligation than anything regarding financial liability or financial security requirements under UIC. EPA notes LA's clarification about the CDGSTF and has no further concerns for stringency.
509	40 CFR 146.85(a)(6)(iv)	An owner or operator may deposit money to an escrow account to cover financial responsibility requirements; this account must segregate funds sufficient to cover estimated costs for Class VI (geologic sequestration) financial responsibility from other accounts and uses.	N/A ~~La. R.S. 30:1110~~	~~A.(1) There is hereby established a fund in the custody of the state treasurer to be known as the Carbon Dioxide Geologic Storage Trust Fund, hereinafter referred to as the "fund", which shall constitute a special custodial trust fund which shall be administered by the commissioner, who shall make disbursements from the fund solely in accordance with the purposes and uses authorized by this Chapter. Et seq.~~	~~By statute and rule, an owner or operator may establish a Site Specific Trust Account to cover financial responsibility requirements., each facility will have a carbon dioxide geologic storage trust fund.~~ ~~Details regarding the Carbon Dioxide Geologic Storage Trust Fund will be included in the Program Description of the primacy application.~~ The language at 40 CFR 146.85(a)(1)(v) will not be adopted. Escrow will not be an accepted form of financial assurance for the activities detailed at §3609.C.1 and 3609.C.2. However, the owner/operator may establish a site specific trust account as detailed at §3609.C.1.d to be held in the Carbon Dioxide Geologic Storage Trust Fund as detailed at La. R.S. 30:1110.A.1 through 1110.B.6.	Clarification is needed as to how each GS project will be covered by the trust fund. August 2020 review: see above. EPA August Review: see comment above EPA September Review: EPA notes LA's clarification about the CDGSTF (see above) and has no further concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
510	40 CFR 146.85(a)(6)(v)	An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet a Tangible Net Worth of an amount approved by the Director, have a Net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost, have assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost, and must submit a report of its bond rating and financial information annually. In addition the owner or operator must either: have a bond rating test of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or meet all of the following five financial ratio thresholds: a ratio of total liabilities to net worth less than 2.0; a ratio of current assets to current liabilities greater than 1.5; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; a ratio of current assets minus current liabilities to total assets greater than -0.1; and a net profit (revenues minus expenses) greater than 0.	N/A		The language at 40 CFR 146.85(a)(6)(v) will not be adopted. Self insurance will not be an accepted form of financial assurance.	See comment above regarding insurance not being an accepted financial responsibility instrument.
511	40 CFR 146.85(a)(6)(vi)	An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent's demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner or operator.	N/A		The language at 40 CFR 146.85(a)(6)(v) will not be adopted. A corporate guarantee will not be an accepted form of financial assurance.	Clarification is needed. §609.C.4.i.ii appears to refer to a corporate guarantee: "a guarantor of a corporate guarantee must make such a notification to the commissioner if he or she is named as debtor, as required under the terms of the corporate guarantee." August 2020 review: this provision was removed from the July version of the rule (see 40 CFR 146.85(d)(2)). No concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
512	40 CFR 146.85(a)(6)(vii)	An owner or operator may obtain an insurance policy to cover the estimated costs of geologic sequestration activities requiring financial responsibility. This insurance policy must be obtained from a third party provider.	N/A		The language at 40 CFR 146.85(a)(6)(vii) will not be adopted. Third party insurance will not be accepted as a form of financial surety for the activities detailed at §3609.C.1 and 3609.C.2. This provision is separate from the §3609.C.4.iv requirement that the owner/operator must maintain insurance to respond to any emergency or to perform any remedial action. ~~will not be an accepted form of financial assurance.~~	See comment above regarding insurance not being an accepted financial responsibility instrument. August 2020 review: limiting the acceptable instruments is more stringent than the CFR.
513	40 CFR 146.85(b)	The requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit.	§~~60~~3609.C.4.f	f. the requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit. The owner or operator must maintain financial responsibility and resources until:	In addition to the text at 40 CFR 146.85(b), the following language has been added at §~~60~~3609.C.4.f: The owner or operator must maintain financial responsibility and resources until:	Reviewed; no issues found.
514	40 CFR 146.85(b)(1)	The owner or operator must maintain financial responsibility and resources until:	§~~60~~3609.C.4.f	f. the requirement to maintain adequate financial responsibility and resources is directly enforceable regardless of whether the requirement is a condition of the permit. The owner or operator must maintain financial responsibility and resources until:	The language from 40 CFR 146.85(b)(1) has been added to the text from 40 CFR 146.85(b).	Reviewed; no issues found.
515	40 CFR 146.85(b)(1)(i)	The Director receives and approves the completed post-injection site care and site closure plan; and	§~~60~~3609.C.4.f.i	i. the commissioner receives and approves the completed post-injection site care and site closure plan; and		Text is identical.
516	40 CFR 146.85(b)(1)(ii)	The Director approves site closure.	§~~60~~3609.C.4.f.ii	ii. the commissioner approves site closure.		Text is identical.
517	40 CFR 146.85(b)(2)	The owner or operator may be released from a financial instrument in the following circumstances:	§~~60~~3609.C.4.g	g. the owner or operator may be released from a financial instrument in the following circumstances:		Text is identical.
518	40 CFR 146.85(b)(2)(i)	The owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the Director, including obtaining financial responsibility for the next phase of the GS project, if required; or	§~~60~~3609.C.4.g.i	i. the owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations as determined by the commissioner, including obtaining financial responsibility for the next phase of the geologic sequestration project, if required; or		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
519	40 CFR 146.85(b)(2)(ii)	The owner or operator has submitted a replacement financial instrument and received written approval from the Director accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.	§~~60~~3609.C.4.g.ii	ii. the owner or operator has submitted a replacement financial instrument and received written approval from the commissioner accepting the new financial instrument and releasing the owner or operator from the previous financial instrument.		Text is identical.
520	40 CFR 146.85(c)	The owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well(s), post-injection site care and site closure, and emergency and remedial response.	§~~60~~3609.C.4.h	h. the owner or operator must have a detailed written estimate, in current dollars, of the cost of performing corrective action on wells in the area of review, plugging the injection well(s), post-injection site care and site closure, and emergency and remedial response.		Text is identical.
521	40 CFR 146.85(c)(1)	The cost estimate must be performed for each phase separately and must be based on the costs to the regulatory agency of hiring a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.	§~~60~~3609.C.4.h.i	i. the cost estimate must be performed for each phase separately and must be based on the costs to the Office of Conservation of contracting a third party to perform the required activities. A third party is a party who is not within the corporate structure of the owner or operator.		Text is similar, with no impact on stringency.
522	40 CFR 146.85(c)(2)	During the active life of the geologic sequestration project, the owner or operator must adjust the cost estimate for inflation within ~~60 day~~60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with paragraph (a) of this section and provide this adjustment to the Director. The owner or operator must also provide to the Director written updates of adjustments to the cost estimate within ~~60 day~~60 days of any amendments to the area of review and corrective action plan (40 CFR 146.84), the injection well plugging plan (146.92), the post-injection site care and site closure plan (40 CFR 146.93), and the emergency and remedial response plan (40 CFR 146.94).	§~~60~~3609.C.4.h.ii	ii. during the active life of the geologic sequestration project, the owner or operator must adjust the cost estimate for inflation within ~~60 day~~60 days before the anniversary date of the establishment of the financial instrument(s) and provide this adjustment to the commissioner. The owner or operator must also provide the commissioner written updates of adjustments to the cost estimate within ~~60 day~~60 days of any amendments to the area of review and corrective action plan, the injection well plugging plan, the post-injection site care and site closure plan, and the emergency and remedial response plan.		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
523	40 CFR 146.85(c)(3)	The Director must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than ~~60 day~~60 days after the Director has approved the request to modify the area of review and corrective action plan (40 CFR 146.84), the injection well plugging plan (40 CFR 146.92), the post-injection site care and site closure plan (40 CFR 146.93), and the emergency and response plan (40 CFR 146.94), if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the Director. Any decrease to the value of the financial assurance instrument must first be approved by the Director. The revised cost estimate must be adjusted for inflation as specified at paragraph (c)(2) of this section.	§~~60~~3609.C.4.h.iii	iii. the commissioner must approve any decrease or increase to the initial cost estimate. During the active life of the geologic sequestration project, the owner or operator must revise the cost estimate no later than ~~60 day~~60 days after the commissioner has approved the request to modify the area of review and corrective action plan, the injection well plugging plan, the post-injection site care and site closure plan, and the emergency and response plan, if the change in the plan increases the cost. If the change to the plans decreases the cost, any withdrawal of funds must be approved by the commissioner. Any decrease to the value of the financial assurance instrument must first be approved by the commissioner. The revised cost estimate must be adjusted for inflation as specified at §~~60~~3609.C.4.h.ii. above.		Text is similar, with no impact on stringency.
534	40 CFR 146.85(c)(4)	Whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within ~~60 day~~60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the Director, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the Director.	§~~60~~3609.C.4.h.iv	iv. whenever the current cost estimate increases to an amount greater than the face amount of a financial instrument currently in use, the owner or operator, within ~~60 day~~60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current cost estimate and submit evidence of such increase to the commissioner, or obtain other financial responsibility instruments to cover the increase. Whenever the current cost estimate decreases, the face amount of the financial assurance instrument may be reduced to the amount of the current cost estimate only after the owner or operator has received written approval from the commissioner.		Text is identical.
535	40 CFR 146.85(d)	The owner or operator must notify the Director by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.	§~~60~~3609.C.4.i	i. the owner or operator must notify the commissioner by certified mail of adverse financial conditions such as bankruptcy that may affect the ability to carry out injection well plugging and post-injection site care and site closure.		Text is identical.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
536	40 CFR 146.85(d)(1)	In the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.	§~~60~~3609.C.4.i.i	i. in the event that the owner or operator or the third party provider of a financial responsibility instrument is going through a bankruptcy, the owner or operator must notify the commissioner by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding.		Text is identical.
537	40 CFR 146.85(d)(2)	A guarantor of a corporate guarantee must make such a notification to the Director if he/she is named as debtor, as required under the terms of the corporate guarantee.	§609.C.4.i.~~ii~~N/A	~~ii. a guarantor of a corporate guarantee must make such a notification to the commissioner if he or she is named as debtor, as required under the terms of the corporate guarantee.~~	The language at 40 CFR 146.85(d)(2) will not be adopted. A corporate guarantee will not be an accepted form of financial assurance.	Text is similar, with no impact on stringency. Clarification is needed; state notes above that a corporate guarantee is not an acceptable instrument. See 146.85(a)(6)(vi). August 2020 review: limiting the acceptable instruments is more stringent than the CFR.
538	40 CFR 146.85(d)(3)	An owner or operator who fulfills the requirements of paragraph (a) of this section by obtaining a trust fund, surety bond, letter of credit, escrow account, or insurance policy will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the trust fund, surety bond, letter of credit, escrow account, or insurance policy. The owner or operator must establish other financial assurance within ~~60 day~~60 days after such an event.	§~~60~~3609.C.4.i.ii~~i~~	~~i~~i. an owner or operator who fulfills the financial responsibility requirements by obtaining an approved instrument of financial assurance will be deemed to be without the required financial assurance in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee of the institution issuing the financial assurance instrument. The owner or operator must establish other financial assurance within ~~60 day~~60 days after such an event.		Text is similar, with no impact on stringency.
539	40 CFR 146.85(e)	The owner or operator must provide an adjustment of the cost estimate to the Director within ~~60 day~~60 days of notification by the Director, if the Director determines during the annual evaluation of the qualifying financial responsibility instrument(s) that the most recent demonstration is no longer adequate to cover the cost of corrective action (as required by 40 CFR 146.84), injection well plugging (as required by 40 CFR 146.92), post-injection site care and site closure (as required by 40 CFR 146.93), and emergency and remedial response (as required by 40 CFR 146.94).	§~~60~~3609.C.4.j	j. the owner or operator must provide the commissioner with an adjustment of the cost estimate within ~~60 day~~60 days of notification by the commissioner, if the commissioner determines during the annual evaluation of the qualifying financial responsibility instrument(s) that the most recent demonstration is no longer adequate to cover the cost of corrective action, injection well plugging, post-injection site care and site closure, and emergency and remedial response.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
540	40 CFR 146.85(f)	The Director must approve the use and length of pay-in-periods for trust funds or escrow accounts.	§~~60~~3609.C.4.k	k. the commissioner must approve the use and length of pay-in-periods for trust funds or escrow accounts.		Text is identical.
40 CFR 146.86 Injection well construction requirements						
541	40 CFR 146.86(a)	*General*. The owner or operator must ensure that all Class VI wells are constructed and completed to:	§~~61~~3617.A.1	1. General. All phases of Class VI well construction shall be supervised by a person knowledgeable and experienced in practical drilling engineering and is familiar with the special conditions and requirements of injection well construction. All materials and equipment used in the construction of the well and related appurtenances shall be designed and manufactured to exceed the operating requirements of the specific project, including flow induced vibrations. The owner or operator must ensure that all wells are constructed and completed to:	§~~61~~3617.A.1 includes more stringent requirements compared to the federal rule regarding required work experience for the construction supervisor and design requirements for construction materials.	Reviewed; no issues found.
542	40 CFR 146.86(a)(1)	Prevent the movement of fluids into or between USDWs or into any unauthorized zones;	§~~61~~3617.A.1.a	a. prevent the movement of fluids into or between USDWs or into any unauthorized zones;		Text is identical.
543	40 CFR 146.86(a)(2)	Permit the use of appropriate testing devices and workover tools; and	§~~61~~3617.A.1.b	b. allow the use of appropriate testing devices and workover tools; and		Text is similar, with no impact on stringency.
544	40 CFR 146.86(a)(3)	Permit continuous monitoring of the annulus space between the injection tubing and long string casing.	§~~61~~3617.A.1.c	c. allow for continuous monitoring of the annulus space between the injection tubing and long string casing.		Text is similar, with no impact on stringency.
545	40 CFR 146.86(b)	*Casing and Cementing of Class VI Wells.*	§~~61~~3617.A.2	2. Casing and Cementing of Class VI Wells		Text is identical.
546	40 CFR 146.86(b)(1)	Casing and cement or other materials used in the construction of each Class VI well must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the Director to determine and specify casing and cementing requirements, the owner or operator must provide the following information:	§~~61~~3617.A.2.a	a. Casing and cement or other materials used in the construction of each Class VI well must have sufficient structural strength and be designed for the life of the geologic sequestration project. All well materials must be compatible with fluids that the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the commissioner. The casing and cementing program must be designed to prevent the movement of fluids into or between USDWs. In order to allow the commissioner to evaluate casing and cementing requirements, the owner or operator must provide the following information:		Text is similar, with no impact on stringency.
547	40 CFR 146.86(b)(1)(i)	Depth to the injection zone(s);	§~~61~~3617.A.2.a.i	i. depth to the injection zone(s);		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
548	40 CFR 146.86(b)(1)(ii)	Injection pressure, external pressure, internal pressure, and axial loading;	§~~61~~3617.A.2.a.ii	ii. injection pressure, external pressure, internal pressure, and axial loading;		Text is identical.
549	40 CFR 146.86(b)(1)(iii)	Hole size;	§~~61~~3617.A.2.a.iii	iii. hole size;		Text is identical.
550	40 CFR 146.86(b)(1)(iv)	Size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);	§~~61~~3617.A.2.a.iv	iv. size and grade of all casing strings (wall thickness, external diameter, nominal weight, length, joint specification, and construction material);		Text is identical.
551	40 CFR 146.86(b)(1)(v)	Corrosiveness of the carbon dioxide stream and formation fluids;	§~~61~~3617.A.2.a.v	v. corrosiveness of the carbon dioxide stream and formation fluids;		Text is identical.
552	40 CFR 146.86(b)(1)(vi)	Down-hole temperatures;	§~~61~~3617.A.2.a.vi	vi. down-hole temperatures;		Text is identical.
553	40 CFR 146.86(b)(1)(vii)	Lithology of injection and confining zone(s);	§~~61~~3617.A.2.a.vii	vii. lithology of injection and confining zone(s);		Text is identical.
554	40 CFR 146.86(b)(1)(viii)	Type or grade of cement and cement additives; and	§~~61~~3617.A.2.a.viii	viii. type or grade of cement and cement additives including slurry weight (lb/gal) and yield (cu. ft./sack); and		Text is similar, with no impact on stringency.
555	40 CFR 146.86(b)(1)(ix)	Quantity, chemical composition, and temperature of the carbon dioxide stream.	§~~61~~3617.A.2.a.ix	ix. quantity, chemical composition, and temperature of the carbon dioxide stream.		Text is identical.
556	40 CFR 146.86(b)(2)	Surface casing must extend through the base of the lowermost USDW and be cemented to the surface ~~through the use of a single or multiple strings of casing and cement~~.	§~~61~~3617.A.2.b	b. The surface casing of any Class VI well must extend into a confining bed—such as a shale—below the base of the deepest formation containing a USDW. The casing shall be cemented with a sufficient volume of cement to circulate cement from the casing shoe to the surface. The commissioner will not grant an exception or variance to the surface casing setting depth.	The struck-out text of 40 CFR 146.86(b)(2) will not be adopted. From a regulatory perspective, the number of surface casing strings needed to set below the base of the USDW is irrelevant; the key is making sure the surface casing is set below the USDW. §~~61~~3617.A.2.b adds text requiring the surface casing shoe be set below the USDW into a confining bed. This improves the prospects for a good casing seat and casing shoe test. Additional text added barring variances to this requirement.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
557	40 CFR 146.86(b)(3)	At least one long string casing, using a sufficient number of centralizers, must extend to the injection zone and must be cemented by circulating cement to the surface in one or more stages.	§~~61~~3617.A.2.c	c. At least one long string casing, using a sufficient number of centralizers, shall be utilized in the well. If the casing is to be perforated for injection, then the approved casing shall extend through the base of the injection zone. If an approved alternate construction method is used, such as the setting of a screen, the casing shall be set to the top of the injection interval. Regardless of the construction method utilized, the casings shall be cemented by circulating cement from the casing shoe to the surface in one or more stages.	§~~61~~3617.A.2.c includes additional specific requirements compared to the federal rule.	Reviewed; no issues found.
558	40 CFR 146.86(b)(4)	Circulation of cement may be accomplished by staging. The Director may approve an alternative method of cementing in cases where the cement cannot be recirculated to the surface, provided the owner or operator can demonstrate by using logs that the cement does not allow fluid movement behind the well bore.	§~~61~~3617.A.2.d through ~~61~~3617.A.2.d.ii	d. Circulation of cement may be accomplished by staging. Circulated to the surface shall mean that actual cement returns to the surface were observed during the primary cementing operation. A copy of the cementing company's job summary or cementing tickets indicating returns to the surface shall be submitted as part of the pre-operating requirements. i. The commissioner may approve an alternative method of cementing in cases where the cement cannot be circulated to the surface. If cement returns are lost during cementing, the owner or operator shall have the burden of showing—using wireline logs—that sufficient cement isolation is present to prevent the movement of fluid behind the well casing. ii. Remedial cementing shall be done before proceeding with further well construction, completion, or conversion if adequate cement isolation of the USDW or the injection zone within the casing-formation annulus cannot be demonstrated.	§~~61~~3617.A.2.d through ~~61~~3617.A.2.d.i includes additional specific requirements compared to the federal rule.	Reviewed; no issues found.
559	40 CFR 146.86(b)(5)	Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.	§~~61~~3617.A.2.e	e. Cement and cement additives must be compatible with the carbon dioxide stream and formation fluids and of sufficient quality and quantity to maintain integrity over the design life of the geologic sequestration project. The integrity and location of the cement shall be verified using technology capable of evaluating cement quality radially and identifying the location of channels to ensure that USDWs are not endangered.		Text is identical.

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560	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~61~~3617.A.3 through ~~61~~3617.A.3.b.i	3. Casing and Casing Seat Tests. The owner or operator shall monitor and record the tests using a surface readout pressure gauge and a chart or a digital recorder. All instruments shall be calibrated properly and in good working order. If there is a failure of the required tests, the owner or operator shall take necessary corrective action to obtain a passing test. a. Casing. After cementing each casing, but before drilling out the respective casing shoe, all casings shall be hydrostatically pressure tested to verify casing integrity and the absence of leaks. For surface casing, the stabilized test pressure applied at the surface shall be a minimum of 500 pounds per square inch gauge (PSIG). The stabilized test pressure applied at the surface for all other casings shall be a minimum of 1,000 PSIG. All casing test pressures shall be maintained for one hour after stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration. i. Casing test pressures shall never exceed the rated burst or collapse pressures of the respective casings. b. Casing Seat. The casing seat and cement of any intermediate and injection casings shall be hydrostatically pressure tested after drilling out the casing shoe. At least 10 feet of formation below the respective casing shoes shall be drilled before the test. The test pressure applied at the surface shall be a minimum of 1,000 PSIG. The test pressure shall be maintained for one hour after pressure stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration. i. Casing seat test pressures shall never exceed the known or calculated fracture gradient of the appropriate subsurface formation.	3. Casing and Casing Seat Tests. The owner or operator shall monitor and record the tests using a surface readout pressure gauge and a chart or a digital recorder. All instruments shall be calibrated properly and in good working order. If there is a failure of the required tests, the owner or operator shall take necessary corrective action to obtain a passing test. a. Casing. After cementing each casing, but before drilling out the respective casing shoe, all casings shall be hydrostatically pressure tested to verify casing integrity and the absence of leaks. For surface casing, the stabilized test pressure applied at the surface shall be a minimum of 500 pounds per square inch gauge (PSIG). The stabilized test pressure applied at the surface for all other casings shall be a minimum of 1,000 PSIG. All casing test pressures shall be maintained for one hour after stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration. i. Casing test pressures shall never exceed the rated burst or collapse pressures of the respective casings. b. Casing Seat. The casing seat and cement of any intermediate and injection casings shall be hydrostatically pressure tested after drilling out the casing shoe. At least 10 feet of formation below the respective casing shoes shall be drilled before the test. The test pressure applied at the	Reviewed; no issues found.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
					surface shall be a minimum of 1,000 PSIG. The test pressure shall be maintained for one hour after pressure stabilization. Allowable pressure loss is limited to five percent of the test pressure over the stabilized test duration. i. Casing seat test pressures shall never exceed the known or calculated fracture gradient of the appropriate subsurface formation.	
561	40 CFR 146.86(c)	*Tubing and packer.*	§~~61~~3617.A.4	4. Tubing and Packer		Text is identical.
562	40 CFR 146.86(c)(1)	Tubing and packer materials used in the construction of each Class VI well must be compatible with fluids with which the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the Director.	§~~61~~3617.A.4.a	a. Tubing and packer materials used in the construction of each Class VI well must be compatible with fluids that the materials may be expected to come into contact and must meet or exceed standards developed for such materials by the American Petroleum Institute, ASTM International, or comparable standards acceptable to the commissioner.		Text is similar, with no impact on stringency.
563	40 CFR 146.86(c)(2)	All owners or operators of Class VI wells must inject fluids through tubing with a packer set at a depth opposite a cemented interval at the location approved by the Director.	§~~61~~3617.A.4.b	b. Injection into a Class VI well must be through tubing with a packer set at a depth opposite an interval of cemented casing at a location approved by the commissioner.		Text is similar, with no impact on stringency.
564	40 CFR 146.86(c)(3)	In order for the Director to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:	§~~61~~3617.A.4.c	c. In order for the commissioner to determine and specify requirements for tubing and packer, the owner or operator must submit the following information:		Text is identical.
565	40 CFR 146.86(c)(3)(i)	Depth of setting;	§~~61~~3617.A.4.c.i	i. depth of setting;		Text is identical.
566	40 CFR 146.86(c)(3)(ii)	Characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;	§~~61~~3617.A.4.c.ii	ii. characteristics of the carbon dioxide stream (chemical content, corrosiveness, temperature, and density) and formation fluids;		Text is identical.
567	40 CFR 146.86(c)(3)(iii)	Maximum proposed injection pressure;	§~~61~~3617.A.4.c.iii	iii. maximum proposed injection pressure;		Text is identical.
568	40 CFR 146.86(c)(3)(iv)	Maximum proposed annular pressure;	§~~61~~3617.A.4.c.iv	iv. maximum proposed annular pressure;		Text is identical.
569	40 CFR 146.86(c)(3)(v)	Proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;	§~~61~~3617.A.4.c.v	v. proposed injection rate (intermittent or continuous) and volume and/or mass of the carbon dioxide stream;		Text is identical.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
570	40 CFR 146.86(c)(3)(vi)	Size of tubing and casing; and	§~~61~~3617.A.4.c.vi	vi. size of tubing and casing; and		Text is identical.
571	40 CFR 146.86(c)(3)(vii)	Tubing tensile, burst, and collapse strengths.	§~~61~~3617.A.4.c.vii	vii. tubing tensile, burst, and collapse strengths.		Text is identical.
40 CFR 146.87 Logging, sampling, and testing prior to injection well operation.						
572	40 CFR 146.87(a)	During the drilling and construction of a Class VI injection well, the owner or operator must run appropriate logs, surveys and tests to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of any formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements under 40 CFR 146.86 and to establish accurate baseline data against which future measurements may be compared. The owner or operator must submit to the Director a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:	§~~61~~3617.B.1	1. During the drilling and construction of a Class VI well, appropriate logs, surveys and tests must be run to determine or verify the depth, thickness, porosity, permeability, and lithology of, and the salinity of formation fluids in all relevant geologic formations to ensure conformance with the injection well construction requirements of §~~61~~3617 and to establish accurate baseline data against which future measurements may be compared. The well operator must submit to the commissioner a descriptive report prepared by a knowledgeable log analyst that includes an interpretation of the results of such logs and tests. At a minimum, such logs and tests must include:		Reviewed; no issues found.
573	40 CFR 146.87(a)(1)	Deviation checks during drilling on all holes constructed by drilling a pilot hole which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to ensure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling; and	§~~61~~3617.B.1.a	a. deviation checks during drilling of all boreholes constructed by drilling a pilot hole, which is enlarged by reaming or another method. Such checks must be at sufficiently frequent intervals to determine the location of the borehole and to ensure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling;		Text is similar, with no impact on stringency.
574	40 CFR 146.87(a)(2)	Before and upon installation of the surface casing:	§~~61~~3617.B.1.b	b. before and upon installation of surface casing:		Text is similar, with no impact on stringency.
575	40 CFR 146.87(a)(2)(i)	Resistivity, spontaneous potential, and caliper logs before the casing is installed; and	§~~61~~3617.B.1.b.i	i. resistivity, gamma-ray, spontaneous potential, and caliper logs before the casing is installed; and	The following language has been added at §3617.B.1.b.i: gamma-ray.	State also requires a gamma-ray log; no concerns for stringency. August 2020 review: no concerns for stringency.
576	40 CFR 146.87(a)(2)(ii)	A cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.	§~~61~~3617.B.1.b.ii	ii. a cement bond and variable density log to evaluate cement quality radially, and a temperature log after the casing is set and cemented.		Text is identical.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
577	40 CFR 146.87(a)(3)	Before and upon installation of the long string casing:	§~~61~~3617.B.1.c	c. before and upon installation *intermediate and* long string casing:	The following emphasized language has been added at §3617.B.1.c: *intermediate and*.	State also requires testing when installing intermediate casing; no concerns for stringency. August 2020 review: no concerns for stringency.
578	40 CFR 146.87(a)(3)(i)	Resistivity, spontaneous potential, porosity, caliper, gamma ray, fracture finder logs, and any other logs the Director requires for the given geology before the casing is installed; and	§~~61~~3617.B.1.c.i	i. resistivity, gamma-ray, spontaneous potential, porosity, caliper, fracture finder logs, and any other logs the commissioner requires for the given geology before the casing is installed; and	The following language has been added at §3617.B.1.c.i: gamma-ray.	State also requires a gamma-ray log; no concerns for stringency. August 2020 review: no concerns for stringency.
579	40 CFR 146.87(a)(3)(ii)	A cement bond and variable density log, and a temperature log after the casing is set and cemented.	§~~61~~3617.B.1.c.ii	ii. a cement bond and variable density log, and a temperature log after the casing is set and cemented.		Text is identical.
580	40 CFR 146.87(a)(4)	A series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:	§~~61~~3617.B.1.d	d. a series of tests designed to demonstrate the internal and external mechanical integrity of injection wells, which may include:		Text is identical.
581	40 CFR 146.87(a)(4)(i)	A pressure test with liquid or gas;	§~~61~~3617.B.1.d.i	i. a pressure test with liquid or gas;		Text is identical.
582	40 CFR 146.87(a)(4)(ii)	A tracer survey such as oxygen-activation logging;	§~~61~~3617.B.1.d.ii	ii. a tracer-type survey to detect fluid movement behind casing such as a radioactive tracer or oxygen-activation logging, or similar tool;	§~~61~~3617.B.1.d.ii includes examples of alternative tracer type surveys that provide equivalent information to oxygen-activation logging.	Reviewed; no issues found.
583	40 CFR 146.87(a)(4)(iii)	A temperature or noise log;	§~~61~~3617.B.1.d.iii	iii. a temperature or noise log;		Text is identical.
584	40 CFR 146.87(a)(4)(iv)	A casing inspection log; and	§~~61~~3617.B.1.d.iv	iv. a casing inspection log.		Text is identical.
585	40 CFR 146.87(a)(5)	Any alternative methods that provide equivalent or better information and that are required by and/or approved of by the Director.	§~~61~~3617.B.1.e	e. any alternative methods that provide equivalent or better information and that are required by and approved by the commissioner.		Text is similar, with no impact on stringency.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
586	40 CFR 146.87(b)	The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone(s), and must submit to the Director a detailed report prepared by a log analyst that includes: well log analyses (including well logs), core analyses, and formation fluid sample information. The Director may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The Director may require the owner or operator to core other formations in the borehole.	§~~61~~3617.B.2	2. The owner or operator must take whole cores or sidewall cores of the injection zone and confining system and formation fluid samples from the injection zone(s), and must submit to the commissioner a detailed report prepared by a log analyst that includes: well log analyses (including well logs), core analyses, and formation fluid sample information. The commissioner may accept information on cores from nearby wells if the owner or operator can demonstrate that core retrieval is not possible and that such cores are representative of conditions at the well. The commissioner may require the owner or operator to core other formations in the borehole.		Text is identical.
587	40 CFR 146.87(c)	The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).	§~~61~~3617.B.3	3. The owner or operator must record the fluid temperature, pH, conductivity, reservoir pressure, and static fluid level of the injection zone(s).		Text is identical.
588	40 CFR 146.87(d)	At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone(s):	§~~61~~3617.B.4	4. At a minimum, the owner or operator must determine or calculate the following information concerning the injection and confining zone(s):		Text is identical.
589	40 CFR 146.87(d)(1)	Fracture pressure;	§~~61~~3617.B.4.a	a. fracture pressure;		Text is identical.
590	40 CFR 146.87(d)(2)	Other physical and chemical characteristics of the injection and confining zone(s); and	§~~61~~3617.B.4.b	b. other physical and chemical characteristics of the injection and confining zone(s); and		Text is identical.
591	40 CFR 146.87(d)(3)	Physical and chemical characteristics of the formation fluids in the injection zone(s).	§~~61~~3617.B.4.c	c. physical and chemical characteristics of the formation fluids in the injection zone(s).		Text is identical.
592	40 CFR 146.87(e)	Upon completion, but prior to operation, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone(s):	§~~61~~3617.B.5	5. Upon completion, but before operating, the owner or operator must conduct the following tests to verify hydrogeologic characteristics of the injection zone(s):		Text is similar, with no impact on stringency.
593	40 CFR 146.87(e)(1)	A pressure fall-off test; and,	§~~61~~3617.B.5.a	a. a pressure fall-off test; and,		Text is identical.
594	40 CFR 146.87(e)(2)	A pump test; or	§~~61~~3617.B.5.b	b. a pump test; or		Text is identical.
595	40 CFR 146.87(e)(3)	Injectivity tests.	§~~61~~3617.B.5.c	c. injectivity tests.		Text is identical.

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596	40 CFR 146.87(f)	The owner or operator must provide the Director with the opportunity to witness all logging and testing by this subpart. The owner or operator must submit a schedule of such activities to the Director 30 days prior to conducting the first test and submit any changes to the schedule 30 days prior to the next scheduled test.	§~~61~~3617.B.6	6. The owner or operator must notify the Office of Conservation at least 72 hours before conducting any wireline logs, well tests, or reservoir tests.	While the language at §~~61~~3617.B.6 is not verbatim to 40 CFR 146.87(f), the intent of the federal rule is preserved: that being, prior notification by the well operator of a scheduled field action. Louisiana believes a 72-hour advance notice of a scheduled field activity is sufficient instead of a 30-day notice. §~~61~~3617.B.6 requires a 72 hour notice (for each test) compared to the federal rule, which requires a 30 day notice. §~~61~~3617.B.6 also does not include any requirements for~~:~~ providing the commissioner with an opportunity to witness the testing and logging or submitting a schedule of activities or revised schedule of activities. The state's ability to address notices within this shorter time frame will be addressed in the Program Description of the primacy application. The Program Description will also include a description of the work permit request form (Form UIC-17 or successor form) that must be approved by UIC staff prior to start of work per §3621.A.9	72 hour, rather than 30 day, notice may be acceptable if the state has resources to address notices within that time frame. EPA may wish to keep this in mind during the primacy application review, along with a consideration for the amount of witnessing the state plans to perform. August 2020 review: clarification is noted; no concerns for stringency (this will be addressed in the primacy review).
40 CFR 146.88 Injection well operating requirements.						

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
597	40 CFR 146.88(a)	Except during stimulation, the owner or operator must ensure that injection pressure does not exceed 90 percent of the fracture pressure of the injection zone(s) so as to ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone(s). In no case may injection pressure initiate fractures in the confining zone(s) or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at 40 CFR 146.82(a)(9), all stimulation programs must be approved by the Director as part of the permit application and incorporated into the permit.	§~~62~~3621.A.1	1. Injection Pressure. Except during stimulation, the injection well shall be operated so that the injection-induced pressure in the injection zone(s) does not exceed 90 percent of the fracture pressure of the injection zone(s). This shall ensure that the injection does not initiate new fractures or propagate existing fractures in the injection zone. In no case may injection pressure initiate fractures in the confining zone(s) or cause the movement of injection or formation fluids that endangers a USDW. Pursuant to requirements at §~~60~~3607.C.2.h, all stimulation programs must be approved by the commissioner as part of the permit application and incorporated into the permit.		Text is similar, with no impact on stringency. Recommend making "injection zone" potentially plural (i.e., "injection zone(s)"). August 2020 review: revision addresses the above comment. No concerns for stringency.
598	40 CFR 146.88(b)	Injection between the outermost casing protecting USDWs and the well bore is prohibited.	§~~62~~3621.A.2	2. Injection between the outermost casing protecting USDWs and the wellbore is prohibited.		Recommend referring to USDWs (plural) to be inclusive of all USDWs at the site. August 2020 review: revision addresses the above comment.
599	40 CFR 146.88(c)	The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the Director. The owner or operator must maintain on the annulus a pressure that exceeds the operating injection pressure, unless the Director determines that such requirement might harm the integrity of the well or endanger USDWs.	§~~62~~3621.A.3 through ~~62~~3621.A.4	3. The owner or operator must fill the annulus between the tubing and the long string casing with a non-corrosive fluid approved by the commissioner or a fluid containing a corrosion ~~inhibitor that is approved~~inhibitor approved by the commissioner. 4. Annulus Pressure. The owner or operator shall maintain a tubing-casing annulus pressure that exceeds the operating injection pressure, unless the commissioner determines that such requirement might harm the integrity of the well or endanger a USDW. A request to operate the well at a reduced annulus pressure must be in writing and approved by the commissioner.	§~~62~~3621.A.4 provides additional options compared to the federal rule ("a non-corrosive fluid or a fluid containing a corrosion inhibitor" compared to "a non-corrosive fluid") and does not specify that the fluid must be approved by the commissioner. Compared to the federal rule, §~~62~~3621.A.4 includes additional specific requirements that any request to operate the well at a reduced annulus pressure must be in writing and approved by the commissioner.	The option of a fluid containing a corrosion inhibitor is appropriate. (Note that LA notes of the difference imply that the non-corrosive fluid does not need to be approved by the commissioner; however the rule requires approval; EPA recommends this remain.) August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
600	40 CFR 146.88(d)	Other than during periods of well workover (maintenance) approved by the Director in which the sealed tubing-casing annulus is disassembled for maintenance or corrective procedures, the owner or operator must maintain mechanical integrity of the injection well at all times.	§~~62~~3621.A.5	5. The owner or operator must maintain mechanical integrity of the injection well at all times, except when doing well workovers, well maintenance, or well remedial work approved by the commissioner.	While the language at §~~62~~3621.A.5 is not verbatim to 40 CFR 146.88(d), the intent of the federal rule is preserved; that being maintaining internal well mechanical integrity at all times, except during well maintenance operations.	Reviewed; no issues found.
601	40 CFR 146.88(e)	The owner or operator must install and use:	§~~62~~3621.A.6	6. Continuous recording devices shall be installed, used, and maintained in proper working order for each well.	While the language at §~~62~~3621.A.6 is not verbatim to 40 CFR 146.88(e), the intent of the federal rule is preserved; that being, requiring the permittee to install and use the devices listed in the subsequent section.	Reviewed; no issues found.
602	40 CFR 146.88(e)(1)	Continuous recording devices to monitor: the injection pressure; the rate, volume and/or mass, and temperature of the carbon dioxide stream; and the pressure on the annulus between the tubing and the long string casing and annulus fluid volume; and	§~~62~~3621.A.6.a through ~~62~~3621.A.6.a.iv	a. continuous recording devices shall monitor: i. surface injection or bottom-hole pressure; ii. flow rate, volume and/or mass, and temperature of the carbon dioxide stream; iii. tubing-casing annulus pressure and annulus fluid volume; iv. any other data specified by the commissioner.	§~~62~~3621.A.6.a through ~~62~~3621.A.6.a.iv include additional specific requirements compared to the federal rule. §~~62~~3621.A.6.a.i allows monitoring of "surface injection or bottom-hole pressure" while 40 CFR 146.88(e)(1) only includes "injection pressure."	Reviewed; no issues found.
603	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.6.b	b. continuous recordings ~~may~~ shall consist of ~~mechanical charts or~~ digital recordings. ~~Mechanical charts shall not exceed a clock period of 24-hour duration. The chart shall be selected such that its scaling is of sufficient sensitivity to record all fluctuations of pressure or any other parameter being monitored. The chart shall be scaled such that the parameter being recorded is 30 percent to 70 percent of full scale.~~ Instruments shall be weatherproof or housed in weatherproof enclosures when located in areas exposed to climatic conditions.	Language has been added at §~~62~~3621.A.6.b to specify the state's regulations for continuous recording devices.	Reviewed; no issues found. August 2020 review: revised provision has no CFR equivalent. No concerns for stringency.
604	40 CFR 146.88(e)(2)	Alarms and automatic surface shut-off systems or, at the discretion of the Director, down-hole shut-off systems (e.g., automatic shut-off, check valves) for onshore wells or, other mechanical devices that provide equivalent protection; and	§~~62~~3621.A.7.a.i	i. for onshore wells, alarms and automatic surface shut-off valves or—at the discretion of the commissioner—down-hole shut-off systems (e.g., automatic shut-off, check valves) or, other mechanical devices that provide equivalent protection; and		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
605	40 CFR 146.88(e)(3)	Alarms and automatic down-hole shut-off systems for wells located offshore but within State territorial waters, designed to alert the operator and shut-in the well when operating parameters such as annulus pressure, injection rate, or other parameters diverge beyond permitted ranges and/or gradients specified in the permit.	§~~62~~3621.A.7.a.ii	ii. for offshore wells, alarms and automatic down-hole shut-off systems designed to alert the operator and shut-in the well when operating parameters such as annulus pressure, injection rate, or other parameters diverge beyond permitted ranges or gradients specified in the permit.		Text is similar, with no impact on stringency.
606	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.7.a.iii	iii. all alarms must be integrated with any automatic shutdown system.	The following language has been added at §~~62~~3621.A.7.a.iii to specify additional state regulations regarding alarms: all alarms must be integrated with any automatic shutdown system.	Reviewed; no issues found.
607	40 CFR 146.88(f)	If a shutdown (i.e., down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, ~~the well appears to be lacking mechanical integrity, or if monitoring required under paragraph (e) of this section otherwise indicates~~ that the well may be lacking mechanical integrity, the owner or operator must:	§~~62~~3621.A.7.b	b. If a shutdown (i.e., down-hole or at the surface) is triggered or a loss of mechanical integrity is discovered, the owner or operator must immediately investigate and identify as expeditiously as possible the cause of the shutoff. If, upon such investigation, the well is lacking mechanical integrity, or if monitored well parameters indicate that the well may be lacking mechanical integrity, the owner or operator must:	The struck-out text of 40 CFR 146.88(f) will be replaced with, "the well is lacking mechanical integrity, or if monitored well parameters indicate." This text only includes situations in which "the well is lacking mechanical integrity" instead of situations in which "the well *appears* to be lacking mechanical integrity" (emphasis added) as in the federal rule. However, the second part of that sentence ("or if monitored well parameters indicate...") accounts for scenarios of apparent loss of mechanical integrity.	Reviewed; no issues found.
608	40 CFR 146.88(f)(1)	Immediately cease injection;	§~~62~~3621.A.7.b.i	i. immediately cease injection;		Text is identical.
609	40 CFR 146.88(f)(2)	Take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;	§~~62~~3621.A.7.b.ii	ii. take all steps reasonably necessary to determine whether there may have been a release of the injected carbon dioxide stream or formation fluids into any unauthorized zone;		Text is identical.
610	40 CFR 146.88(f)(3)	Notify the Director within 24 hours;	§~~62~~3621.A.7.b.iii	iii. notify the commissioner within 24 hours;		Text is identical.
611	40 CFR 146.88(f)(4)	Restore and demonstrate mechanical integrity to the satisfaction of the Director prior to resuming injection; and	§~~62~~3621.A.7.b.iv	iv. restore and demonstrate mechanical integrity to the satisfaction of the commissioner prior to resuming injection; and		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
612	40 CFR 146.88(f)(5)	Notify the Director when injection can be expected to resume.	§~~62~~3621.A.7.b.v	v. notify the commissioner when injection can be expected to resume.		Text is identical.
613	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.7.c	c. All emergency shutdown systems shall be fail-safe. The operator shall function-test all critical systems of control and safety at least once every six months. This includes testing of alarms, test tripping of emergency shutdown valves ensuring their closure times are within design specifications, and ensuring the integrity of all electrical, pneumatic, and hydraulic circuits. Test dates and results shall be documented and be available for inspection by an agent of the Office of Conservation.	Additional language has been added at §~~62~~3621.A.7.c to specify additional state regulations regarding testing for components of emergency shutdown systems.	Reviewed; no issues found.
614	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.8 through ~~62~~3621.A.8.b	8. Wellhead Identification and Protection a. A protective barrier shall be installed and maintained around the wellheads, piping, and above ground structures that may be vulnerable to physical or accidental damage by mobile equipment or trespassers. b. An identifying sign shall be placed at the wellhead of each injection well and shall include at a minimum the operator's name, well name and number, well serial number, section-township-range, and any other information required by the commissioner. The sign shall be of durable construction with all lettering kept in a legible condition.	Additional language has been added at §~~62~~3621.A.8 to specify additional state regulations regarding wellhead identification and protection.	Reviewed; no issues found.
615	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.9	9. Well Workovers. No well remedial work, well maintenance or repair, well or injection formation stimulation, well plug and abandonment or temporary abandonment, any other test of the injection well conducted by the permittee, or well work of any kind, shall be done without prior written authorization from the commissioner. The operator shall submit a work permit request form (Form UIC-17 or successor) to seek well work authorization.	Additional language has been added at §~~62~~3621.A.8 to require operators to seek well work authorization before undertaking any type of well work.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
616	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~62~~3621.A.10	10. Pressure gauges that show pressure on the injection tubing and tubing-casing annulus shall be installed at each wellhead. Gauges shall be designed to read in increments of 10 PSIG. All gauges shall be properly calibrated and be maintained in good working order. The pressure valves onto which the pressure gauges are affixed shall have one-half inch female fittings.	Additional language has been added at §~~62~~3621.A.10 to specify requirements for pressure gauges and pressure valves.	Reviewed; no issues found.
40 CFR 146.89 Mechanical integrity						
617	40 CFR 146.89(a)	A Class VI well has mechanical integrity if:	§~~62~~3627.A.1	1. A Class VI well has mechanical integrity if:		Text is identical. Citation added in review.
618	40 CFR 146.89(a)(1)	There is no significant leak in the casing, tubing, or packer; and	§~~62~~3627.A.1.a	a. there is no significant leak in the casing, tubing, or packer; and		Text is identical.
619	40 CFR 146.89(a)(2)	There is no significant fluid movement into a USDW through channels adjacent to the injection well bore.	§~~62~~3627.A.1.b	b. there is no significant fluid movement into a USDW through channels adjacent to the injection wellbore.		Text is identical.
620	40 CFR 146.89(b)	To evaluate the absence of significant leaks under paragraph (a)(1) of this section, owners or operators must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in 40 CFR 146.88 (e);	§~~62~~3627.A.2 through ~~62~~3627.A.2.b	2. To evaluate the absence of significant leaks, owners or operators must: a. perform an annulus pressure test: i. after initial well construction or conversion as part of the pre-operating requirements; ii. at least once every 12 months witnessed by an agent of the Office of Conservation; and iii. after performing any well remedial work that involves unseating the tubing or packer. b. continuously monitor injection pressure, rate, injected volumes; pressure on the annulus between tubing and long-string casing; and annulus fluid volume as specified in §~~62~~3621.A.6.	§~~62~~3627.A.2.a includes more stringent requirements regarding annulus pressure tests compared to the federal rule, specifically requiring that an annulus pressure test be conducted after initial well construction or conversion as part of the pre-operating requirements; at least once every 12 months witnessed by an agent of the Office of Conservation; and after performing any well remedial work that involves unseating the tubing or packer.	Reviewed; no issues found.
621	40 CFR 146.89(c)	At least once per year, the owner or operator must use one of the following methods to determine the absence of significant fluid movement under paragraph (a)(2) of this section:	§~~62~~3627.A.3	3. At least once every 12 months, use one of the following methods to determine the absence of significant fluid movement:		Text is similar, with no impact on stringency.

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
622	40 CFR 146.89(c)(1)	An approved tracer survey such as an oxygen-activation log; or	§~~62~~3627.A.3.a	a. an approved tracer-type survey such as a radioactive tracer, oxygen-activation log, or similar tool; or	§~~62~~3627.A.3.a includes examples of alternative tracer type surveys that provide equivalent information to oxygen-activation logging.	Reviewed; no issues found.
623	40 CFR 146.89(c)(2)	A temperature or noise log.	§~~62~~3627.A.3.b	b. a temperature or noise log.		Text is identical.
624	40 CFR 146.89(d)	If required by the Director, at a frequency specified in the testing and monitoring plan required at 40 CFR 146.90, the owner or operator must run a casing inspection log to determine the presence or absence of corrosion in the long-string casing.	§~~62~~3627.A.4	4. If required by the commissioner, run a casing inspection log at a frequency specified in the testing and monitoring plan at §~~62~~3625 to determine the presence or absence of corrosion in the long-string casing.		Text is similar, with no impact on stringency.
625	40 CFR 146.89(e)	The Director may require any other test to evaluate mechanical integrity under paragraphs (a)(1) or (a)(2) of this section. Also, the Director may allow the use of a test to demonstrate mechanical integrity other than those listed above with the written approval of the Administrator. To obtain approval for a new mechanical integrity test, the Director must submit a written request to the Administrator setting forth the proposed test and all technical data supporting its use. ~~The Administrator may approve the request if he or she determines that it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. Any alternate method approved by the Administrator will be published in the *Federal Register* and may be used in all States in accordance with applicable State law unless its use is restricted at the time of approval by the Administrator~~.	§~~62~~3627.A.5 through ~~62~~3627.A.5.a	5. The commissioner may require other tests to evaluate well mechanical integrity. a. The commissioner may allow the use of a test to demonstrate mechanical integrity other than those listed above with written approval of the USEPA. To obtain approval for the use of a new mechanical integrity test, the owner or operator must submit a written request to the commissioner with details of the proposed test and all technical data supporting its use, and the commissioner will submit a written request to the USEPA.	The struck-out text of 40 CFR 146.89(e) will not be adopted as it pertains to federal actions. In addition to the text at 40 CFR 146.89(e), the following language has been added at §~~62~~3627.A.5.a: and the commissioner will submit a written request to the USEPA.	Reviewed; no issues found.
626	40 CFR 146.89(f)	In conducting and evaluating the tests enumerated in this section or others to be allowed by the Director, the owner or operator and the Director must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the Director, he/she shall include a description of the test(s) and the method(s) used. In making his/her evaluation, the Director must review monitoring and other test data submitted since the previous evaluation.	§~~62~~3627.A.6	6. In conducting and evaluating the tests enumerated in this section to be allowed by the commissioner, the owner or operator and the commissioner must apply methods and standards generally accepted in the industry. When the owner or operator reports the results of mechanical integrity tests to the commissioner, a description of the test(s) and the method(s) used must be included. In making the evaluation, the commissioner must review monitoring and other test data submitted since the previous evaluation.		The state rule text omits "In making his/her evaluation, the Director must review monitoring and other test data submitted since the previous evaluation." EPA may wish to ensure appropriate evaluation procedures as part of the primacy application review. August 2020 review: revision addresses the above comment; state provision is similar to CFR. No concerns for stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	Federal Citation	CFR Text	LA Citation	LA Rule Text		
~~62~~3627	40 CFR 146.89(g)	The Director may require additional or alternative tests if the results presented by the owner or operator under paragraphs (a) through (d) of this section are not satisfactory to the Director to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity as stated in paragraphs (a)(1) and (2) of this section.	§~~62~~3627.A.7	7. The commissioner may require additional or alternative tests if the mechanical integrity test results presented are not satisfactory to the commissioner to demonstrate that there is no significant leak in the casing, tubing, or packer, or to demonstrate that there is no significant movement of fluid into a USDW resulting from the injection activity.		Text is similar, with no impact on stringency. Citation corrected in review.
40 CFR 146.90 Testing and monitoring requirements.						
628	40 CFR 146.90	The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be submitted with the permit application, for Director approval, and must include a description of how the owner or operator will meet the requirements of this section, including accessing sites for all necessary monitoring and testing during the life of the project. Testing and monitoring associated with geologic sequestration projects must, at a minimum, include:	§~~62~~3625.A	A. Testing and Monitoring Requirements. The owner or operator of a Class VI well must prepare, maintain, and comply with a testing and monitoring plan to verify that the geologic sequestration project is operating as permitted and is not endangering USDWs. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The testing and monitoring plan must be included with the permit application and must include a description of how the owner or operator will meet these requirements—including accessing sites for all necessary monitoring and testing during the life of the project. Testing and monitoring associated with geologic sequestration projects must include, at a minimum:		Text is similar, with no impact on stringency.
629	40 CFR 146.90(a)	Analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;	§~~62~~3625.A.1	1. analysis of the carbon dioxide stream with sufficient frequency to yield data representative of its chemical and physical characteristics;		Text is identical.
630	40 CFR 146.90(b)	Installation and use, except during well workovers as defined in 40 CFR 146.88(d), of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the annulus between the tubing and the long string casing; and the annulus fluid volume added;	§~~62~~3625.A.2	2. installation and use of continuous recording devices to monitor injection pressure, rate, and volume; the pressure on the tubing-casing annulus; and the annulus fluid volume added. Continuous monitoring is not required during well workovers as defined in §~~62~~3621.A.5;	While the language at §~~62~~3625.A.2 is not verbatim to 40 CFR 146.90(b), the intent of the federal rule is preserved; that being, installation and use of continuous recording equipment will be required except during well workovers.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
631	40 CFR 146.90(c)	Corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in 40 CFR 146.86(b), by:	§~~62~~3625.A.3	3. corrosion monitoring of the well materials for loss of mass, thickness, cracking, pitting, and other signs of corrosion, which must be performed on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in §~~61~~3617.A.2, by:		Text is similar, with no impact on stringency.
632	40 CFR 146.90(c)(1)	Analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or	§~~62~~3625.A.3.a	a. analyzing coupons of the well construction materials placed in contact with the carbon dioxide stream; or		Text is identical.
633	40 CFR 146.90(c)(2)	Routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or	§~~62~~3625.A.3.b	b. routing the carbon dioxide stream through a loop constructed with the material used in the well and inspecting the materials in the loop; or		Text is identical.
634	40 CFR 146.90(c)(3)	Using an alternative method approved by the Director;	§~~62~~3625.A.3.c	c. using an alternative method approved by the commissioner;		Text is identical.
635	40 CFR 146.90(d)	Periodic monitoring of the ground water quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:	§~~62~~3625.A.4	4. periodic monitoring of the ground water quality and geochemical changes above the confining zone(s) that may be a result of carbon dioxide movement through the confining zone(s) or additional identified zones including:		Text is identical.
636	40 CFR 146.90(d)(1)	The location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and	§~~62~~3625.A.4.a	a. the location and number of monitoring wells based on specific information about the geologic sequestration project, including injection rate and volume, geology, the presence of artificial penetrations, and other factors; and		Text is identical.
637	40 CFR 146.90(d)(2)	The monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under 40 CFR 146.82(a)(6) and on any modeling results in the area of review evaluation required by 40 CFR 146.84(c).	§~~62~~3625.A.4.b	b. the monitoring frequency and spatial distribution of monitoring wells based on baseline geochemical data that has been collected under §~~60~~3607.C.2.e and on any modeling results in the area of review evaluation required by §~~61~~3615.B.3.		Text is similar, with no impact on stringency.
638	40 CFR 146.90(e)	A demonstration of external mechanical integrity pursuant to 40 CFR 146.89(c) at least once per year until the injection well is plugged; and, if required by the Director, a casing inspection log pursuant to requirements at 40 CFR 146.89(d) at a frequency established in the testing and monitoring plan;	§~~62~~3625.A.5	5. a demonstration of external mechanical integrity pursuant to §~~62~~3627.A.3 at least once every 12 months until the injection well is permanently plugged and abandoned; and, if required by the commissioner, a casing inspection log pursuant to requirements at §~~62~~3627.A.4 at a frequency established in the testing and monitoring plan;		Text is similar, with no impact on stringency.
639	40 CFR 146.90(f)	A pressure fall-off test at least once every five years unless more frequent testing is required by the Director based on site-specific information;	§~~62~~3625.A.6	6. a pressure fall-off test at least once every five years unless more frequent testing is required by the commissioner based on site-specific information;		Text is identical.

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Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
640	40 CFR 146.90(g)	Testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:	§~~62~~3625.A.7	7. testing and monitoring to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure (e.g., the pressure front) by using:		Text is identical.
641	40 CFR 146.90(g)(1)	Direct methods in the injection zone(s); and,	§~~62~~3625.A.7.a	a. direct methods in the injection zone(s); and		Text is identical.
642	40 CFR 146.90(g)(2)	Indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the Director determines, based on site-specific geology, that such methods are not appropriate;	§~~62~~3625.A.7.a	b. indirect methods (e.g., seismic, electrical, gravity, or electromagnetic surveys and/or down-hole carbon dioxide detection tools), unless the commissioner determines that such methods are not appropriate, based on site-specific geology;		Text is similar, with no impact on stringency.
643	40 CFR 146.90(h)	The Director may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW.	§~~62~~3625.A.8	8. The commissioner may require surface air monitoring and/or soil gas monitoring to detect movement of carbon dioxide that could endanger a USDW.		Text is identical.
644	40 CFR 146.90(h)(1)	Design of Class VI surface air and/or soil gas monitoring must be based on potential risks to USDWs within the area of review;	§~~62~~3625.A.8.a	a. Design of Class VI surface air and/or soil gas monitoring must be based on potential risks to USDWs within the area of review;		Text is identical.
645	40 CFR 146.90(h)(2)	The monitoring frequency and spatial distribution of surface air monitoring and/or soil gas monitoring must be decided using baseline data, and the monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under 40 CFR 144.12;	§~~62~~3625.A.8.b	b. The monitoring frequency and spatial distribution of surface air monitoring and/or soil gas monitoring must be decided using baseline data, and the monitoring plan must describe how the proposed monitoring will yield useful information on the area of review delineation and/or compliance with standards under §~~60~~3603 .D;		Text is similar, with no impact on stringency.
646	40 CFR 146.90(h)(3)	If an owner or operator demonstrates that monitoring employed under 40 CFR 98.440 to 98.449 of this chapter (Clean Air Act, 42 U.S.C. 7401 et seq.) accomplishes the goals of (h)(1) and (2) of this section, and meets the requirements pursuant to 40 CFR 146.91(c)(5), a Director that requires surface air/soil gas monitoring must approve the use of monitoring employed under 98.440 to 98.449 of this chapter. Compliance with 40 CFR 98.440 to 98.449 of this chapter pursuant to this provision is considered a condition of the Class VI permit;	§~~62~~3625.A.8.c	c. If an owner or operator demonstrates that monitoring employed under 40 CFR ~~§§~~98.440 to 98.449 accomplishes the goals of §§~~62~~3625.A.8.a. and b., and meets the requirements pursuant to §~~62~~3629.A.~~3.e~~1.c.v, a regulatory agency that requires surface air/soil gas monitoring must approve the use of monitoring employed under 40 CFR ~~§§~~98.440 to 98.449. Compliance with 40 CFR ~~§§~~98.440 to 98.449 pursuant to this provision is considered a condition of the Class VI permit;		Text is similar, with no impact on stringency. August 2020 review: minor revision presents no concerns for stringency.
647	40 CFR 146.90(i)	Any additional monitoring, as required by the Director, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under 40 CFR 146.84(c) and to determine compliance with standards under 40 CFR 144.12;	§~~62~~3625.A.9	9. Any additional monitoring, as required by the commissioner, necessary to support, upgrade, and improve computational modeling of the area of review evaluation required under §~~61~~3615.B.3 and to determine compliance with standards under §~~61~~3619;		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
648	40 CFR 146.90(j)	The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under this subpart, operational data collected under 40 CFR 146.88, and the most recent area of review reevaluation performed under 40 CFR 146.84(e). In no case shall the owner or operator review the testing and monitoring plan less often than once every five years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the Director that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:	§~~62~~3625.A.10	10. The owner or operator shall periodically review the testing and monitoring plan to incorporate monitoring data collected under §~~62~~3625, operational data collected under §~~62~~3621, and the most recent area of review reevaluation performed under §~~61~~3615.C.2. In no case shall the owner or operator review the testing and monitoring plan less often than once every five years. Based on this review, the owner or operator shall submit an amended testing and monitoring plan or demonstrate to the commissioner that no amendment to the testing and monitoring plan is needed. Any amendments to the testing and monitoring plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §~~61~~3613, as appropriate. Amended plans or demonstrations shall be submitted to the commissioner as follows:		Text is similar, with no impact on stringency.
649	40 CFR 146.90(j)(1)	Within one year of an area of review reevaluation;	§~~62~~3625.A.10.a	a. within 12 months of an area of review reevaluation;		Text is similar, with no impact on stringency.
650	40 CFR 146.90(j)(2)	Following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the Director; or	§~~62~~3625.A.10.b	b. following any significant changes to the facility, such as addition of monitoring wells or newly permitted injection wells within the area of review, on a schedule determined by the commissioner; or		Text is identical.
651	40 CFR 146.90(j)(3)	When required by the Director.	§~~62~~3625.A.10.c	c. when required by the commissioner.		Text is identical.
652	40 CFR 146.90(k)	A quality assurance and surveillance plan for all testing and monitoring requirements.	§~~62~~3625.A.11	11. a quality assurance and surveillance plan for all testing and monitoring requirements.		Text is identical.
40 CFR 146.91 Reporting requirements.						
653	40 CFR 146.91	The owner or operator must, at a minimum, provide, as specified in paragraph (e) of this section, the following reports to the Director, for each permitted Class VI well:	§~~62~~3629.A	A. Reporting Requirements. The owner or operator must provide, at a minimum, the following reports to the commissioner—and the USEPA as specified in §~~62~~3629.A.5—for each permitted Class VI well:		Text is similar, with no impact on stringency.
654	40 CFR 146.91(a)	Semi-annual reports containing:	§~~62~~3629.A.1	1. Semi-annual reports containing:		Text is identical.
655	40 CFR 146.91(a)(1)	Any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;	§~~62~~3629.A.1.a	a. any changes to the physical, chemical, and other relevant characteristics of the carbon dioxide stream from the proposed operating data;		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
656	40 CFR 146.91(a)(2)	Monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;	§~~62~~3629.A.1.b	b. monthly average, maximum, and minimum values for injection pressure, flow rate and volume, and annular pressure;		Text is identical.
657	40 CFR 146.91(a)(3)	A description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;	§~~62~~3629.A.1.c	c. a description of any event that exceeds operating parameters for annulus pressure or injection pressure specified in the permit;		Text is identical.
658	40 CFR 146.91(a)(4)	A description of any event which triggers a shut-off device required pursuant to 40 CFR 146.88(e) and the response taken;	§~~62~~3629.A.1.d	d. a description of any event which triggers a shut-off device required by §~~62~~36291 and the response taken;		Text is similar, with no impact on stringency.
659	40 CFR 146.91(a)(5)	The monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;	§~~62~~3629.A.1.e	e. the monthly volume and/or mass of the carbon dioxide stream injected over the reporting period and the volume injected cumulatively over the life of the project;		Text is identical.
660	40 CFR 146.91(a)(6)	Monthly annulus fluid volume added; and	§~~62~~3629.A.1.f	f. monthly annulus fluid volume added; ~~and~~		Text is identical.
661	40 CFR 146.91(a)(7)	The results of monitoring prescribed under 40 CFR 146.90.	§~~62~~3629.A.1.g	g. the results of monitoring prescribed under §~~62~~36295; and~~,~~		Text is similar, with no impact on stringency.
663	40 CFR 146.91(b)	Report, within 30 days, the results of:	§~~62~~3629.A.2	2. Report, within 30 days or as specified by permit, the results of:		Text is similar, with no impact on stringency.
664	40 CFR 146.91(b)(1)	Periodic tests of mechanical integrity;	§~~62~~3629.A.2.a	a. periodic tests of mechanical integrity;		Text is identical.
665	40 CFR 146.91(b)(2)	Any well workover; and,	§~~62~~3629.A.2.b	b. any well workover; and		Text is identical.
666	40 CFR 146.91(b)(3)	Any other test of the injection well conducted by the permittee if required by the Director.	§~~62~~3629.A.2.c	c. any other test of the injection well conducted by the permittee if required by the commissioner.		Text is identical.
667	40 CFR 146.91(c)	Report, within 24 hours:	§~~62~~3629.A.3	3. Report, within 24 hours:		Text is identical.
668	40 CFR 146.91(c)(1)	Any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;	§~~62~~3629.A.3.a	a. any evidence that the injected carbon dioxide stream or associated pressure front may cause an endangerment to a USDW;		Text is identical.
669	40 CFR 146.91(c)(2)	Any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;	§~~62~~3629.A.3.b	b. any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs;		Text is identical.
670	40 CFR 146.91(c)(3)	Any triggering of a shut-off system (i.e., down-hole or at the surface);	§~~62~~3629.A.3.c	c. any triggering of a shut-off system (i.e., down-hole or at the surface);		Text is identical.
671	40 CFR 146.91(c)(4)	Any failure to maintain mechanical integrity; or.	§~~62~~3629.A.3.d	d. any failure to maintain mechanical integrity; or		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
672	40 CFR 146.91(c)(5)	Pursuant to compliance with the requirement at 40 CFR 146.90(h) for surface air/soil gas monitoring or other monitoring technologies, if required by the Director, any release of carbon dioxide to the atmosphere or biosphere.	§~~62~~3629.A.3.e	e. any release of carbon dioxide to the atmosphere or biosphere pursuant to compliance with the requirement at §~~62~~3625.A.8 for surface air/soil gas monitoring or other monitoring technologies, if required by the commissioner.		Text is similar, with no impact on stringency.
673	40 CFR 146.91(d)	Owners or operators must notify the Director in writing 30 days in advance of:	§~~62~~3629.A.4	4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §~~62~~3621.A.9.	While the language at §~~62~~3629.A.4 is not verbatim to 40 CFR 146.91(d), the intent of the federal rule is preserved: that being, prior notification by the well operator of a scheduled field action. §~~62~~3629.A.4 also includes more stringent requirements compared to the federal rules, in that advance written notice will be required for any field work or formation testing. The state's ability to address notices within this shorter time frame will be addressed in the Program Description of the primacy application. The Program Description will also include a description of the work permit request form (Form UIC-17 or successor form) that must be approved by UIC staff prior to start of work per §3621.A.9~~And per §621.A.9, written notice must be submitted as a work permit request form (Form UIC-17 or successor) to seek well work authorization.~~	EPA may wish to ensure during the primacy application review that the state has sufficient time to address activities with shorter notification timeframes than the CFR. August 2020 review: clarification is noted; no concerns for stringency (this will be addressed in the primacy review).
674	40 CFR 146.91(d)(1)	Any planned well workover;	§~~62~~3629.A.4	4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §~~62~~3621.A.9.	A planned well workover is accounted for in language at §~~62~~3629.A.4 requiring advance written notice for any well work or formation testing.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
675	40 CFR 146.91(d)(2)	Any planned stimulation activities, other than stimulation for formation testing conducted under 40 CFR 146.82; and	§~~62~~3629.A.4	4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §~~62~~3621.A.9.	A planned well workover is accounted for in language at §~~62~~3629.A.4 requiring advance written notice for any well work or formation testing.	Reviewed; no issues found.
676	40 CFR 146.91(d)(3)	Any other planned test of the injection well conducted by the permittee.	§~~62~~3629.A.4	4. Owners or operators must notify the commissioner in writing in advance of doing any well work or formation testing as required in §~~62~~3621.A.9.	A planned well workover is accounted for in language at §~~62~~3629.A.4 requiring advance written notice for any well work or formation testing.	Reviewed; no issues found.
677	40 CFR 146.91(e)	Regardless of whether a State has primary enforcement responsibility, owners or operators must submit all required reports, submittals, and notifications under subpart H of this part to EPA in an electronic format approved by EPA.	§~~62~~3629.A.5	5. Regardless of whether the State of Louisiana has primary permit and enforcement authority (primacy) for Class VI wells, owners or operators of Class VI wells, or applicants for Class VI wells must submit all required submittals, reports, and notifications under §§~~60~~3605, ~~60~~3607, ~~61~~3615, ~~61~~3617, ~~61~~3619, ~~62~~3621, ~~62~~3623, ~~62~~3625, ~~62~~3627, ~~62~~3629, ~~and §631~~3631, and ~~§633~~3633~~§~~ to the USEPA in an electronic format approved by the USEPA.		Text is similar, with no impact on stringency. August 2020 review: minor revisions; no concerns for stringency.
678	40 CFR 146.91(f)	Records shall be retained by the owner or operator as follows:	§~~62~~3629.A.6	6. Records shall be retained by the owner or operator as follows:		Text is identical.
679	40 CFR 146.91(f)(1)	All data collected under 40 CFR 146.82 for Class VI permit applications shall be retained throughout the life of the geologic sequestration project and for 10 years following site closure.	§~~62~~3629.A.6.a	a. all data collected for Class VI permit applications in §§~~60~~3607 and ~~§61~~3619 shall be retained throughout the life of the geologic sequestration project and at least 10 years following site closure.		Text is similar, with no impact on stringency. August 2020 review: minor revisions; no concerns for stringency.
680	40 CFR 146.91(f)(2)	Data on the nature and composition of all injected fluids collected pursuant to 40 CFR 146.90(a) shall be retained until 10 years after site closure. The Director may require the owner or operator to deliver the records to the Director at the conclusion of the retention period.	§~~62~~3629.A.6.b	b. data on the nature and composition of all injected fluids collected under §~~62~~3625.A.1 shall be retained at least 10 years after site closure. The commissioner may require the owner or operator to deliver the records to the commissioner at the conclusion of the retention period.	§~~62~~3629.A.6.b through ~~62~~3629.A.6.e include more stringent requirements than the federal rule, specifically with language stating that records, reports, and data shall be retained at least 10 years after site closure.	Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
681	40 CFR 146.91(f)(3)	Monitoring data collected pursuant to 40 CFR 146.90(b) through (i) shall be retained for 10 years after it is collected.	§~~62~~3629.A.6.c	c. monitoring data collected under §§~~62~~3625.A.2 through ~~§62~~3625.A.9 shall be retained at least 10 years after it is collected.	See above.	Reviewed; no issues found. August 2020 review: minor revisions; no concerns for stringency.
682	40 CFR 146.91(f)(4)	Well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure report collected pursuant to requirements at 40 CFR 146.93(f) and (h) shall be retained for 10 years following site closure.	§~~62~~3629.A.6.d	d. well plugging reports, post-injection site care data, including, if appropriate, data and information used to develop the demonstration of the alternative post-injection site care timeframe, and the site closure report collected pursuant to requirements at §§~~633~~3633.A.6 and ~~§633~~3633.A.8 shall be retained at least 10 years following site closure.	See above.	Reviewed; no issues found. August 2020 review: minor revisions; no concerns for stringency.
683	40 CFR 146.91(f)(5)	The Director has authority to require the owner or operator to retain any records required in this subpart for longer than 10 years after site closure.	§~~62~~3629.A.6.e	e. The commissioner may require the owner or operator to retain any records required under these regulations for longer than 10 years after site closure.	See above.	Text is similar, with no impact on stringency.
684	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§3629.B	B. Recordkeeping. Owners or operators of Class VI wells shall retain records as specified in §§3615.C.4, 3629.A.4, 3631.A.5, 3633.A.6, and 3633.A.8.	Refers to the retention of records related to AOR modeling inputs and data used to support area of review reevaluations; data and reports enumerated in the previous subsection (§3629.A.6); well closure; site closure; and any records gathered during the post-injection site care period for at least 10 years following site closure.	August 2020 review: added text has no CFR equivalent. No concerns for stringency.
40 CFR 146.92 Injection well plugging.						
685	40 CFR 146.92(a)	Prior to the well plugging, the owner or operator must flush each Class VI injection well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.	§~~631~~3631.A.2	2. Before well plugging, the owner or operator must flush each Class VI well with a buffer fluid, determine bottomhole reservoir pressure, and perform a final external mechanical integrity test.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
686	40 CFR 146.92(b)	*Well Plugging Plan.* The owner or operator of a Class VI well must prepare, maintain, and comply with a plan that is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application and must include the following information:	§~~631~~3631.A.3	3. Well Plugging Plan. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit. The well plugging plan must be submitted as part of the permit application, *must be designed in a way that will prevent the movement of fluids into or between USDWs or outside the injection zone*, and must include the following minimum information:	In addition to the text at 40 CFR 146.92(b), the following emphasized language has been added at §~~631~~3631.A.3: *must be designed in a way that will prevent the movement of fluids into or between USDWs or outside the injection zone…*	Reviewed; no issues found.
687	40 CFR 146.92(b)(1)	Appropriate tests or measures for determining bottomhole reservoir pressure;	§~~631~~3631.A.3.a	a. appropriate tests or measures for determining bottomhole reservoir pressure;		Text is identical.
688	40 CFR 146.92(b)(2)	Appropriate testing methods to ensure external mechanical integrity as specified in 40 CFR 146.89;	§~~631~~3631.A.3.b	b. appropriate testing methods to ensure external mechanical integrity as specified in §~~62~~3627;		Text is similar, with no impact on stringency.
689	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.c	c. a description of the size and amount of casing, tubing, or any other well construction materials to be removed from the well before well closure;		Reviewed; no issues found.
690	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.d	d. that prior to the placement of plugs, the well shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method;		Reviewed; no issues found.
691	40 CFR 146.92(b)(3)	The type and number of plugs to be used;	§~~631~~3631.A.3.e	e. the type and number of plugs to be used;		Text is identical.
692	40 CFR 146.92(b)(4)	The placement of each plug, including the elevation of the top and bottom of each plug;	§~~631~~3631.A.3.f	f. the placement of each plug, including the elevation of the top and bottom of each plug;		Text is identical.
693	40 CFR 146.92(b)(5)	The type, grade, and quantity of material to be used in plugging. The material must be compatible with the carbon dioxide stream; and	§~~631~~3631.A.3.g	g. the type, grade, *yield*, and quantity of material, *such as cement*, to be used in plugging. The material must be compatible with the carbon dioxide stream;	In addition to the text at 40 CFR 146.92(b)(5), the following emphasized language has been added at §3631.A.3.g: *yield* and *such as cement.*	Text adds "yield" and "such as cement;" no impact on stringency. August 2020 review: no concerns for stringency.
694	40 CFR 146.92(b)(6)	The method of placement of the plugs.	§~~631~~3631.A.3.h	h. the method of placement of the plugs;		Text is identical.
695	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.i	i. pre-closure and proposed post-closure well schematics;		Reviewed; no issues found.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
696	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.j	j. that each plug shall be appropriately tagged and tested for seal and stability;		Reviewed; no issues found.
697	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.k	k. that the well casings shall be cut at least five feet below ground surface for land-based wells, and at least 15 feet below the mud line for wells at a water location.		Reviewed; no issues found.
698	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.l	l. that upon successful completion of well closure of a land-based well, a one-half (½) inch steel plate shall be welded across all casings and inscribed with the well's state serial number and date plugged and abandoned, and		Reviewed; no issues found.
699	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.3.m	m. any addition information that the commissioner may require.		Reviewed; no issues found.

700	40 CFR 146.92(c)	*Notice of intent to plug*. The owner or operator must notify the Director in writing pursuant to 40 CFR 146.91(e), at least ~~60 day~~60 days before plugging of a well. At this time, if any changes have been made to the original well plugging plan, the owner or operator must also provide the revised well plugging plan. The Director may allow for a shorter notice period. Any amendments to the injection well plugging plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	§~~631~~3631.A.4	4. Notice of Intent to Plug. The owner or operator must submit the Form UIC-17, or successor form, to the commissioner and receive written approval from the commissioner before beginning actual well plugging operations. The form must contain information on the procedures to be used in the field to plug and abandon the well.	While the language at §~~631~~3631.A.4 is not verbatim to 40 CFR 146.92(c), the intent of the federal rule is preserved: that being, requiring written notification from the well operator prior to plugging of a well. As accounted for by the language, "The Director may allow for a shorter notice period," Louisiana will not require a ~~60~~360 notice period. The state's ability to address notices within this shorter time frame will be addressed in the Program Description of the primacy application. The Program Description will also include a description of the work permit request form (Form UIC-17 or successor form) that must be approved by UIC staff prior to start of well plugging operations. ~~§631.A.4 also includes more stringent requirements compared to the federal rules, in that written notice must be submitted as a work permit request form (Form UIC-17 or successor) to seek well work authorization.~~ That the work permit request form must, per §~~631~~3631.A.4, contain information on the procedures to be used in the field to plug and abandon the well is equivalent ~~language~~ to the federal requirement that any amendments to the injection well plugging plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements	EPA may wish to ensure during the primacy application review that the state has sufficient time to address activities with shorter notification timeframes than the CFR. It is also unclear how changes to the plugging plan would be reported on Form UIC-17 (i.e., there are no requirements to update Form UIC-17 or reference it in the permit). Clarification is needed. August 2020 review: clarification is noted; no concerns for stringency (this will be addressed in the primacy review).

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
					at 40 CFR 144.39 or 144.41, as appropriate..	
701	40 CFR 146.92(d)	*Plugging report.* Within ~~60 day~~60 days after plugging, the owner or operator must submit, pursuant to 40 CFR 146.91(e), a plugging report to the Director. The report must be certified as accurate by the owner or operator and by the person who performed the plugging operation (if other than the owner or operator.) The owner or operator shall retain the well plugging report for 10 years following site closure.	§~~631~~3631.A.5	5. Well Closure Report. The owner or operator shall submit a closure report to the commissioner within 30 days after well plug and abandonment. The report shall be certified as accurate by the owner or operator and by the person charged with overseeing the closure operation (if other than the owner or operator). The owner or operator shall retain the well closure report at least 10 years following site closure. The report shall contain the following information:	While the language at §~~631~~3631.A.5 is not verbatim to 40 CFR 146.92(d), the intent of the federal rule is preserved; that being, requiring the submission of a certified report after the well is plugged. §~~631~~3631.A.5 describes the referenced report as a well closure report rather than a plugging report as denoted in 40 CFR 146.92(d). §~~631~~3631.A.5 also includes more stringent requirements compared to the federal rule, namely that a closure report must be submitted within 30 days after well plug and abandonment and must adhere to the requirements detailed in the subsequent sections.	Reviewed; no issues found.
702	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.5.a	a. detailed procedures of the closure operation. Where actual closure differed from the approved plan, the report shall include a written statement specifying the differences between the previous plan and the actual closure;		Reviewed; no issues found.
703	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.5.b	b. all state regulatory reporting forms relating to the closure activity; and		Reviewed; no issues found.
704	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§~~631~~3631.A.5.c	c. any information pertinent to the closure activity including schematics, tests, or monitoring data.		Reviewed; no issues found.
40 CFR 146.93 Post-injection site care and site closure.						

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
705	40 CFR 146.93(a)	The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of paragraph (a)(2) of this section and is acceptable to the Director. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.	§~~633~~3633.A.1	1. The owner or operator of a Class VI well must prepare, maintain, and comply with a plan for post-injection site care and site closure that meets the requirements of §~~6333~~3633.A.1.b and is acceptable to the commissioner. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.		Text is similar, with no impact on stringency. August 2020 review: minor revisions; no concerns for stringency.
706	40 CFR 146.93(a)(1)	The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application to be approved by the Director.	§~~633~~3633.A.1.a	a. The owner or operator must submit the post-injection site care and site closure plan as a part of the permit application.		Text is similar, with no impact on stringency.
707	40 CFR 146.93(a)(2)	The post-injection site care and site closure plan must include the following information:	§~~633~~3633.A.1.b	b. The post-injection site care and site closure plan must include the following information:		Text is identical.
708	40 CFR 146.93(a)(2)(i)	The pressure differential between pre-injection and predicted post-injection pressures in the injection zone(s);	§~~633~~3633.A.1.b.i	i. the pressure differential between pre-injection and predicted post-injection pressures in the injection zone(s);		Text is identical.
709	40 CFR 146.93(a)(2)(ii)	The predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under 40 CFR 146.84(c)(1);	§~~633~~3633.A.1.b.ii	ii. the predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the area of review evaluation required under §~~61~~3615.B.3.a;		Text is similar, with no impact on stringency.
710	40 CFR 146.93(a)(2)(iii)	A description of post-injection monitoring location, methods, and proposed frequency;	§~~633~~3633.A.1.b.iii	iii. a description of post-injection monitoring location, methods, and proposed frequency;		Text is identical.
711	40 CFR 146.93(a)(2)(iv)	A proposed schedule for submitting post-injection site care monitoring results to the ~~Director~~ pursuant to 40 CFR 146.91(e); and,	§~~633~~3633.A.1.b.iv	iv. a proposed schedule for submitting post-injection site care monitoring results to *the commissioner and to ~~the~~ the USEPA* pursuant to §~~62~~3629.A.5; and,	In lieu of the struck out text, the following emphasized language has been added at §3633.A.1.b.iv: *the commissioner and to the USEPA*	Text refers to submitting results to USEPA (i.e., to meet the electronic reporting requirements); LA should clarify that that the commissioner will review post-injection monitoring data. August 2020 review: submitting the post-injection monitoring data to EPA is not needed (although if it is submitted via the GSDT, it would in effect be submitted to EPA). It should be clear in the primacy application that the state will review monitoring data throughout the injection and post-injection phases.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
712	40 CFR 146.93(a)(2)(v)	The duration of the post-injection site care timeframe and, if approved by the Director, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.	§~~633~~3633.A.1.b.v	v. the duration of the post-injection site care timeframe and, if approved by the commissioner, the demonstration of the alternative post-injection site care timeframe that ensures non-endangerment of USDWs.		Text is identical.
713	40 CFR 146.93(a)(3)	Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the Director, be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate.	§~~633~~3633.A.1.c	c. Upon cessation of injection, owners or operators of Class VI wells must either submit an amended post-injection site care and site closure plan or demonstrate to the commissioner through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the commissioner, be incorporated into the permit, and are subject to the permit modification requirements at §~~61~~3613, as appropriate.		Text is similar, with no impact on stringency.
714	40 CFR 146.93(a)(4)	At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the Director's approval within 30 days of such change.	§~~633~~3633.A.1.d	d. At any time during the life of the geologic sequestration project, the owner or operator may modify and resubmit the post-injection site care and site closure plan for the commissioner's approval within 30 days of such change.		Text is identical.
715	40 CFR 146.93(b)	The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.	§~~633~~3633.A.2	2. The owner or operator shall monitor the site following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered.		Text is identical.
716	40 CFR 146.93(b)(1)	Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the Director-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the Director pursuant to requirements in paragraph (c) of this section, unless he/she makes a demonstration under (b)(2) of this section. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under (b)(2) of this section is submitted and approved by the Director.	§~~633~~3633.A.2.a	a. Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the commissioner-approved post-injection site care and site closure plan for at least 50 years or for the duration of the alternative timeframe approved by the commissioner pursuant to requirements in §~~633~~3633.A.3, unless the owner or operator makes a demonstration under §~~633~~3633.A.2.b. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under §~~633~~3633.A.2.b is submitted and approved by the commissioner.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
717	40 CFR 146.93(b)(2)	If the owner or operator can demonstrate to the satisfaction of the Director before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the Director may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where he or she has substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.	§~~6333~~3633.A.2.b	b. If the owner or operator can demonstrate to the satisfaction of the commissioner before 50 years or prior to the end of the approved alternative timeframe based on monitoring and other site-specific data, that the geologic sequestration project no longer poses an endangerment to USDWs, the commissioner may approve an amendment to the post-injection site care and site closure plan to reduce the frequency of monitoring or may authorize site closure before the end of the 50-year period or prior to the end of the approved alternative timeframe, where the owner or operator has substantial evidence that the geologic sequestration project no longer poses a risk of endangerment to USDWs.		Text is identical.
718	40 CFR 146.93(b)(3)	Prior to authorization for site closure, the owner or operator must submit to the Director for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.	§~~6333~~3633.A.2.c	c. Prior to authorization for site closure, the owner or operator must submit to the commissioner for review and approval a demonstration, based on monitoring and other site-specific data, that no additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs.		Text is identical.
719	40 CFR 146.93(b)(4)	If the demonstration in paragraph (b)(3) of this section cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the Director does not approve the demonstration, the owner or operator must submit to the Director a plan to continue post-injection site care until a demonstration can be made and approved by the Director.	§~~6333~~3633.A.2.d	d. If the demonstration in §~~6333~~3633.A.2.c cannot be made (i.e., additional monitoring is needed to ensure that the geologic sequestration project does not pose an endangerment to USDWs) at the end of the 50-year period or at the end of the approved alternative timeframe, or if the commissioner does not approve the demonstration, the owner or operator must submit to the commissioner a plan to continue post-injection site care until a demonstration can be made and approved by the commissioner.		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
720	40 CFR 146.93(c)	*Demonstration of alternative post-injection site care timeframe*. At the Director's discretion, the Director may approve, in consultation with EPA, an alternative post-injection site care timeframe other than the 50 year default, if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to 40 CFR 146.82 and 146.83, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.	§~~633~~3633.A.3	3. Demonstration of Alternative Post-Injection Site Care Timeframe. The commissioner may approve, in consultation with the USEPA, an alternative post-injection site care timeframe other than the 50-year default, if an owner or operator can demonstrate during the permitting process that an alternative post-injection site care timeframe is appropriate and ensures non-endangerment of USDWs. The demonstration must be based on significant, site-specific data and information including all data and information collected pursuant to §~~60~~3607 and §~~61~~3615, and must contain substantial evidence that the geologic sequestration project will no longer pose a risk of endangerment to USDWs at the end of the alternative post-injection site care timeframe.		Text is similar, with no impact on stringency.
721	40 CFR 146.93(c)(1)	A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:	§~~633~~3633.A.3.a	a. A demonstration of an alternative post-injection site care timeframe must include consideration and documentation of:		Text is identical.
722	40 CFR 146.93(c)(1)(i)	The results of computational modeling performed pursuant to delineation of the area of review under 40 CFR 146.84;	§~~633~~3633.A.3.a.i	i. the results of computational modeling performed pursuant to delineation of the area of review under §~~61~~3615.B and §~~61~~3615.C;		Text is similar, with no impact on stringency.
723	40 CFR 146.93(c)(1)(ii)	The predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or the timeframe for pressure decline to pre-injection pressures;	§~~633~~3633.A.3.a.ii	ii. the predicted timeframe for pressure decline within the injection zone, and any other zones, such that formation fluids may not be forced into any USDWs; and/or the timeframe for pressure decline to pre-injection pressures;		Text is identical.
724	40 CFR 146.93(c)(1)(iii)	The predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;	§~~633~~3633.A.3.a.iii	iii. the predicted rate of carbon dioxide plume migration within the injection zone, and the predicted timeframe for the cessation of migration;		Text is identical.
725	40 CFR 146.93(c)(1)(iv)	A description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;	§~~633~~3633.A.3.a.iv	iv. a description of the site-specific processes that will result in carbon dioxide trapping including immobilization by capillary trapping, dissolution, and mineralization at the site;		Text is identical.
726	40 CFR 146.93(c)(1)(v)	The predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and/or mineral phase;	§~~633~~3633.A.3.a.v	v. the predicted rate of carbon dioxide trapping in the immobile capillary phase, dissolved phase, and/or mineral phase;		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
727	40 CFR 146.93(c)(1)(vi)	The results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in paragraphs (iv) and (v) of this section;	§~~633~~3633.A.3.a.vi	vi. the results of laboratory analyses, research studies, and/or field or site-specific studies to verify the information required in clauses iv. and v. above;		Text is similar, with no impact on stringency.
728	40 CFR 146.93(c)(1)(vii)	A characterization of the confining zone(s) including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation fluids) movement;	§~~633~~3633.A.3.a.vii	vii. a characterization of the confining zone(s) including a demonstration that it is free of transmissive faults, fractures, and micro-fractures and of appropriate thickness, permeability, and integrity to impede fluid (e.g., carbon dioxide, formation fluids) movement;		Text is identical.
729	40 CFR 146.93(c)(1)(viii)	The presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;	§~~633~~3633.A.3.a.viii	viii. the presence of potential conduits for fluid movement including planned injection wells and project monitoring wells associated with the proposed geologic sequestration project or any other projects in proximity to the predicted/modeled, final extent of the carbon dioxide plume and area of elevated pressure;		Text is identical.
730	40 CFR 146.93(c)(1)(ix)	A description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;	§~~633~~3633.A.3.a.ix	ix. a description of the well construction and an assessment of the quality of plugs of all abandoned wells within the area of review;		Text is identical.
731	40 CFR 146.93(c)(1)(x)	The distance between the injection zone and the nearest USDWs above ~~and/or below~~ the injection zone; and	§~~633~~3633.A.3.a.x	x. the distance between the injection zone and the nearest USDW above the injection zone; and	The struck-out text of 40 CFR 146.93(c)(1)(x) will not be adopted.	Text removes "or below" (because waivers are not allowed); no impact on stringency. August 2020 review: no concerns for stringency.
732	40 CFR 146.93(c)(1)(xi)	Any additional site-specific factors required by the Director.	§~~633~~3633.A.3.a.xi	xi. any additional site-specific factors required by the commissioner.		Text is identical.
733	40 CFR 146.93(c)(2)	Information submitted to support the demonstration in paragraph (c)(1) of this section must meet the following criteria:	§~~633~~3633.A.3.b	b. Information submitted to support the demonstration in §~~633~~3633.A.3.a must meet the following criteria:		Text is similar, with no impact on stringency.
734	40 CFR 146.93(c)(2)(i)	All analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;	§~~633~~3633.A.3.b.i	i. all analyses and tests performed to support the demonstration must be accurate, reproducible, and performed in accordance with the established quality assurance standards;		Text is identical.
735	40 CFR 146.93(c)(2)(ii)	Estimation techniques must be appropriate and EPA-certified test protocols must be used where available;	§~~633~~3633.A.3.b.ii	ii. estimation techniques must be appropriate and USEPA-certified test protocols must be used where available;		Text is similar, with no impact on stringency.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
736	40 CFR 146.93(c)(2)(iii)	Predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;	§~~633~~3633.A.3.b.iii	iii. predictive models must be appropriate and tailored to the site conditions, composition of the carbon dioxide stream and injection and site conditions over the life of the geologic sequestration project;		Text is identical.
737	40 CFR 146.93(c)(2)(iv)	Predictive models must be calibrated using existing information (e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are available;	§~~633~~3633.A.3.b.iv	iv. predictive models must be calibrated using existing information (e.g., at Class I, Class II, or Class V experimental technology well sites) where sufficient data are available;		Text is identical.
738	40 CFR 146.93(c)(2)(v)	Reasonably conservative values and modeling assumptions must be used and disclosed to the Director whenever values are estimated on the basis of known, historical information instead of site-specific measurements;	§~~633~~3633.A.3.b.v	v. reasonably conservative values and modeling assumptions must be used and disclosed to the commissioner whenever values are estimated on the basis of known, historical information instead of site-specific measurements;		Text is identical.
740	40 CFR 146.93(c)(2)(vi)	An analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration.	§~~633~~3633.A.3.b.vi	vi. an analysis must be performed to identify and assess aspects of the alternative post-injection site care timeframe demonstration that contribute significantly to uncertainty. The owner or operator must conduct sensitivity analyses to determine the effect that significant uncertainty may contribute to the modeling demonstration.		Text is identical.
741	40 CFR 146.93(c)(2)(vii)	An approved quality assurance and quality control plan must address all aspects of the demonstration; and,	§~~633~~3633.A.3.b.vii	vii. an approved quality assurance and quality control plan must address all aspects of the demonstration; and,		Text is identical.
742	40 CFR 146.93(c)(2)(viii)	Any additional criteria required by the Director.	§~~633~~3633.A.3.b.viii	viii. any additional criteria required by the commissioner.		Text is identical.
743	40 CFR 146.93(d)	*Notice of intent for site closure.* The owner or operator must notify the Director in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The Director may allow for a shorter notice period.	§~~633~~3633.A.4	4. Notice of Intent for Site Closure. The owner or operator must notify the commissioner in writing at least 120 days before site closure. At this time, if any changes have been made to the original post-injection site care and site closure plan, the owner or operator must also provide the revised plan. The commissioner may allow for a shorter notice period.		Text is identical.
744	40 CFR 146.93(e)	After the Director has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.	§~~633~~3633.A.5	5. After the commissioner has authorized site closure, the owner or operator must plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endangers a USDW.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
745	40 CFR 146.93(f)	The owner or operator must submit a site closure report to the Director within 90 days of site closure, which must thereafter be retained at a location designated by the Director for 10 years. The report must include:	§~~633~~3633.A.6	6. The owner or operator must submit a site closure report to the commissioner within 90 days after site closure, which must also be retained by the owner or operator for at least 10 years. The report must include:		Text is similar, with no impact on stringency.
746	40 CFR 146.93(f)(1)	Documentation of appropriate injection and monitoring well plugging as specified in 40 CFR 146.92 and paragraph (e) of this section. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the Director. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the Regional Administrator of the appropriate EPA Regional Office;	§~~633~~3633.A.6.a	a. documentation of appropriate injection and monitoring well plugging as specified in §~~631~~3631 and §~~633~~3633.A.5. The owner or operator must provide a copy of a survey plat which has been submitted to the local zoning authority designated by the commissioner. The plat must indicate the location of the injection well relative to permanently surveyed benchmarks. The owner or operator must also submit a copy of the plat to the USEPA as in §~~62~~3629.A.5;		Text is similar, with no impact on stringency.
747	40 CFR 146.93(f)(2)	Documentation of appropriate notification and information to such State, local and Tribal authorities that have authority over drilling activities to enable such State, local, and Tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone(s); and	§~~633~~3633.A.6.b	b. documentation of appropriate notification and information to such State, local and Tribal authorities that have authority over drilling activities to enable such State, local, and Tribal authorities to impose appropriate conditions on subsequent drilling activities that may penetrate the injection and confining zone(s); and		Text is identical.
748	40 CFR 146.93(f)(3)	Records reflecting the nature, composition, and volume of the carbon dioxide stream.	§~~633~~3633.A.6.c	c. records reflecting the nature, composition, and volume of the carbon dioxide stream.		Text is identical.
749	40 CFR 146.93(g)	Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:	§~~633~~3633.A.7	7. Each owner or operator of a Class VI injection well must record a notation on the deed to the facility property or any other document that is normally examined during title search that will in perpetuity provide any potential purchaser of the property the following information:		Text is identical.
750	40 CFR 146.93(g)(1)	The fact that land has been used to sequester carbon dioxide;	§~~633~~3633.A.7.a	a. the fact that land has been used to sequester carbon dioxide;		Text is identical.
751	40 CFR 146.93(g)(2)	The name of the State agency, local authority, and/or Tribe with which the survey plat was filed, as well as the address of the Environmental Protection Agency Regional Office to which it was submitted; and	§~~633~~3633.A.7.b	b. the name of the State agency, local authority, and/or Tribe with which the survey plat was filed, as well as the address of the USEPA Regional Office to which it was submitted; and		Text is similar, with no impact on stringency.
752	40 CFR 146.93(g)(3)	The volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.	§~~633~~3633.A.7.c	c. the volume of fluid injected, the injection zone or zones into which it was injected, and the period over which injection occurred.		Text is identical.

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Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
753	40 CFR 146.93(h)	The owner or operator must retain for 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the Director at the conclusion of the retention period,~~ and the records must thereafter be retained at a location designated by the Director for that purpose.~~	§~~633~~3633.A.8	8. The owner or operator must retain for at least 10 years following site closure, records collected during the post-injection site care period. The owner or operator must deliver the records to the commissioner at the conclusion of the retention period*, and the records must thereafter be retained in a form and manner and at a location designated by the commissioner*.	In lieu of the struck-out language, the following emphasized language has been added: *and the records must thereafter be retained in a form and manner and at a location designated by the commissioner*.	The state rule does not specify that "the records must thereafter be retained at a location designated by the Director for that purpose." LA should clarify (perhaps as part of the primacy application review) that such records will be retained. August 2020 review: added text addresses the above comment; state provision is now similar to CFR.
	No Equivalent Federal Requirement	No Equivalent Federal Requirement	§3633.B	B. Certificate of Completion. The commissioner shall not issue a certificate of completion pursuant to R.S. 1109 unless the operator has sufficient financial surety with the Office of Conservation to adequately close the facility, plug all existing wells, and provide for post-injection site care and site closure.		
40 CFR 146.94 Emergency and remedial response.						
754	40 CFR 146.94(a)	As part of the permit application, the owner or operator must provide the Director with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.	§~~62~~3623.A.1	1. As part of the permit application, the owner or operator must provide the commissioner with an emergency and remedial response plan that describes actions the owner or operator must take to address movement of the injection or formation fluids that may cause an endangerment to a USDW during construction, operation, and post-injection site care periods. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.		Text is identical.
755	40 CFR 146.94(b)	If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:	§~~62~~3623.A.2	2. If the owner or operator obtains evidence that the injected carbon dioxide stream and associated pressure front may cause an endangerment to a USDW, the owner or operator must:		Text is identical.
756	40 CFR 146.94(b)(1)	Immediately cease injection;	§~~62~~3623.A.2.a	a. immediately cease injection;		Text is identical.
757	40 CFR 146.94(b)(2)	Take all steps reasonably necessary to identify and characterize any release;	§~~62~~3623.A.2.b	b. take all steps reasonably necessary to identify and characterize any release;		Text is identical.
758	40 CFR 146.94(b)(3)	Notify the Director within 24 hours; and	§~~62~~3623.A.2.c	c. notify the commissioner within 24 hours; and		Text is identical.

Commented [LS30]: Updated. Moved to Closure and Post-Closure from §609.C.6 per 10-01-20 EPA review

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*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations		Difference	Cadmus/EPA Review
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**		
759	40 CFR 146.94(b)(4)	Implement the emergency and remedial response plan approved by the Director.	§~~62~~3623.A.2.d	d. Implement the emergency and remedial response plan approved by the commissioner.		Text is identical.
760	40 CFR 146.94(c)	The Director may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.	§~~62~~3623.A.3	3. The commissioner may allow the operator to resume injection prior to remediation if the owner or operator demonstrates that the injection operation will not endanger USDWs.		Text is identical.
761	40 CFR 146.94(d)	The owner or operator shall periodically review the emergency and remedial response plan developed under paragraph (a) of this section. In no case shall the owner or operator review the emergency and remedial response plan less often than once every five years. Based on this review, the owner or operator shall submit an amended emergency and remedial response plan or demonstrate to the Director that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the Director, must be incorporated into the permit, and are subject to the permit modification requirements at 40 CFR 144.39 or 144.41, as appropriate. Amended plans or demonstrations shall be submitted to the Director as follows:	§~~62~~3623.A.4	4. The owner or operator shall review the emergency and remedial response plan developed under §~~62~~3623.A.1 at least once every five years. Based on this review, the owner or operator shall submit an amended emergency and remedial response plan or demonstrate to the commissioner that no amendment to the emergency and remedial response plan is needed. Any amendments to the emergency and remedial response plan must be approved by the commissioner, must be incorporated into the permit, and are subject to the permit modification requirements at §~~61~~3613, as appropriate. Amended plans or demonstrations shall be submitted to the commissioner as follows:		Text is similar, with no impact on stringency.
762	40 CFR 146.94(d)(1)	Within one year of an area of review reevaluation;	§~~62~~3623.A.4.a	a. within one year of an area of review reevaluation;		Text is identical.
763	40 CFR 146.94(d)(2)	Following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the Director; or	§~~62~~3623.A.4.b	b. following any significant changes to the facility, such as addition of injection or monitoring wells, on a schedule determined by the commissioner; or		Text omits "on a schedule determined by the Director." Clarification is needed regarding the due date of such revisions. August 2020 review: added text addresses the above comment; state provision is now similar to CFR.
764	40 CFR 146.94(d)(3)	When required by the Director.	§~~62~~3623.A.4.c	c. when required by the commissioner.		Text is identical.
40 CFR 146.95 Class VI injection depth waiver requirements.						

*** Section 145.11 does not specify that States must have legal authority to implement the highlighted provisions, but some of these provisions may be necessary to clarify State program requirements. Other highlighted provisions describe applicable requirements if States choose to adopt "optional" program elements such as authorization by rule.**

Code of Federal Regulations			Current Louisiana Statutes and Regulations			
Line #	**Federal Citation**	**CFR Text**	**LA Citation**	**LA Rule Text**	**Difference**	**Cadmus/EPA Review**
765	40 CFR 146.95	This section sets forth information which an owner or operator seeking a waiver of the Class VI injection depth requirements must submit to the Director; information the Director must consider in consultation with all affected Public Water System Supervision Directors; the procedure for Director – Regional Administrator communication and waiver issuance; and the additional requirements that apply to owners or operators of Class VI wells granted a waiver of the injection depth requirements.	N/A		Waivers of the injection depth requirements for Class VI wells will not be granted.	This does not affect stringency.

State of Louisiana
Department of Natural Resources
Office of Conservation
Injection and Mining Division

Class VI USEPA Primacy Application
VIII. Public Comments on Primacy Application

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

July 13, 2021

Taken from fellow Sierra Club chapter statements and educational deliverables, we concur and share the following perspective on Carbon Capture, Utilization and Storage/Carbon Sequestration: the proposed expansion of CCUS/CCS technologies in Louisiana fall under what we call Negative Emissions Technologies. NETs like CCS are not yet feasible at scale, nor are they something we believe are worth the investment. It is far more realistic to keep fossil fuels in the ground than to create a dangerous, risky and uncertain market that will encourage the State of Louisiana to remain addicted to fossil fuels, endangering local communities and their health. CCS, and NETs like CCS, do not address the wide-ranging impacts of fossil fuel extraction, production and usage. The fossil fuel and petrochemical industries produce carcinogens, particulates and other pollution, going well beyond the scope of CO2 sequestration.

Methane, for example, is also a climate change-inducing gas that we are concerned about and we cannot depend on CCS technology, as CCS has minimal effectiveness at best for CO2 sequestration, and does not consider methane or other gases and chemicals. Conclusively, the Sierra Club Delta Chapter is not asking for expansion of these technologies. We have a better solution: create a just and equitable, green economy for all Louisianans. Give us a future; don't just try to buy us time.

Reforestation, serving as the best NET for combatting climate change, has its own limitations. So investing in non-existent technologies that do not provide an equal or added benefit in comparison to reforestation is a waste of time at a time when we do not have time to waste!

Finally, investing in CCS/CCUS in efforts to preserve the fossil fuel industry in its current form is unfair to communities already managing environmental justices. CCS remains unclear in its aims, unrealistic and lacking in its science and data. Please do not bring this flimsy attempt to hide carbon here. We have enough to deal with and helping industries do nothing to reduce their actual output is criminal.

Sincerely,

Angelle Bradford
Member-at-Large
Sierra Club Delta Chapter





Border with medicinal herbs, flowering wildflowers, leaves and bees
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OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION



Sending you warmest wishes
for a good decison
protecting Louisiana.

June 28, 2021
1808 Tennessee Street
New Orleans, LA 70117

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor, Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

To whom it may concern at the LA Department of Natural Resources;

I am a concerned citizen in the state of Louisiana. I request this panel make certain the Class VI USEPA Primacy Application NOT gain approval. This lack of oversight will endanger vulnerable populations and increase risk to our fragile environment. There are many complex issues as our state looks at the conflicts between the extractive industry with its financial gain for large petroleum companies and the well-being of environment and residents of our state. This is not complex, it simply needs to be stopped.

Please be aware the EPA waived the requirement to analyze emissions streams, without knowing what they contain. There is probability of dangerous chemicals being included in the CO2 stream to be injected into areas of our state. These chemicals include, but are not limited to: sulfur dioxide, hydrogen sulfide, nitrogen oxide, hydrocarbons, mercury, arsenic, carbon monoxide. Many of these contaminants are corrosive solvents including CO2, hydrogen sulfide, and others.

The onus for evaluation and monitoring of the CO2 stream and its interactions with rock formations underground should not be in the hands of the applicants. LA DNR and DEQ does not have the staffing or capacity to perform permitting or oversight. I respectfully request the denial of the application until further knowledge is gained on the long-term impact of this carbon sequestration possibility.

The financial gain for the few large corporations that would be participating is damaging to our state. Tax dollars are needed for education, healthcare, environmental conservation and regeneration as well as job development and sustainable, regenerative agriculture. We as a state cannot afford to allow corporations to receive financial benefits for damaging our health and our environment.

Three additional points:

1. There are major health concerns about the captured carbon emission streams.
2. There is no evaluation of the possibilities of aquifer contamination
3. Injection wells are out of step with Louisiana's Coastal Master Plan (due to harm to wetlands)

Respectfully,

Ann Maier

Ann Maier Resident: 1808 Tennessee Street, New Orleans, Louisiana 70117

OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION

Laura Sorey

From: Injection-Mining
Sent: Tuesday, July 13, 2021 3:28 PM
To: Laura Sorey
Subject: FW: Carbon Capture (Co2) and Sequestration Storage Projects in La.

From: ben gordon [mailto:benhgordon@yahoo.com]
Sent: Tuesday, July 13, 2021 2:04 PM
To: Injection-Mining <Injection-Mining@LA.GOV>
Cc: Darryl Malek-Wiley <darryl.malek-wiley@sierraclub.org>; New Orleans Policy Director Logan Atkinson Burke <logan@all4energy.org>
Subject: Carbon Capture (Co2) and Sequestration Storage Projects in La.

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

I am writing to express my concern on the plans for capturing CO2 at the industrial sights and chemical plants, and, then storing it under ground after liquifying it at very cold temperatures for pipeline transport to under grounds well champers.. I listened to the reports before the L.D.N.R. of Jessie George (Alliance for Affordable Energy), General Honore (The Green Army), and ,others, who are concerned about climate change and the environment! It seems that the process has many flaws in both transport through pipelines, and, in long time storage in under ground well champers. Since you are informed on the reservations they have I will not go into detail. Instead of looking for places to put this extra C02, why not lean more on transition to renewal energy!. Storing condensed CO2 has similar problems the storing nuclear waste. Both around around for a LONG time, and, with possibility of contaminating under ground aquifers!. Ben Gordon, Pax Christi USA Vets For Peace, in New Orleans, (504) 522-3751

CIEL
CENTER for INTERNATIONAL ENVIRONMENTAL LAW

6 July 2021

Richard Ieyoub
Commissioner of Conservation
Office of Conversation
Louisiana Department of Natural Resources
617 N. 3rd St., 8th floor
Baton Rouge, LA 70802

Transmitted via hand delivery

Re: Louisiana Class VI USEPA Primacy Application

Dear Mr. Ieyoub:

The Center for International Environmental Law (CIEL) respectfully submits these comments concerning the Louisiana Department of Natural Resources (LDNR) Class VI USEPA Primacy Application (Docket No. IMD-2021-02).[1]

According to the EPA, Class VI wells are used to inject carbon dioxide (CO2) into geologic formations.[2] The primary function of Class VI wells is to facilitate carbon capture and storage (also known as carbon capture and sequestration), or "CCS." To the extent that the state achieving Class VI primacy would accelerate the expansion of carbon capture activities in Louisiana, CIEL opposes the application because of the significant local and global risks CCS presents, particularly when conducted under an inadequate regulatory framework.[3] First, expansion of CCS threatens the local environment and public health of frontline communities in areas where CCS infrastructure and storage facilities are located. The capture, compression, transportation, injection, and storage of carbon dioxide pose significant environmental, health, and safety risks that are not adequately assessed or addressed under existing regulations. Those risks are heightened in areas where geological formations, aquifer structures, weather patterns, and climate conditions increase the likelihood of leakage, rupture, and contamination due to subsidence, erosion, salinization, and other factors affecting the interaction of ground and surface waters and soils. Second, CCS undermines efforts to mitigate global climate change by prolonging fossil fuel use and other high-emitting activities, and driving increased fossil fuel

[1] State of Louisiana, Dep't of Natural Resources Office of Conservation Injection and Mining Division, Class VI USEPA Primacy Application (Docket No. IMD-2021-02) (May 13, 2021), http://www.dnr.louisiana.gov/assets/OC/im_div/uic_sec/ClassVIPrimacyApplicationstamped.pdf.
[2] U.S. Envtl. Protection Agency (EPA), https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2 (last visited July 5, 2021).
[3] *See generally* Center for International Environmental Law, Confronting the myth of carbon-free fossil fuels: Why carbon capture is not a climate solution (2021), available at https://www.ewg.org/news-insights/news/confronting-myth-carbon-free-fossil-fuels-why-carbon-capture-not-climate.

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www.ciel.org

production through "enhanced oil recovery." Moreover, injecting and storing CO2 underground for ten or even fifty years is not "permanent" sequestration. CO2 lingers in the atmosphere and environment on a geological time scale--for many hundreds or even thousands of years. And transferring liability for underground CO2 to the public after a mere ten years (thereby "socializing" the liability) poses unnecessary environmental, health, safety and fiscal risks to Louisiana residents, while letting operators off the hook. The following comments should be understood in the context of these broader concerns about the local and global impacts of CCS in Louisiana, in both the short and long term.

What follows is a non-exhaustive list of concerns about Louisiana attaining primacy for Class VI injection wells that we would like to bring to the attention of state and federal authorities, including the Office of Conservation in Louisiana's Department of Natural Resources and the U.S. Environmental Protection Agency, prior to approval. In particular, we wish to highlight: (1) the heightened risks underground CO2 injection and storage poses in Louisiana; (2) shortcomings and capacity constraints impairing the state's enforcement of environmental regulations and prevention of environmental racism and other forms of environmental injustice; and (3) concerns about the regulatory framework applicable to Class VI wells and the carbon capture activities served by those wells.

1. Louisiana is particularly vulnerable to environmental, health, and safety risks of underground CO2 injection

Underground storage of CO2 in Class VI wells would put the people of Louisiana at heightened risk. This is due to the nature of the terrain and climate, vulnerabilities compounded by accelerating climate impacts, the history and pre-existing network of oil and gas wells and pipelines, and constraints on the state's capacity to monitor and manage the range of wells under its jurisdiction.

Louisiana's coastal wetlands are likely to be the site for much of the planned carbon dioxide injection.[4] Carbon dioxide pipelines and injection wells located in wetlands may be at elevated risk of leaks or breaks, which threaten surrounding communities.[5] Vulnerabilities could include pipeline corrosion from coastal saltwater, the erosion of the wetlands themselves which would threaten the stability of pipelines and injection wells, and coastal flooding and storms.

The increasing impacts of climate change in Louisiana magnify these preexisting risks.[6] Storms, floods, and coastal erosion are accelerating or increasing in frequency and intensity. Leaks,

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[4] See David E. Dismukes et al., Integrated Carbon Capture and Storage in the Louisiana Chemical Corridor 22, 88 fig. 59 (2019), https://www.lsu.edu/ces/publications/2019/doe_carbonsafe_02-18-19.pdf ("The close proximity of large CO2 emitters and depleted oil and gas reservoirs in the Louisiana Chemical Corridor (LCC) provide unique opportunities for CO2 geological sequestration in coastal Louisiana."). *See also* Nat'l Energy Tech. Lab., Overview of Potential Failure Modes and Effects Associated with CO2 Injection and Storage Operations in Saline Formations 10, 26, Appendix A (2020), https://www.energy.gov/sites/default/files/2021/01/f82/DOE-LPO_Carbon_Storage_Report_Final_December_2020.pdf (identifying south Louisiana as a target for carbon storage).

[5] *See* Nat'l Energy Tech. Lab., *supra* note 3, at 2, 4, 24.

[6] US EPA, What Climate Change Means for Louisiana (2016), https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-la.pdf.

spills, or other CO2 well failures caused by extreme weather events and changing climate conditions would compound the already-significant risks nearby communities face from climate impacts, concentrating exposure in the same overburdened populations.

Moreover, Louisiana's long-standing, ongoing oil and gas industry presents another set of risks, as multiple CO2 pipelines and injection wells would have to compete for space and interact with the preexisting networks of petroleum wells and pipelines already in place.[7] The state has tens of thousands of unplugged, orphaned, or otherwise inactive wells,[8] which must be considered before carbon dioxide injection can be undertaken. The burden existing wells put on the LDNR is likely to compete for attention and monitoring resources with any CO2 injection wells, straining the ability of the Department to manage either.

Finally, as fossil fuels are phased out to respond to the growing climate crisis, the number of inactive and orphaned wells for which the LDNR must take responsibility is likely to grow. This will further strain the Department's resources and exacerbate the enforcement challenges mentioned above and described in greater detail below.

For these reasons, Louisiana is particularly vulnerable to environmental and health harms associated with underground CO2 injection and storage. As will be described in the next sections, this risk is likely to be magnified by shortcomings in enforcement and an inadequate regulatory structure.

2. Louisiana has a concerning track record when it comes to enforcement of environmental regulations

a. Concerns about capacity to implement and enforce regulations

In 2014 and again in 2020, the Louisiana Legislative Auditor undertook reviews to determine "whether OC [the Department of Natural Resource's Office of Conservation] has effectively regulated oil and gas wells and effectively managed the current population of orphaned wells".[9] The 2014 audit found significant shortcomings with the state's well management and recommended 21 specific areas for improvement. The shortcomings included:

- Lack of effective oversight to ensure well operators follow the law;

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[7] *See* Nat'l Energy Tech. Lab, *supra* note 3, at 35 (noting that "[s]torage reservoir pressure increase in sedimentary basins with interconnected reservoirs that host multiple CO2 storage or liquid disposal projects" can be a source of failure).

[8] Interstate Oil and Gas Compact Comm'n, Idle and Orphan Oil and Gas Wells: State and Provincial Regulatory Strategies 24 (2020), https://iogcc.ok.gov/sites/g/files/gmc836/f/documents/2021/2020_03_04_updated_idle_and_orphan_oil_and_gas_wells_report.pdf (indicating Louisiana has 3,966 orphan wells, 10,249 idle wells, and 38,200 documented drilled and unplugged wells).

[9] Louisiana Legislative Auditor, Regulation of Oil and Gas Wells and Management of Orphaned Wells, Office of Conservation - Department of Natural Resources, Performance Audit (May 28, 2014), http://app.lla.state.la.us/PublicReports.nsf/0/D6A0EBE279B83B9F86257CE700506EAD/$FILE/000010BC.pdf.

- Lack of financial security, resulting in significant creation of "orphaned wells" - wells for which "no responsible operator can be located" or which have been not maintained by their operators
- Inability to reduce the total number of orphaned wells in the state, largely due to lack of adequate staffing.

The 2020 audit, intended to track progress on the 21 recommendations, found that the number of orphaned wells had more than doubled in the six years between audits, and that while many of the recommendations had been met, the OC was not requiring operators to plug wells within the time allotted by law and the financial security now required was not enough funding to actually plug those wells as they were retired.[10]

Both audits recommended increasing the funding for the OC and increasing the staffing capacity of the office, by increasing taxes on well production. Instead, the Louisiana legislature passed a bill in its 2021 session *reducing* the taxes paid by the owners or purchasers of orphaned wells.[11]

This does not bode well for the ability of the OC to adequately manage its existing well program, much less to take on management and oversight of a new class of wells--CO2 injection wells--in a sector--carbon capture and storage--where impacts and risks, including over the long-term, have not been fully assessed.

The failure to invest in strengthening OC capacity and fully rectifying the shortcomings identified in past audits also indicates a lack of legislative support for the important work of the Department of Natural Resources and its well management efforts. Insufficient posing even further and deeper concern for Louisiana's ability to have primary authority over managing these types of wells.

b. Concerns about environmental justice and the limitations of reliance on "EJSCREEN"

Louisiana's application for primacy has two significant shortcomings with regard to environmental justice, with far-reaching impacts for Louisiana's people: the state proposes to rely on EJSCREEN as the principal or only tool for reviewing environmental justice concerns associated with CO2 injection wells, and does commit to or identify a process for altering planned CO2 well sites or the pipeline routes feeding those wells if environmental justice concerns are identified.

1. *EJSCREEN is not an adequate mechanism to assess, prevent, and mitigate adverse environmental justice impacts from CO2 injection and storage.*

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[10] Louisiana Legislative Auditor, Progress Report: Regulation of Oil and Gas Wells and Management of Orphaned Wells, Office of Conservation - Department of Natural Resources, Performance Audit Services (March 11, 2020), http://app.lla.state.la.us/PublicReports.nsf/0/C9D7297FEA93568D86258528006BA4F8/$FILE/0001FA2E.pdf.

[11] Act No. 391 (Louisiana Senate Bill 171), *effective date* June 16, 2021 (providing for severance tax exemptions and site-specific trust funds for certain orphan wells), available at http://www.legis.la.gov/legis/BillInfo.aspx?i=240377.

The Class VI primacy application states that the Department will require an environmental justice review of every proposed well, including consideration of "the data and factors available in the EPA-developed EJSCREEN tool and identify any portions of the AoR which encompass EJ areas." The application mentions no other mechanism for assessing environmental justice risk. Moreover, the application states only that "impacts on minority and low-income populations" will be "examined" and "addressed," not prevented, eliminated, or even avoided.

According to the EPA's own guidance, EJScreen "*has a number of limitations in a regulatory context, including the fact that it is a* ***snapshot of past exposure****, may not include sources of exposure relevant to the regulatory action, and is limited to information on proximity to risk.*"[12] EJSCREEN's limitations are particularly acute in Louisiana, which has significant rural areas where the bulk of proposed CCS facilities and pipelines will likely be developed. EJSCREEN does not display or overlap with census or population data; it uses only percentiles for comparison, and does not use Parish- or County-level data for those percentile referents.

Much of Louisiana is rural. Using only EJSCREEN as the 'triggering' tool for environmental justice review would have the effect of essentially ignoring many rural Black and Indigenous communities in the state, which are not of significant enough size to be caught by EJSCREEN's metrics. A number of communities in Louisiana widely known in the state to be EJ communities are not identified as such under the EJSCREEN tool. Mossville, outside of Lake Charles, is perhaps the most prominent such example. Just because a community is not large enough to be included in EJSCREEN's metrics does mean its residents are entitled to any less respect and protection. The vibrant rural Black and Indigenous communities of Louisiana should also be included in the state's plans for reviewing environmental justice concerns related to the use of CO2 injection wells.

EPA's best practices outlined in the 2016 *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* are a much better tool for the state to use in assessing risk to communities.[13] We advise that the state of Louisiana (and other states seeking primacy) should, at minimum, use these best practices as the primary tool for understanding, assessing, addressing, and remedying environmental justice concerns of CO2 injection wells.

2. *If environmental justice is found to be a concern for a proposed well site, simply notifying the community is not an adequate response.*

Louisiana's application states:

> *"If a proposed site is found to be located in communities with high EJ risk factors, the Commissioner of Conservation may extend the public comment period for the application and may also require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language."*[14]

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[12] U.S. EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis 43 (2016), https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.

[13] *Id.* at 14, 43-46.

[14] Primacy Application, *supra* note 1, at 6.

In a June 30 meeting of the Louisiana Climate Task Force's Ad Hoc Committee on Carbon Capture and Storage, a representative from the state's OC stated, in response to a question during the public comment section of the meeting, that the state will not consider or require alternate siting of proposed CO2 wells if they are found to affect environmental justice communities or have environmental justice concerns, no matter how significant.[15]

Notifying a community of environmental justice concerns is not adequate to address, prevent, or mitigate those concerns. If an operator is applying for a permit to inject CO2 under the ground near an environmental justice community (or any community, for that matter), there should be mechanisms in place for that community to demand that such a permit be denied. Having a longer public comment period during which to ask questions is simply not effective prevention or remedy for harm. As noted above

The White House Environmental Justice Advisory Committee (WHEJAC) concluded in May that underground storage of CO2 is a type of project that "will not benefit a community," and called on the federal and state governments to invest only in projects that have clear community benefits and do not cause harm.[16] Louisiana's plan for addressing the environmental justice impacts of CO2 injection clearly runs afoul of that recommendation and therefore should not be approved.

3. Concerns about the regulatory framework governing class VI wells and the CCS activities that would lead to their use

The approval of Class VI wells is part of the proposed CCS expansion in the state and cannot, therefore, be isolated from concerns about the adequacy of the state's overall regulatory framework for CCS. Certain provisions within Louisiana's Geologic Sequestration of Carbon Dioxide Act raise concerns about the processes associated with the capture, transport, and storage of carbon dioxide.

First, the Louisiana Legislature has characterized carbon dioxide as a "valuable commodity" to the citizens of the state. Because Louisiana legislators define CCS as in the "public interest," it is possible that eminent domain could be used for CCS projects in the state, including the siting of Class VI wells, which is concerning given the aforementioned risks and inadequate environmental justice protections. Revised Statute 30:1108 states that a CCS operator who has obtained a certificate of public convenience and necessity from the Louisiana Office of Conservation can use the power of eminent domain to acquire subsurface rights, as well as the surface rights needed to support a CCS facility and the pipelines necessary to serve it.[17]

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[15] This meeting was recorded and should be available from the La. DNR, though meetings of this ad hoc committee are not listed on or recordings shared to the Climate Task Force's web page, as other committee meetings are. See: https://gov.louisiana.gov/index.cfm/page/114.

[16] White House Environmental Justice Advisory Council, Justice40 Climate and Economic Justice Screening Tool & Executive Order 12898 Revisions: Interim Final Recommendations 55-58 (May 13, 2021), https://www.epa.gov/sites/production/files/2021-05/documents/whejac_interim_final_recommendations_0.pdf.

[17] La. Revised Statutes RS 30:1108 (§1108 Eminent domain; expropriation), available at http://legis.la.gov/Legis/Law.aspx?d=670794.

Second, the Geologic Sequestration of Carbon Dioxide Act of 2009 incentivizes the use of captured carbon for enhanced oil recovery, which exacerbates climate change by boosting oil production and prolonging the fossil fuel era.

Third, the revised statutes lack specific siting restrictions, beyond general provisions mandating that well drilling and operation do not cause injury to neighboring leases or property, and that proposed storage of CO2 will not endanger human lives or cause a hazardous condition to property. The absence of more specific limitations on the location of CO2 injection wells, storage sites, or accompanying pipelines and infrastructure, leaves communities and ecosystems at risk. At minimum, regulations should restrict siting in densely populated areas, ensure buffer zones to protect water sources, critical infrastructure, and other essential community resources, and avoid potentially dangerous interactions between CO2 transport and storage equipment and hazardous industrial sites, of which Louisiana has a high concentration. As stated above, Louisiana's coastal wetlands are the site for much of the planned carbon. Yet, the unique qualities of the state's geography do not seem to be sufficiently reflected in the current regulations about siting of injection wells or storage areas, raising concerns about the state's ability to ensure that Class VI wells comply with the Safe Drinking Water Act and other applicable federal and state laws.

Lastly, as mentioned above, Revised Statute 30:1109 transfers ownership of a CO2 injection operation project and stored carbon to the state ten years after cessation of injection into a storage facility and the commissioner's issuance of a certificate of completion.[18] Once the certificate of completion is issued, the owners and operators of the carbon storage project are released from liability. This transfer of liability onto the state allows the dangerous repercussion of failed CO2 storage to fall onto Louisiana's residents. Socializing the costs of CCS in this way is particularly concerning, given the need for long-term monitoring and maintenance of storage sites to ensure safety and anything approaching the "permanent" sequestration touted by proponents of CCS, to reap the climate benefits of preventing the stored CO2 from being emitted into the atmosphere.

Conclusion

Granting primacy to Louisiana for the permitting of Class VI injection wells would be a mistake. Because of its geography, history of oil and gas development, and exposure to the impacts of climate change, Louisiana is uniquely vulnerable to environmental and health harms from underground storage of CO2. The state also has a poor track record of enforcing environmental regulations, due to inadequate staffing and an insufficient framework for considering and preventing environmental justice harms. Finally, Louisiana's regulatory framework for carbon capture and sequestration, including regulations pertaining to Class VI injection wells, raises several concerns, suggesting that applications for permits may be granted without sufficient caution or consideration. For these reasons, the Environmental Protection Agency should reject the Louisiana Department of Natural Resources Class VI well primacy application.

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[18] La. Revised Statutes RS 30:1109, (§1109. Cessation of storage operations; liability release), available at https://legis.la.gov/Legis/Law.aspx?d=670795

Thank you for your consideration of these comments. Should you have any questions, please do not hesitate to contact us.

Sincerely,



Nikki Reisch
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OFFICE OF CONSERVATION
JUL 13 2021
INJECTION & MINING DIVISION

CENTER for INTERNATIONAL ENVIRONMENTAL LAW

13 July 2021

Richard Ieyoub
Commissioner of Conservation
Office of Conversation
Louisiana Department of Natural Resources
617 N. 3rd St., 8th floor
Baton Rouge, LA 70802

Transmitted via email

Re: Louisiana Class VI USEPA Primacy Application - Updated Comment

Dear Mr. Ieyoub:

The Center for International Environmental Law (CIEL) respectfully submits these comments concerning the Louisiana Department of Natural Resources (LDNR) Class VI USEPA Primacy Application (Docket No. IMD-2021-02).[1]

According to the EPA, Class VI wells are used to inject carbon dioxide (CO2) into geologic formations.[2] The primary function of Class VI wells is to facilitate carbon capture and storage (also known as carbon capture and sequestration), or "CCS." To the extent that the state achieving Class VI primacy would accelerate the expansion of carbon capture activities in Louisiana, CIEL opposes the application because of the significant local and global risks CCS presents, particularly when conducted under an inadequate regulatory framework.[3]

First, expansion of CCS threatens the local environment and public health of frontline communities in areas where CCS infrastructure and storage facilities are located. The capture, compression, transportation, injection, and storage of carbon dioxide pose significant environmental, health, and safety risks that are not adequately assessed or addressed under existing regulations. Those risks are heightened in areas where geological formations, aquifer structures, weather patterns, and climate conditions increase the likelihood of leakage, rupture, and contamination due to subsidence, erosion, salinization, and other factors affecting the interaction of ground and surface waters and soils. Second, CCS undermines efforts to mitigate

[1] State of Louisiana, Dep't of Natural Resources Office of Conservation Injection and Mining Division, Class VI USEPA Primacy Application (Docket No. IMD-2021-02) (May 13, 2021), http://www.dnr.louisiana.gov/assets/OC/im_div/uic_sec/ClassVIPrimacyApplicationstamped.pdf [hereinafter "Primacy Application"].
[2] U.S. Envtl. Protection Agency (EPA), https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2 (last visited July 5, 2021).
[3] *See generally* Center for International Environmental Law, Confronting the myth of carbon-free fossil fuels: Why carbon capture is not a climate solution (2021), https://www.ciel.org/wp-content/uploads/2021/07/Confronting-the-Myth-of-Carbon-Free-Fossil-Fuels.pdf.

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global climate change by prolonging fossil fuel use and other high-emitting activities, and driving increased fossil fuel production through "enhanced oil recovery." Moreover, injecting and storing CO2 underground for ten or even fifty years is not "permanent" sequestration. CO2 lingers in the atmosphere and environment on a geological time scale—for many hundreds or even thousands of years. And transferring liability for underground CO2 to the public after a mere ten years (thereby "socializing" the liability) poses unnecessary environmental, health, safety and fiscal risks to Louisiana residents, while letting operators off the hook. These comments should be understood in the context of these broader concerns about the local and global impacts of CCS in Louisiana, in both the short and long term.

What follows is a non-exhaustive list of concerns about Louisiana attaining primacy for Class VI injection wells that we would like to bring to the attention of state and federal authorities, including the Office of Conservation in Louisiana's Department of Natural Resources and the U.S. Environmental Protection Agency, prior to approval of the present application. In particular, we wish to highlight: (1) the heightened risks underground CO2 injection and storage poses in Louisiana; (2) shortcomings and capacity constraints impairing the state's enforcement of environmental regulations and prevention of environmental racism and other forms of environmental injustice; and (3) concerns about the regulatory framework applicable to Class VI wells and the carbon capture activities served by those wells.

1. Louisiana is particularly vulnerable to environmental, health, and safety risks of underground CO2 injection

Underground storage of CO2 in Class VI wells would put the people of Louisiana at heightened risk. The nature of the terrain and climate, vulnerabilities compounded by accelerating climate impacts, the history and pre-existing network of oil and gas wells and pipelines, and constraints on the state's capacity to monitor and manage the range of wells under its jurisdiction all contribute to elevated risk for communities.

Louisiana's coastal wetlands are likely to be the site for much of the planned carbon dioxide injection.[4] Carbon dioxide pipelines and injection wells located in wetlands may be at increased risk of leaks or breaks, which threaten surrounding communities.[5] Vulnerabilities could include pipeline corrosion from coastal saltwater, the erosion of the wetlands themselves which would threaten the stability of pipelines and injection wells, and coastal flooding and storms.

The increasing impacts of climate change in Louisiana magnify these preexisting risks.[6] Storms, floods, and coastal erosion are accelerating or increasing in frequency and intensity. Leaks, spills, or other CO2 well failures caused by extreme weather events and changing climate

[4] *See* David E. Dismukes et al., Integrated Carbon Capture and Storage in the Louisiana Chemical Corridor 22, 88 fig. 59 (2019), https://www.lsu.edu/ces/publications/2019/doe_carbonsafe_02-18-19.pdf ("The close proximity of large CO2 emitters and depleted oil and gas reservoirs in the Louisiana Chemical Corridor (LCC) provide unique opportunities for CO2 geological sequestration in coastal Louisiana."). *See also* Nat'l Energy Tech. Lab., Overview of Potential Failure Modes and Effects Associated with CO2 Injection and Storage Operations in Saline Formations 10, 26, Appendix A (2020), https://www.energy.gov/sites/default/files/2021/01/f82/DOE LPO_Carbon_Storage_Report_Final_December_2020.pdf (identifying south Louisiana as a target for carbon storage).

[5] *See* Nat'l Energy Tech. Lab., *supra* note 3, at 2, 4, 24.

[6] US EPA, What Climate Change Means for Louisiana (2016), https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-la.pdf.

conditions would compound the already-significant risks that nearby communities face from climate impacts, concentrating exposure in the same overburdened populations.

Moreover, Louisiana's long-standing, ongoing oil and gas industry presents another set of risks, as multiple CO2 pipelines and injection wells would have to compete for space and interact with the preexisting networks of petroleum wells and pipelines already in place.[7] The state has tens of thousands of unplugged, orphaned, or otherwise inactive wells,[8] which must be considered before carbon dioxide injection can be undertaken. The burden existing wells put on the LDNR is likely to compete for attention and monitoring resources with any CO2 injection wells, straining the ability of the Department to manage either.

Finally, as fossil fuels are phased out to respond to the growing climate crisis, the number of inactive and orphaned wells for which the LDNR must take responsibility is likely to grow. This will further strain the Department's resources and exacerbate the enforcement challenges mentioned above and described in greater detail below.

For these reasons, Louisiana is particularly vulnerable to environmental and health harms associated with underground CO2 injection and storage. As will be described in the next sections, this risk is likely to be magnified by shortcomings in enforcement and an inadequate regulatory structure.

2. Louisiana has a concerning track record when it comes to enforcement of environmental regulations

a. Concerns about capacity to implement and enforce regulations

In 2014 and again in 2020, the Louisiana Legislative Auditor undertook reviews to determine "whether OC [the Department of Natural Resources' Office of Conservation] has effectively regulated oil and gas wells and effectively managed the current population of orphaned wells."[9] The 2014 audit found significant shortcomings with the state's well management and recommended 21 specific areas for improvement. The shortcomings included:

- Lack of effective oversight to ensure well operators follow the law;
- Lack of financial security, resulting in significant creation of "orphaned wells" - wells for which "no responsible operator can be located" or which have been not maintained by their operators; and
- Inability to reduce the total number of orphaned wells in the state, largely due to lack of

[7] *See* Nat'l Energy Tech. Lab, *supra* note 3, at 35 (noting that "[s]torage reservoir pressure increase in sedimentary basins with interconnected reservoirs that host multiple CO2 storage or liquid disposal projects" can be a source of failure).
[8] Interstate Oil and Gas Compact Comm'n, Idle and Orphan Oil and Gas Wells: State and Provincial Regulatory Strategies 24 (2020), https://iogcc.ok.gov/sites/g/files/gmc836/f/documents/2021/2020_03_04_updated_idle_and_orphan_oil_and_gas_wells_report.pdf (indicating Louisiana has 3,966 orphan wells, 10,249 idle wells, and 38,200 documented drilled and unplugged wells).
[9] Louisiana Legislative Auditor, Regulation of Oil and Gas Wells and Management of Orphaned Wells, Office of Conservation - Department of Natural Resources, Performance Audit (May 28, 2014), http://app.lla.state.la.us/PublicReports.nsf/0/D6A0EBE279B83B9F86257CE700506EAD/$FILE/000010BC.pdf.

adequate staffing.

The 2020 audit, intended to track progress on the 21 recommendations, found that the number of orphaned wells had more than doubled in the six years between audits, and that while many of the recommendations had been met, the OC was not requiring operators to plug wells within the time allotted by law and the financial security now required was not enough funding to actually plug those wells as they were retired.[10]

Both audits recommended increasing the funding for the OC and increasing the staffing capacity of the office, by increasing taxes on well production. Instead, the Louisiana legislature passed a bill in its 2021 session reducing the taxes paid by the owners or purchasers of orphaned wells.[11]

This does not bode well for the ability of the OC to adequately manage its existing well program, much less to take on management and oversight of a new class of wells—CO2 injection wells—in a sector (carbon capture and storage) where impacts and risks, including over the long-term, have not been fully assessed. The application also raises questions about the adequacy of the enforcement mechanisms and measures available to prevent and remediate threats to underground sources of drinking water—the primary concern of the Safe Drinking Water Act—as well as other health and environmental impacts.

The failure to invest in strengthening OC capacity and fully rectifying the shortcomings identified in past audits also indicates a lack of legislative support for the important work of the Department of Natural Resources and its well management efforts. Insufficient investment in regulatory capacity and oversight deepens concerns about Louisiana's ability to exercise authority for reviewing and approving Class VI wells.

b. Concerns about environmental justice and the limitations of reliance on "EJSCREEN"

Louisiana's application for primacy has two significant shortcomings with regard to environmental justice, with far-reaching impacts for Louisiana's people: the state proposes to rely on EJSCREEN as the principal or only tool for reviewing environmental justice concerns associated with CO2 injection wells, and does not commit to or identify a process for altering planned CO2 well sites or the pipeline routes feeding those wells if environmental justice concerns are identified. These problems are amplified by the Department's own acknowledgement that it lacks sufficient in-house expertise, and will rely in part on third-party contractors for environmental justice analysis.[12]

1. EJSCREEN is not an adequate mechanism to assess, prevent, and mitigate adverse environmental justice impacts from CO2 injection and storage.

The Class VI primacy application states that the Department will require an environmental justice review of every proposed well, including consideration of "the data and factors available

[10] Louisiana Legislative Auditor, Progress Report: Regulation of Oil and Gas Wells and Management of Orphaned Wells, Office of Conservation - Department of Natural Resources, Performance Audit Services (March 11, 2020), http://app.lla.state.la.us/PublicReports.nsf/0/C9D7297FEA93568D86258528006BA4F8/$FILE/0001FA2E.pdf.
[11] Act No. 391 (Louisiana Senate Bill 171), *effective date* June 16, 2021 (providing for severance tax exemptions and site-specific trust funds for certain orphan wells), http://www.legis.la.gov/legis/BillInfo.aspx?i=240377.
[12] *See* Primacy Application, *supra* note 1, pages 7-8, 11 of 263.

in the EPA-developed EJSCREEN tool and identify any portions of the AoR which encompass EJ areas."[13] The application mentions no other mechanism for assessing environmental justice risk. Moreover, the application states only that "impacts on minority and low-income populations" will be "examined" and "addressed,"[14] not prevented, eliminated, or even avoided.

According to the EPA's own guidance, EJScreen "*has a number of limitations in a regulatory context, including the fact that it is a* ***snapshot of past exposure****, may not include sources of exposure relevant to the regulatory action, and is limited to information on proximity to risk.*"[15] EJSCREEN's limitations are particularly acute in Louisiana, which has significant rural areas where the bulk of proposed CCS facilities and pipelines will likely be developed. EJSCREEN does not display or overlap with census or population data; it uses only percentiles for comparison, and does not use Parish- or County-level data for those percentile referents.

Much of Louisiana is rural. Using only EJSCREEN as the 'triggering' tool for environmental justice review would have the effect of essentially ignoring many rural Black and Indigenous communities in the state, which are not of significant enough size to be caught by EJSCREEN's metrics. A number of communities in Louisiana widely known in the state to be EJ communities are not identified as such under the EJSCREEN tool. Mossville, outside of Lake Charles, is perhaps the most prominent such example. Just because a community is not large enough to be included in EJSCREEN's metrics does mean its residents are entitled to any less respect and protection. The vibrant rural Black and Indigenous communities of Louisiana should also be included in the state's plans for reviewing environmental justice concerns related to the use of CO2 injection wells.

EPA's best practices outlined in the 2016 *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis* are a much better tool for the state to use in assessing risk to communities.[16] We advise that the state of Louisiana (and other states seeking primacy) should, at minimum, adhere to these best practices for understanding, assessing, addressing, and remedying environmental justice concerns of CO2 injection wells.

2. If environmental justice is found to be a concern for a proposed well site, simply notifying the community is not an adequate response.

Louisiana's application states:

"If a proposed site is found to be located in communities with high EJ risk factors, the Commissioner of Conservation may extend the public comment period for the application and may also require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language."[17]

In a June 30 meeting of the Louisiana Climate Task Force's Ad Hoc Committee on Carbon Capture and Storage, a representative from the state's OC stated, in response to a question during

[13] *Id.* at page 11 of 263.
[14] *Id.* at page 31 of 263.
[15] U.S. EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis 43 (2016), https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.
[16] *Id.* at 14, 43-46.
[17] Primacy Application, *supra* note 1, at page 11 of 263.

the public comment section of the meeting, that the state will not consider or require alternate siting of proposed CO2 wells if they are found to affect environmental justice communities or have environmental justice concerns, no matter how significant.[18]

Notifying a community of environmental justice concerns is not adequate to address, prevent, or mitigate those concerns. If an operator is applying for a permit to inject CO2 under the ground near an environmental justice community (or any community, for that matter), there should be mechanisms in place for that community to demand that such a permit be denied. Having a longer public comment period during which to ask questions does not guarantee effective prevention or remedy for harm.

The White House Environmental Justice Advisory Committee (WHEJAC) concluded in May that underground storage of CO2 is a type of project that "will not benefit a community," and called on the federal and state governments to invest only in projects that have clear community benefits and do not cause harm.[19] Louisiana's plan for addressing the environmental justice impacts of CO2 injection clearly runs afoul of that recommendation and therefore should not be approved.

3. Concerns about the regulatory framework governing class VI wells and the CCS activities that would lead to their use

The approval of Class VI wells is part of the proposed CCS expansion in the state and cannot, therefore, be isolated from concerns about the adequacy of the state's overall regulatory framework for CCS. Certain provisions in Louisiana Administrative Code (LAC) Title 43, Part XVII, Subpart 6, Chapter 6 Class VI Injection Wells ("Statewide Order No. 29-N-6") and in Louisiana's Geologic Sequestration of Carbon Dioxide Act of 2009, the principal framework governing carbon capture and storage in the state, raise concerns about the processes associated with the capture, transport, injection, and storage of carbon dioxide, as well as public access to information regarding the risks of CCS and participation in decisions concerning CCS activities. Below are examples of several such provisions.

First, Revised Statute 30:1102(A)(2) characterizes carbon dioxide as a "valuable commodity" to the citizens of the state. Because Revised Statute 30:1102(A) defines CCS as in the "public interest," it is possible that eminent domain could be used for CCS projects in the state, including the siting of Class VI wells. Indeed, Revised Statute 30:1108 states that a CCS operator who has obtained a certificate of public convenience and necessity from the Louisiana Office of Conservation can use the power of eminent domain to acquire subsurface rights, as well as the surface rights needed to support a CCS facility and the pipelines necessary to serve it.[20] The prospect that eminent domain may be deployed to facilitate underground CO2 injection, despite the aforementioned significant risks it poses and deficiencies in environmental justice

[18] This meeting was recorded and should be available from the La. DNR, though meetings of this ad hoc committee are not listed on or recordings shared to the Climate Task Force's web page, as other committee meetings are. See: https://gov.louisiana.gov/index.cfm/page/114.
[19] White House Environmental Justice Advisory Council, Justice40 Climate and Economic Justice Screening Tool & Executive Order 12898 Revisions: Interim Final Recommendations 55-58 (May 13, 2021), https://www.epa.gov/sites/production/files/2021-05/documents/whejac_interim_final_recommendations_0.pdf.
[20] La. Revised Statutes RS 30:1108 (§1108 Eminent domain; expropriation), available at http://legis.la.gov/Legis/Law.aspx?d=670794.

protections, elevates concerns about the present application for primacy.

Second, the Geologic Sequestration of Carbon Dioxide Act at Revised Statute 30:1102(A)(3) incentivizes the use of captured carbon for enhanced oil recovery, which exacerbates climate change by boosting oil production and prolonging the fossil fuel era. The relationship between Class II and Class VI wells, and the state's approach to regulation of both and their potential interaction, requires greater attention.

Third, existing regulations may not guarantee complete and timely disclosure of information to the public or provide adequate opportunities for public participation in decision-making regarding proposed Class VI wells or other CCS activities. For example, Section 611(D) of LAC Title 43 states that a fact sheet will be prepared for every draft permit for all major UIC facilities or activities, but will only be available to members of the public upon request. There is no provision in this section addressing how to request a fact sheet or whether fact sheets will be made available to the public. Additionally, the provisions of Section 609(L) require permittees to notify the commissioner of noncompliance, but do not require permittees or the government to alert the public about any noncompliance. It is imperative that the public have all the facts readily available regarding the risks and dangers associated with carbon capture and storage. These are just a few examples that demonstrate the need for greater assurances of public access to information and adequate public disclosure surrounding Class VI injection projects.

Fourth, the revised statutes lack specific siting restrictions, beyond general provisions mandating that well drilling and operation do not cause injury to neighboring leases or property, and that proposed storage of CO2 will not endanger human lives or cause a hazardous condition to property. Section 615 of LAC Title 43 only touches on the geologic considerations of siting injection wells. The absence of more specific limitations on the location of CO2 injection wells, storage sites, or accompanying pipelines and infrastructure, leaves communities and ecosystems at risk. At minimum, regulations should restrict siting in densely populated areas, ensure buffer zones to protect water sources, critical infrastructure, and other essential community resources, and avoid potentially dangerous interactions between CO2 transport and storage equipment and hazardous industrial sites, of which Louisiana has a high concentration. As stated above, Louisiana's coastal wetlands are the site for much of the planned carbon. Yet, the unique qualities of the state's geography do not seem to be sufficiently reflected in the current regulations about siting of injection wells or storage areas, raising concerns about the state's ability to ensure that Class VI wells comply with the Safe Drinking Water Act and other applicable federal and state laws.

Lastly, as mentioned above, Revised Statute 30:1109 transfers ownership of a CO2 injection operation project and stored carbon to the state ten years after cessation of injection into a storage facility and the commissioner's issuance of a certificate of completion.[21] Once the certificate of completion is issued, the owners and operators of the carbon storage project are released from liability. This transfer of liability onto the state allows the dangerous repercussion of failed CO2 storage to fall onto Louisiana's residents. Socializing the costs of CCS in this way is particularly concerning, given the need for long-term monitoring and maintenance of storage sites to ensure safety and anything approaching the "permanent" sequestration touted by proponents of CCS, to reap the climate benefits of preventing the stored CO2 from being emitted

[21] La. Revised Statutes RS 30:1109, (§1109. Cessation of storage operations; liability release), available at https://legis.la.gov/Legis/Law.aspx?d=670795

into the atmosphere.

Conclusion

Granting primacy to Louisiana for the permitting of Class VI injection wells would be a mistake. Because of its geography, history of oil and gas development, and exposure to the impacts of climate change, Louisiana is uniquely vulnerable to environmental and health harms from underground storage of CO2. The state also has a poor track record of enforcing environmental regulations, due to inadequate staffing and an insufficient framework for considering and preventing environmental justice harms. Finally, Louisiana's regulatory framework for carbon capture and sequestration, including regulations pertaining to Class VI injection wells, raises several concerns, suggesting that applications for permits may be granted without sufficient caution or consideration. For these reasons, the Environmental Protection Agency should reject the Louisiana Department of Natural Resources Class VI well primacy application.

Thank you for your consideration of these comments. Should you have any questions, please do not hesitate to contact us.

Sincerely,



Nikki R. Reisch
Director, Climate & Energy Program
Center for International Environmental Law
1101 15th St NW, Ste 1100
Washington, DC 20005 USA

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

The Climate Reality Project New Orleans urges the DHR Office of Conservation not to submit a Class VI USEPS Primacy Application. Our reasons follow:

1. Carbon capture to date is based pseudo-science as demonstrated by the reality that it has not proven to be cost beneficial when attempts have been made to bring it to scale. Rather it is a diversion from the core issue of transforming our society from fossil fuels to renewable energy. Certainly, the DNR does not want to be a party in undermining those very natural resources it is responsible to protect.
2. The costs to taxpayers in the form of tax subsidies are likely to be enormous. Our existing pipeline system cannot handle the extremely low temperatures and high pressures needed to transport CO2 and the risk posed by corrosive contaminants in the CO2 will require extensive maintenance and endanger populations through which the pipelines pass.
3. Because carbon capture infrastructure would be built near emitting sites, facilities would further harm the same people already overburdened by industrial pollution. In Louisiana, that would put Black, Brown, and Indigenous communities at even greater risk. It has been well documented that only tiny increases in pollution in the atmosphere weaken lungs, hearts, the immune system and even cognition leading to substantial morbidity due to cancer, COVID-19, asthma, and many other disorders. Further, an accidental release of CO2 could asphyxiate nearby residents.
4. A vast system of CCS pipelines coming to Louisiana poses another threat to Louisiana's wetlands and will further coastal erosion as pipelines are run through precious natural resources. As more and more people tire of the abuse of our natural resources, poor public services due to corporate subsidies, and polluted air and water Louisiana will continue to experience limited population growth and economic development.

The Climate Reality Project New Orleans urges the DNR to consider developing longer range plans that reject making Louisiana the CCS storage hub of the nation and rather focus on a cleaner and more economically viable future based on renewable energy. Thank you for your consideration of our testimony.

Peter Digre Glenn Butt, MD

Dr. Peter Digre, Co-Chair
Dr. Glenn Butt, Co-Chair
Climate Reality Project New Orleans
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310-346-4361

OFFICE OF CONSERVATION
JUL 01 2021
INJECTION & MINING DIVISION

Laura Sorey

From: Injection-Mining
Sent: Monday, July 12, 2021 3:58 PM
To: Laura Sorey
Subject: FW: Comments on carbon sequestration and storage

Class VI public comment - please save in folder.

-----Original Message-----
From: Cynthia Phillips [mailto:philcynth@aol.com]
Sent: Saturday, July 10, 2021 1:04 PM
To: Injection-Mining <Injection-Mining@LA.GOV>
Subject: Comments on carbon sequestration and storage

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Please note my vehement objections to any carbon sequestration and/or storage. We need to develop an energy source that does not rely on our storing, creating, mining, drilling ANY toxic substances and/or their waste. As we continue to skitter around these deep issues, we should not be developing any sites whatsoever to encourage the oil and gas and even mining industries from finding and developing alternative sources of energy. We have them - now is the time to hold firm on any concessions.

Thank you,
Cynthia Schmidt
59275 Pine Bay Lane
Lacombe, LA 70445

Sent from my iPad

DEEPSOUTH CENTER FOR ENVIRONMENTAL JUSTICE

Mailing address: 3157 Gentilly Blvd., #145, New Orleans, LA 70122
Physical address: 9801 Lake Forest Blvd., New Orleans, LA 70127
504-272-0956 phone | 504-372-3473 fax | www.dscej.org

July 6, 2021

Mr. Stephen Lee, Director
Injection & Mining Division
Office of Conservation
Louisiana Department of Natural Resources
617 North Third Street, Eighth Floor
Baton Rouge, LA 70802
Via hand delivery

Re: Class VI USEPA Primacy Application

Dear Mr. Lee:

The Deep South Center for Environmental Justice is deeply concerned that the unproven method of injecting carbon dioxide underground in response to the climate crisis would not only undermine this purpose, but would also threaten the health and safety of the people of Louisiana. We submit the following comments in opposition to the above-referenced application by your office. Our comments start with the Public Trust Doctrine and the duty this imposes on the Louisiana Department of Natural Resources and its Office of Conservation. Our comments focus on the areas of the application which fail to demonstrate that the Office of Conservation is capable of meeting the minimum federal requirements for site characterization, testing and monitoring, and risk analysis. Additionally, we recommend the Office of Conservation address its record of environmental racism in Black and Indigenous communities who are disproportionately harmed as a result of the Office of Conservation's failure to protect our health, safety, and environment.

Public Trust Doctrine

Article IX, section 1 of the Louisiana State Constitution imposes a duty on the Department of Natural Resources to perform its duty as public trustee to:

> . . . see that the environment would be protected to the fullest extent possible consistent with the health, safety, and welfare of the people.

Save Ourselves, Inc., et al v. Louisiana Environmental Control Commission, 452 So.2d 1152 (La. 1984). In this decision, the Louisiana Supreme Court recognzed that the Commission, which was established in the Louisiana Department of Natural Resources, "may have erred by assuming that its duty was to adhere only to its own regulations rather than to the constitutional and statutory mandates."

In the above-referenced application, the Office of Conservation repeats the legal error found in the *Save Ourselves* decision. Simply put, the application does not demonstrate environmental protection to the **"fullest extent possible."** *Id.* [emphasis added]. The application is merely a "copy-and-paste" of federal regulations pertaining to the Class VI Underground Injection Program, which the US Environmental Protection Agency (EPA) recognizes as minimum standards. The EPA advises that more can and should be done to ensure greater protections for the environment.[1]

The Office of Conservation's application does not acknowledge or in any way indicate that the EPA's Guidance documents will be pursued in order to provide for a more stringent regulatory program. There is no proposed action or requirement in the application that provides greater enviornmental protection than the minimum federal standards. Thus, the Office of Conservation fails to comply with the well-settled law *Save Ourselves* by submitting an application to merely satisfy minimum standards, which falls far short of the constitutional and statutory mandates for protecting the environment to the fullest extent possible consitent with the health, safety and welfare of the people.

Furthermore, the above-referenced application impermissibly limits the obligations under the Public Trust Doctrine to the singular consideration of risk to undeground drinking water sources. This ignores the reality that the underground injection of carbon dioxide collected from industrial facilities involves multiple risks for communities, wildfile, and natural earth functions. For example, geologic and engineering studies show risks associated with the process of injecting and storing carbon dioxide underground. One of these risks arises from the solvent properties of carbon dioxide to breakdown underground formations and release benzene, a potent human carcinogen, as well as other toxins.[2] The studies find that this risk poses serious environmental health risks for nearby communities and wildlife.[3]

Site Characterization

The above-referenced application fails to acknowledge that "site characterization is an iterative process." EPA, Site Characterization Guidance, at p. 2. The Office of Conservation fails to require the more stringent requirements for site characterization, evaluation, and reporting at any stage of the permitting process as advised by the EPA.

The Office of Conservation ignores the geologic studies showing the extensive area of faults below ground in Louisiana (Gagliano et al, 2004; 2006). Also ignored is recent research and mapping that shows most of the geographic area of Louisiana to be unsuitable as sites for the injection and underground storage of carbon dioxide (Princeton University, 2020).

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[1] *See, generally,* US EPA Office of Water, Geologic Sequestration of Carbon Dioxide Underground Injection Control (UIC) Program Class VI Well Site Characterization Guidance, (EPA 816-R-13-004), May 2013 (hereinafter EPA Site Characterization Guidance); and US EPA Office of Water, Geologic Sequestration of Carbon Dioxide Underground Injection Control (UIC) Program Class VI Well Testing and Monitoring Guidance, (EPA 816-R-13-001), March 2013 (hereinafter EPA Testing and Monitoring Guidance).

[2] J. Birkholzer et al, Understanding Groundwater Quality Changes Case of CO2 Instrusion by Numerical Modeling, Earth and Environmental Sciences, https://eesa.lbl.gov/projects/potential-impacts-of-co2-leakage-on-groundwater-quality/

[3] *Id.*

accordance with timeframes established by the Commissioner of at least 26,828 (53%) of 50,960 oil and gas." *Id.* at 3. Furthermore, 25% (12,702) of all oil and gas wells *were not inspected at all.*" *Id.*

LLA found that OC does not report its inspection data "in a format that can be easily quantified," so "OC also cannot identify the number or type of violations cited on inspections." *Id.* The 2014 Report also stated that "OC has not developed an effective enforcement process that sufficiently and consistently addresses noncompliance and deters operators from committing subsequent violations," and "OC has not developed formal procedures in policy or in rule that outline the enforcement process. " *Id* at 3, 11.

2. In 2004, the Louisiana Legislative Auditor conducted an audit of LDNR's Louisiana Coastal Resources Program. That report concluded that LDNR "does not always exercise all of its enforcement authority available under state law" See *Department of Natural Resources Louisiana Coastal Resources Program* (March 3, 2004), *available at* https://app.lla.state.la.us/publicreports.nsf/0/29481b22579226a48625700c00586965/$file/03702959.pdf?openelement&.7773098 (hereinafter "LLA 2004 Report").

   LLA reviewed 153 enforcement files opened during the fiscal years 2001 through 2003. The Department did not issue any cease and desist orders, take legal action, or suspend, revoke or modify permits in 147 (96%) of those cases. (LLA 2004 Report, pg. 17). The Department assessed administrative penalties totaling $6,476 in only the six remaining (4%) of those cases. *Id.* Although minor violations were found in 14 cases, no compliance was requested by the LDNR. *Id* at 18. The Department responded most frequently by transferring the matter to a local coastal program, and in only one file of the 153 reviewed was a minor violation found and compliance requested. *Id.*

3. More recently, LLA conducted a financial audit of LDNR to ensure accurate reporting and compliance with applicable laws and regulations. That report concluded that LDNR had failed to establish written criteria for waiving civil penalties and late registration penalties, "increasing the risk of applying inconsistent enforcement action among noncompliant well operators." See *Department of Natural Resources State of Louisiana Financial Audit Services Procedural Report* (August 22, 2018), *available at https://lla.la.gov/PublicReports.nsf/83D399A0C3E38E1B862582F1006592BC/$FILE/00001A490.pdf* (hereinafter "LLA 2018 Report").

   Pursuant to the Louisiana Administrative Code, OC has the ability to impose civil penalties upon determination that a violation of regulations has occurred. LLA reviewed 19 civil penalties that were waived by LDNR during the period of July 1, 2016 through December 31, 2017 and found the following:

   - 9 (47%) penalties assessed were reduced by 50% without established written criteria.
   - 6 (32%) penalties assessed were waived completely without established written criteria.
   - 4 (21%) penalties were incorrectly assessed by the department.

- 13 (68%) penalties that required corrective action by the operator were not followed up timely after a department imposed deadline had passed. The number of days ranged from 89 to 564 days after the established deadline. (LAA 2018 Report pg. 2)

The report concluded that OC does not take timely and consistent action against operators of wells that are abandoned and not maintained, "which could result in an increased number of wells that are abandoned." *Id.*

The Office of Conservation is also charged with the protection of public safety and the environment from oilfield waste, including regulation of underground injection and disposal practices. Effective regulation of OC's Underground Injection Control program is especially important in preventing operators from abandoning their wells. **LDNR and OC have repeatedly demonstrated an unwillingness to enforce their policies and procedures as it relates to the regulation of oil/gas wells and orphaned wells.**

1. The 2014 report by the Louisiana Legislative Auditor (LLA) stated that the financial security amounts designated in OC's regulations were not sufficient to cover the cost of plugging all wells. (LLA 2014 Report, pg. 7) Notably, unlike other states, the OC's regulations at that time did not require that all oil and gas well operators to provide financial security; additionally, when required, the security amounts were not sufficient to cover the costs of plugging all the wells. (LLA 2014 Report, pg. 2). The LLA emphasized that "[f]inancial security is important as it provides funds that the state can use to plug a well in the event that the operator abandons the well. Currently, 25% of all current oil and gas wells are required to be covered by financial security and 55% of orphaned wells that were subject to financial security requirements were exempt from financial security." *Id* at 3.

   According to the LLA 2014 Report, as of July 2013, there were 2,846 orphaned wells that had not been plugged. *Id* at 2. Between the fiscal years of 2008 through 2013, OC plugged an average of 95 orphaned wells each year even though an average of 170 additional wells were orphaned each year. *Id.* The LLA acknowledged that OC shifted its plugging strategy in 2011 to focus on urgent and higher priority orphan wells that pose the most environmental and public safety risks; however, as a result of this shift in focus, the number of wells plugged each fiscal year had decreased to an average of 33 wells from fiscal years 2011 through 2013. *Id.*

   From the fiscal years of 2008 to 2013, despite already issuing compliance orders, OC did not conduct reinspection on 1,116 (16%) of 6,827 wells to ensure that the operators corrected their violations. In the cases where reinspection did take place, out of 918 compliance orders with uncorrected violations, 507 (55%) were not issued a penalty. *Id* at 12. The Report stated that "instead of penalties, OC often granted multiple extensions for these wells to give the operator time to bring the well into compliance." *Id.*

   The LLA 2014 Report discredited both two methods used by OC to identify inactive wells. One method, involving well test reports, was found ineffective as OC

violated the regulatory requirement that all producers submit to such, as OC would allow certain operators to be exempt. As a result, approximately 25,000 wells were exempt from well tests in fiscal year 2012. *Id.*

2. In 2013, a massive sinkhole appeared in Bayou Corne. Mining had been taking place in the area for decades before the site was abandoned in 2010. The abandoned site had collapsed, causing the sinkhole and oil and gas leaks. LDNR said they were "yet to find a roadmap for dealing with this unique set of problems;" state rules at the time did not require any continued monitoring, despite the fact that the state had ordered the drilling of numerous more wells of the same type. See *Massive Sinkhole in Louisiana Baffles Officials*, NPR, https://www.npr.org/2013/03/20/174853576/massive-sinkhole-in-louisiana-baffles-officials (Mar. 20, 2013).

3. Thousands of abandoned oil and gas wells litter Louisiana. In 2020, nearly 4,300 abandoned wells were documented in the state, a number which is expected to only rise as the price of oil impacts the industry. OC estimated it would take $128 million and nearly 20 years to properly plug the wells and rectify such serious environmental and public safety risks. See *Number of 'orphaned' wells increased by 50 percent, could cost state millions: audit*, THE TIMES-PICAYUNE, https://www.nola.com/news/business/article_313d8dd2-7a9d-11ea-b4a4-e7675d1484f7.html (April 19, 2020).

It is clear that the Office of Conservation, which has failed by every measure to properly regulate other UIC Programs is either unwilling or unable to hold the operators of wells in this state accountable. Thus, the Office of Conservation is an unsuitable candidate for Class VI primacy. It is clear that the industry has dictated the law and state response with regard to the use and clean-up of oil and gas wells. Proper management of Class VI wells will be crucial to safeguard public health and protect the environment, but remains undemonstrated in the above-referenced application and the track record of the office.

For all the reasons above, we strongly recommend that the application by the Louisiana Department of Natural Resources' Office of Conservation' for Program Primacy of Class VI Carbon Sequestration **should not be granted by the US Environmental Protection Agency.**

Sincerely,

Monique Harden

Monique Harden
Assistant Director of Law & Policy
Community Engagement Program Manager

DEEPSOUTH CENTER FOR ENVIRONMENTAL JUSTICE

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July 13, 2021

Mr. Stephen Lee, Director
Injection & Mining Division
Office of Conservation
Louisiana Department of Natural Resources
617 North Third Street, Eighth Floor
Baton Rouge, LA 70802
Via electronic mail to: injection-mining@la.gov

Re: Louisiana Office of Conservation Class VI USEPA Primacy Application (LOC App.); Docket No. IMD-2021-02

Dear Mr. Lee:

In accordance with the Office of Conservation's public notice of the extended deadline of July 13, 2021 at 4:00 pm CST for written comments on the above-referenced matter, the Deep South Center for Environmental Justice (DSCEJ) submits this comment letter to supersede the prior comment letter delivered on July 6, 2021.

As discussed below, the DSCEJ finds the above-referenced application by the Office of Conservation in the Louisiana Department of Natural Resources to the US Environmental Protection does not meet the requirements of state and federal laws. Additionally, we note the poor record of the Office of Conservation that demonstrates its inability to properly regulate other Underground Injection Control (UIC) Programs, which have devastating consequences for Black and Indigenous communities in Louisiana. The Office of Conservation's application neither addresses its poor environmental record nor demonstrates any improvement for managing the Class VI UIC environmental program for underground injection and storage of carbon dioxide (CO_2) collected from industrial facilities.

I. Environmental Justice

Environmental justice is the human rights and civil rights demand to live, work, play, learn and pray in a healthy and safe environment. It is a movement led by Black, Indigenous, Latino/Latinx, Asian, and Pacific Islander communities, who are disproportionately harmed by pollution and more vulnerable to the climate crisis. In recognition of this and pursuant to federal civil rights law and executive orders, the US Environmental Protection Agency requires state

governments, as recipients of federal financial assistance, to ensure environmental justice through compliance with civil rights law that prohibits discrimination.[1]

In the above-referenced application, the Office of Conservation errs by providing for environmental justice as merely an "analysis" (LOC App., p. 3) of "reports" (LOC App., p. 6) provided by well owners/operators as part of their applications for Class VI UIC permits. This constitutes a fundamental failure of the Office of Conservation to understand and carry out its legal obligation to ensure environmental justice through compliance with Title VI of the Civil Rights Act of 1964. Title VI prohibits the use of federal funds in a manner that is discriminatory on the basis of race, color or national origin (42 U.S.C. § 2000d). The US Environmental Protection Agency's implementing regulations set forth general and specific prohibitions against discrimination (40 CFR §§ 7.30 and 7.35) that have direct application to regulatory activities under the Class VI UIC Program, such as siting (40 CFR § 7.35(d)).

The above-referenced application treats environmental justice as a box to be checked, in this case, by collecting information available on the EPA's EJ Screen. This approach to environmental justice was roundly rejected in the recent federal court decision *Friends of Buckingham v. State Air Pollution Control Board*. The Office of Conservation cannot merely gloss over racially disproportionate pollution burdens. The EJ Screen is a tool. It is not a substitute for preventing the injustice of environmental racism.

The Office of Conservation further errs in planning the misuse of EJScreen. The EPA developed the EJScreen as an analytical tool to assist in identifying areas where people of color reside and areas with environmental factors. However, the EPA recognizes that the EJScreen is only a "useful first step" in providing results that "do not, by themselves, determine the existence or absence of environmental justice concerns in a given location." Furthermore, the EPA cautions that EJScreen results "do not provide a risk assessment and have other significant limitations."[2] In defiance of the EPA's caution, the Office of Conservation asserts in the application that "LOC staff will use the EPA-developed EJSCREEN tool to evaluate the location of the project" in a permit application (LOC App., p. 6). This means that, under the Class VI UIC Program, the Office of Conservation will conduct deeply flawed evaluations of environmental justice concerns based on its planned misuse of a clearly limited analytical tool.

II. Public Trust Doctrine

Article IX, section 1 of the Louisiana State Constitution imposes a duty on the Department of Natural Resources to perform its duty as public trustee to:

> . . . see that the environment would be protected to the fullest extent possible consistent with the health, safety, and welfare of the people.

[1] *See*, e.g., US EPA, Title VI and Environmental Justice (explaining the distinct and overlapping responsibilities of ensuring environmental justice and enforcing civil rights protections) available at: https://www.epa.gov/environmentaljustice/title-vi-and-environmental-justice

[2] US EPA, Purposes and Uses of EJ Screen, available at: https://www.epa.gov/ejscreen/purposes-and-uses-ejscreen

Save Ourselves, Inc., et al v. Louisiana Environmental Control Commission, 452 So.2d 1152 (La. 1984). In this decision, the Louisiana Supreme Court recognized that the Commission, which was established in the Louisiana Department of Natural Resources, "may have erred by assuming that its duty was to adhere only to its own regulations rather than to the constitutional and statutory mandates."

In the above-referenced application, the Office of Conservation repeats the legal error found in the *Save Ourselves* decision. Simply put, the application does not demonstrate environmental protection to the **"fullest extent possible**." *Id.* [emphasis added]. The application is merely a "copy-and-paste" of federal regulations pertaining to the Class VI Underground Injection Program, which the US Environmental Protection Agency (EPA) recognizes as minimum standards. The EPA advises that more can and should be done to ensure greater protections for the environment.[3]

The Office of Conservation's application does not acknowledge or in any way indicate that the EPA's Guidance documents will be pursued in order to provide for a more stringent regulatory program. There is no proposed action or requirement in the application that provides greater environmental protection than the minimum federal standards. Thus, the Office of Conservation fails to comply with the well-settled law of *Save Ourselves* by submitting an application to merely satisfy minimum standards, which falls far short of the constitutional and statutory mandates for protecting the environment to the fullest extent possible consistent with the health, safety and welfare of the people.

Furthermore, the above-referenced application impermissibly limits the obligations under the Public Trust Doctrine to the singular consideration of risk to underground drinking water sources. This ignores the reality that the underground injection of carbon dioxide collected from industrial facilities involves multiple risks for communities, wildlife, and natural earth functions. For example, geologic and engineering studies show risks associated with the process of injecting and storing carbon dioxide underground. One of these risks arises from the solvent properties of carbon dioxide to breakdown underground formations and release benzene, a potent human carcinogen, as well as other toxins.[4] The studies find that this risk poses serious environmental health risks for nearby communities and wildlife.[5]

III. Groundwater Risk

The above-referenced application sets forth the Office of Conservation's plan to expand the areas of aquifer exemptions for Class VI UIC permits at sites where carbon dioxide is

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[3] *See, generally,* US EPA Office of Water, Geologic Sequestration of Carbon Dioxide Underground Injection Control (UIC) Program Class VI Well Site Characterization Guidance, (EPA 816-R-13-004), May 2013 (hereinafter EPA Site Characterization Guidance); and US EPA Office of Water, Geologic Sequestration of Carbon Dioxide Underground Injection Control (UIC) Program Class VI Well Testing and Monitoring Guidance, (EPA 816-R-13-001), March 2013 (hereinafter EPA Testing and Monitoring Guidance).

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[5] *Id.*

injected underground to produce oil under Class II UIC permits (LOC App., p.11). The Office of Conservation entirely omits any consideration of the environmental, health and safety risks of expanding areas of aquifers. No protections against such risk are presented in the above-referenced application. Furthermore, the Office of Conservation does not provide any standard for evaluating permit applications that seek to expand aquifer exemptions under this circumstance, which sets up an arbitrary and capricious decisionmaking process. The application states that requests to expand exempted areas of aquifers would be submitted to EPA Region 6 for approval. However, this merely shifts the decision to another agency, it does not resolve the problem of there being no identified standard for decisionmaking on permit applications seeking to expand aquifer exemptions.

IV. Site Characterization

The above-referenced application fails to acknowledge that "site characterization is an iterative process." EPA, Site Characterization Guidance, at p. 2. Federal regulations (40 CFR 146.82 (a) and (c)) require site characterization be conducted at three distinct phases of the program: (1) prior to submitting the application; (2) prior to well construction; and (3) prior to well operation. At each successive phase, the site characterization should provide information that is updated and refined. The site characterization must also implement the formation testing program (40 CFR 146.82 (a) (8); 40 CFR 146.87). The EPA acknowledges that the permitting agency would need to "re-initiate the public notice process" in the event that a site characterization, after permit approval, has a significant change. EPA, Site Characterization Guidance, at p. 3. However, the Office of Conservation does not address this situation in its permit application. This renders a flawed permitting process without the consideration of an updated site characterization that warrants a change in the permit along with public notice and opportunity for comment. It also creates additional concerns regarding the enforceability of a permit that is inconsistent with an updated site characterization.

The Office of Conservation ignores the geologic studies showing the extensive area of faults below ground in Louisiana (Gagliano et al, 2004; 2006). Also ignored is recent research and mapping that shows most of the geographic area of Louisiana to be unsuitable as sites for the injection and underground storage of carbon dioxide (Princeton University, 2020)

The Office of Conservation fails to provide information as to how it plans to address consistency determinations, in accordance with the Coastal Zone Management Act, for Class VI UIC permit applications that propose sites in the Louisiana coastal zone as well as areas that have the potential to interfere with Louisiana Coastal Master Plan.

Taken as a whole the geologic studies and the Coastal Master Plan raise the question as to where exactly in Louisiana does the Office of Conservation believe to be suitable for the injection and storage of carbon dioxide collected from industrial facilities. The above-referenced application leaves this question to entities seeking a permit to decide without instruction or suitability criteria being put forward by the Office of Conservation. This is a major flaw in the application that will considerably cost applicants and concerned residents to defend or attack the selection of a site on the issue of consistency determinations and questions of suitability that currently remain without answers or any consideration in the above-referenced application.

Gulf Coast Sequestration LLC submitted a Class VI UIC permit application to EPA Region 6 that is currently pending. One of the sites selected for the injection and storage of some portion of 2.7 million metric tons of carbon dioxide each year for a 30-year period is Perry Ridge in southwestern Calcasieu Parish. Erosion at Perry Ridge is a significant problem. Notwithstanding the considerable expenditure of $2.2 million on a stabilization project, Perry Ridge is undergoing extensive monitoring. If granted Class VI UIC primacy, would the Office of Conservation approve the Perry Ridge for carbon dioxide storage that could setback stabilization efforts?

V. Testing and Monitoring

The Deep South Center for Environmental Justice and Healthy Gulf filed a joint Freedom of Information Act (FOIA) request to the EPA that sought, among other things:

> All records related to the sampling or testing of a carbon dioxide stream captured from an emission source, including all documents indicating the result of such sampling or testing.[6]

In response to our FOIA request, the EPA wrote that it "has no agency records in response to the request." [Add footnote] Without any testing conducted by the EPA, there are no reference data to ascertain the specific compositions of carbon dioxide streams by industrial sector. This absence of data raises the stakes for the Office of Conservation to correctly analyze the testing and monitoring conducted by the owner or operator of a CCS well. However, the above-referenced application only strives to meet the minimum standard for testing and monitoring which fall short of more stringent methods advised in the EPA Testing and Monitoring Guidance.

According to its Class VI UIC permit application to EPA Region 6, Gulf Coast Sequestration, LLC anticipates sourcing carbon dioxide from:

> industrial facilities in Southwestern Louisiana and Southeastern Texas, primarily the Lake Charles and Beaumont industrial corridors.[7]

These corridors are the sites of aging and hazardous operations. They are prone to malfunctions and located in hurricane alley.

The testing and monitoring requirements copied from federal regulations, which represent minimum standards, do not address the risks of aging and hazardous industrial facilities as emission sources or any malfunctions in operations during and after frequently increasing hurricanes and tropical storms.

The Office of Conservation has not assembled a team with sufficient expertise to carry out the responsibilities for all aspects of the Class VI UIC Program. The application does not present the education and experience of staff that would qualify them to evaluate testing and

[6] EPA Response to FOIA (EPA-2021-003387), June 14, 2021.

[7] The EPA has made the Class VI UIC permit application available to view and download at: https://foiaonline.gov/foiaonline/action/public/submissionDetails?trackingNumber=EPA-R6-2021-004616&type=request

monitoring under challenging conditions. Also unclear is the number of staff persons who would perform this work. Additionally, the Office of Conservation plans to rely on unknown/unidentified third-party contractors to conduct risk analysis. According to the above-referenced application, contracting with others to evaluate risks for the people and environment of Louisiana will last into "perpetuity." (LOC App., at p. 3). To be sure the risks associated with the injection and storage of carbon dioxide that is collected from industrial facilities are significant. Leaving this work to third party contractors would increase the risk arising from the lack of in-house trained staff, institutional memory, and direct accountability to the public. The above-referenced application demonstrates a lack of serious and diligent planning and action to ensure that testing and monitoring as well as analyzing risks. These are ultimately matters of life and death that should require the disclosure of the qualifications of the staff along with a plan to maintain and identify a sufficient number to perform all aspects of the Class VI UIC Program, that are not outsourced in perpetuity to third-party contractors.

VI. The Poor Environmental Regulatory Record of DNR's Office of Conservation

The Office of Conservation must reckon with its poor record of environmental regulation. The DNR and its Office of Conservation consistently fails to administer their regulatory duties and ensure that well operator noncompliance is sufficiently, consistently, and appropriately addressed.

1. The Louisiana Legislative Auditor ("LLA") conducted an audit of the regulation of oil and gas wells in 2014. According to the final report, "[t]he purpose of this audit was to evaluate whether the Office of Conservation (OC) effectively regulated oil and gas wells and effectively managed the current population of orphaned wells" See *Regulation of Oil and Gas Wells and Management of Orphaned Wells: Office of Conservation – Department of Natural Resources* (May 28, 2014), *available at* https://lla.la.gov/PublicReports.nsf/D6A0EBE279B83B9F86257CE700506EAD/$FILE/000010BC.pdf (hereinafter "LLA 2014 Report").

   Overall, the LLA concluded that "the OC has not always effectively regulated oil and gas wells to ensure operators comply with regulations." (LLA 2014 Report, pg. 2). Between the fiscal years of 2008 to 2013, "OC did not conduct routine inspections in accordance with timeframes established by the Commissioner of at least 26,828 (53%) of 50,960 oil and gas." *Id.* at 3. Furthermore, 25% (12,702) of all oil and gas wells *were not inspected at all.*" *Id*.

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all of its enforcement authority available under state law" See *Department of Natural Resources Louisiana Coastal Resources Program* (March 3, 2004), *available at* https://app.lla.state.la.us/publicreports.nsf/0/29481b22579226a48625700c00586965/$file/03702959.pdf?openelement&.7773098 (hereinafter "LLA 2004 Report").

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   - 9 (47%) penalties assessed were reduced by 50% without established written criteria.
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The report concluded that OC does not take timely and consistent action against operators of wells that are abandoned and not maintained, "which could result in an increased number of wells that are abandoned." *Id.*

The Office of Conservation is also charged with the protection of public safety and the environment from oilfield waste, including regulation of underground injection and disposal

practices. Effective regulation of OC's Underground Injection Control program is especially important in preventing operators from abandoning their wells. **The Louisiana Department of Natural Resources and its Office of Conservation have repeatedly demonstrated an unwillingness to enforce their policies and procedures as it relates to the regulation of oil/gas wells and orphaned wells.**

1. The 2014 report by the Louisiana Legislative Auditor (LLA) stated that the financial security amounts designated in OC's regulations were not sufficient to cover the cost of plugging all wells. (LLA 2014 Report, pg. 7) Notably, unlike other states, the OC's regulations at that time did not require that all oil and gas well operators to provide financial security; additionally, when required, the security amounts were not sufficient to cover the costs of plugging all the wells. (LLA 2014 Report, pg. 2). The LLA emphasized that "[f]inancial security is important as it provides funds that the state can use to plug a well in the event that the operator abandons the well. Currently, 25% of all current oil and gas wells are required to be covered by financial security and 55% of orphaned wells that were subject to financial security requirements were exempt from financial security." *Id* at 3.

   According to the LLA 2014 Report, as of July 2013, there were 2,846 orphaned wells that had not been plugged. *Id* at 2. Between the fiscal years of 2008 through 2013, OC plugged an average of 95 orphaned wells each year even though an average of 170 additional wells were orphaned each year. *Id*. The LLA acknowledged that OC shifted its plugging strategy in 2011 to focus on urgent and higher priority orphan wells that pose the most environmental and public safety risks; however, as a result of this shift in focus, the number of wells plugged each fiscal year had decreased to an average of 33 wells from fiscal years 2011 through 2013. *Id.*

   From the fiscal years of 2008 to 2013, despite already issuing compliance orders, OC did not conduct reinspection on 1,116 (16%) of 6,827 wells to ensure that the operators corrected their violations. In the cases where reinspection did take place, out of 918 compliance orders with uncorrected violations, 507 (55%) were not issued a penalty. *Id* at 12. The Report stated that "instead of penalties, OC often granted multiple extensions for these wells to give the operator time to bring the well into compliance." *Id.*

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Officials, NPR, https://www.npr.org/2013/03/20/174853576/massive-sinkhole-in-louisiana-baffles-officials (Mar. 20, 2013).

3. Thousands of abandoned oil and gas wells litter Louisiana. In 2020, nearly 4,300 abandoned wells were documented in the state, a number which is expected to only rise as the price of oil impacts the industry. OC estimated it would take $128 million and nearly 20 years to properly plug the wells and rectify such serious environmental and public safety risks. See *Number of 'orphaned' wells increased by 50 percent, could cost state millions: audit*, THE TIMES-PICAYUNE, https://www.nola.com/news/business/article_313d8dd2-7a9d-11ea-b4a4-e7675d1484f7.html (April 19, 2020).

It is clear that the Office of Conservation, which has failed by every measure to properly regulate other UIC Programs is either unwilling or unable to hold the operators of wells in this state accountable. Thus, the Office of Conservation is an unsuitable candidate for Class VI UIC primacy. It is clear that the Office of Conservation follows the dictates of the oil and gas industry to the detriment of the people and environment of Louisiana. Proper management of Class VI UIC wells will be crucial to safeguard public health and protect the environment, but remains undemonstrated in the above-referenced application and the poor environmental record of the Office of Conservation.

For all the reasons above, the above-referenced application by the Louisiana Department of Natural Resources' Office of Conservation for Program Primacy of Class VI Carbon Sequestration does not meet the requirements of federal and state laws and **should not be granted by the US Environmental Protection Agency.**

Sincerely,



Monique Harden
Assistant Director of Law & Policy
Community Engagement Program Manager

OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION

July 6, 2021

Stephen Lee
Director, Injection and Mining Division
Office of Conservation
Louisiana Department of Natural Resources
617 North Third Street
LaSalle Building, 8th Floor
Baton Rouge, Louisiana 70802

Submitted via email to Stephen Lee and via fax

Re: Class VI USEPA Primacy Application

Dear Mr. Lee:

The Environmental Defense Fund (EDF) appreciates the opportunity to provide comments in response to the Louisiana Department of Natural Resources (LDNR), Office of Conservation's proposal to revise the Louisiana 1422 UIC program for the purpose of adding Class VI injection wells to the program.

In general, EDF finds Louisiana's proposal in line with EPA's Class VI requirements for primacy. Governor John Bel Edwards has stated that CCS is important to Louisiana's climate future.[1] However, the legitimacy of CCS and thus its future in Louisiana and elsewhere depends both on making sure CO2 is securely contained and on managing impacts to communities living in proximity to the capture, transport and storage of the CO2—especially those communities already experiencing disproportionate environmental burden. Given the possibility that CCS could play a major role in the state's emissions reductions, it is imperative that the state get the community impact aspect right.

The proposed rules are a result of significant collaboration with the EPA, and appear to meet EPA's minimum requirements for UIC programs under Section 1422 of the Safe Drinking Water Act. At the same time, EDF would like to highlight areas deserving the Department of Natural Resources, Office of Conservation's special attention. These are: 1) environmental justice; 2) agency resources and staff training; 3) induced seismicity.

[1] Louisiana Office of the Governor. "Gov. Edwards Signs Executive Orders to Address Climate Change and Enhance Coastal Resilience," Aug. 2020, *available at* https://gov.louisiana.gov/index.cfm/newsroom/detail/2647.

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1) Environmental Justice

The EPA is increasingly recognizing the importance of environmental justice (EJ) through enhanced oversight, enforcement, and funding initiatives.[2] EPA published guidance for incorporating EJ considerations into Class VI permitting in 2011, and it appears that LDNR has adhered to this guidance in shaping the agency's EJ review process.[3] Nevertheless, LDNR can and should expand upon EPA's guidance, which is now ten years old and needs to be updated. In fact, the guidance document references using EJView which was replaced by EJSCREEN in 2015.[4] Louisiana will have to pay close attention to developments in this space, as President Biden's Executive Order on Tackling the Climate Crisis at Home and Abroad initiates the development of a Climate and Environmental Justice Screening Tool, building off EPA's EJSCREEN, to identify disadvantaged communities and inform equitable decision making.[5]

Although EJ considerations are not addressed under the Class VI regulations themselves, the EPA is actively developing its policy in this critical area. As Louisiana and other states apply for Class VI primacy, EDF will be closely monitoring the ways in which EPA does or does not incorporate EJ considerations when evaluating applications.

EDF appreciates LDNR's recognition and consideration of EJ concerns in the state's proposed permitting plan. Louisiana is only the third state in the nation to apply for Class VI primacy, but the state is the first to incorporate an EJ analysis into a Class VI program. Louisiana is, so far as we can tell, the first state to propose addressing EJ and CCS together through regulation. Not only should the incorporation of an EJ analysis in CCS permitting lay the groundwork for improving the overall human and environmental health of overburdened communities in Louisiana—it also has the potential to influence human and environmental health as it relates to CCS by setting a precedent across the country for other states preparing applications for Class VI primacy.

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[2] On June 21, 2021, the EPA distributed a memorandum setting out steps to advance environmental justice goals via criminal enforcement by the Office of Enforcement and Compliance Assurance's (OECA's) Office of Criminal Enforcement, Forensics and Training (OCEFT) and the Regional Criminal Enforcement Counsels (RCECs), with technical assistance from their colleagues in other EPA offices. The criminal enforcement program can further environmental justice by strengthening tools for the detection of environmental crimes in overburdened communities, improving outreach to the victims of such crimes, and ensuring that EPA investigations are structured to provide maximum assistance to the Department of Justice (DOJ) in its exercise of prosecutorial discretion and pursuit of remedies that will guarantee adequate protection for those communities. On June 25, 2021, the U.S. Environmental Protection Agency (EPA) announced that it will provide $50 million dollars for EJ initiatives through funds allocated to EPA under the American Rescue Plan (ARP). EPA is assisting under-resourced communities by quickly getting out ARP funding to leverage important programs that improve air quality, drinking water, revitalization of brownfields, and diesel emissions from buses in low-income communities and communities of color. Projects include training, developing citizen-science tools, pollution monitoring, and educational campaigns to enable EJ advocates, scientists, and decision-makers to address pollution and create thriving communities.

[3] Environmental Protection Agency. Geologic Sequestration of Carbon Dioxide—UIC Quick Reference Guide: Additional Tools for UIC Program Directors Incorporating Environmental Justice Considerations into the Class VI Injection Well Permitting Process, June 2011, *available at* https://www.epa.gov/sites/production/files/2015-07/documents/epa816r11002.pdf.

[4] EJSCREEN was first released to the public in 2015 and incorporated recommendations from the National Environmental Justice Advisory Council.
National Environmental Justice Advisory Council. Nationally Consistent Environmental Justice Screening Approaches, May 2010, *available at* https://www.epa.gov/sites/production/files/2015-02/documents/ej-screening-approaches-rpt-2010.pdf.

[5] 3 CFR Executive Order 14008

Louisiana has a long legacy of human and environmental health problems in overburdened communities, particularly in "Cancer Alley."[6] Mistrust between the people, state government, and industry around health impacts is a critical area for the state to reckon with, and incorporating a robust EJ review may be one way to gain back some trust while reducing impacts. Creating, evaluating, and acting on EJ analysis will surely be a learning experience for the agency. It is of utmost importance that impacted communities are meaningfully involved in the process; the true way forward must include working directly with communities on the ground. In order to best effectuate the state's goals in reducing impacts to overburdened communities and achieve environmental justice, EDF has several ideas for how to build on the proposal in its current form.[7]

a) Initiating and Maintaining Meaningful Public Participation

Critically, EDF urges LDNR to reconsider its approach to *meaningful* public participation throughout the permitting process. Targeted and proactive public outreach should be a keystone of Louisiana's Class VI permitting process, especially in the context of EJ review. This outreach should be much more than a top-down, box-checking exercise—it should inform the permitting process for both the applicant and LDNR.

It is important to create and maintain an open dialogue among LDNR, the permit applicant, and the community from start to finish. In its current form, the proposal obligates neither the applicant, nor LDNR, to interact with the community unless and until LDNR reviews an application and expects to issue a permit. Upon public notice of preparation of a draft permit, the public is given thirty days to submit written comments. A public hearing is not required under LDNR's proposed plan but may be requested in writing.

LDNR proposes to possibly extend the public comment period when EJSCREEN identifies a community with elevated risk factors. The agency's application to the EPA for Class VI state primacy stipulates that, "If a proposed site is found to be located in communities with high EJ risk factors, the Commissioner of Conservation may extend the public comment period for the application and may also require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language."[8] LDNR's proposal to extend the public comment period at the Commissioner's discretion, does not do enough to adequately involve EJ communities. EDF proposes that the agency consider implementing one or more of the following procedures to ensure EJ communities' voices are heard:

> (1) Implementing a performance standard based on EJSCREEN analysis which would trigger an extension of the public comment period and require a public hearing. As an example, should LDNR identify an overburdened community with x% greater air

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[6] Originally called Plantation Country where enslaved Africans were forced to labor, the petrochemical corridor along the lower Mississippi River has not only polluted the surrounding water and air, but also subjected its mostly African American residents to cancer, respiratory diseases and other adverse health effects.
United Nations Human Rights, Office of the High Commissioner. USA: Environmental racism in "Cancer Alley" must end—experts, March 2021, *available at* https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26824&LangID=E.

[7] State of Louisiana, Executive Department. Executive Order Number JBE 2020—18: Climate Initiatives Task Force, Aug. 2020, *available at* https://gov.louisiana.gov/assets/ExecutiveOrders/2020/JBE-2020-18-Climate-Initiatives-Task-Force.pdf.

[8] State of Louisiana, Department of Natural Resources, Office of Conservation, Injection and Mining Division. Class VI USEPA Primacy Application: Underground Injection Control Program, May 2021, Docket No. IMD-2021-02; Page 11 of 263, *available at* http://www.dnr.louisiana.gov/assets/OC/im_div/uic_sec/ClassVIPrimacyApplicationstamped.pdf.

pollution than y% of other communities in the state (with variables chosen in advance), the public comment period would be extended and a public hearing would be scheduled.
(2) Alternatively, EDF suggests bounding the Commissioner's use of discretion in extending the public comment period. In the event that LDNR identifies an EJ community using the procedures discussed below in (b)(i), the Commissioner's discretion should cease to apply, and the public comment period should be extended.
(3) To facilitate engagement between the applicant and the community, EDF recommends a requirement that applicants attach a narrative detailing outreach efforts and interactions with communities as part of the permit application.

b) Evaluating EJ Reports

LDNR proposes to require permit applicants to conduct an EJ review and submit a report to the agency. This review should ideally take place during the pre-permitting process but is required early in the formal permitting process. LDNR does not provide guidance detailing what applicants should evaluate in their review or report, but states that, "at a minimum, the state will require the report to consider the data and factors available in the EPA-developed EJSCREEN tool and identify any portions of the AoR which encompass EJ areas." EDF has identified two issues with this approach related to the use of EJSCREEN and the scope of review (with respect to both the portion of the project lifecycle addressed and the geographic extent of the analysis). EDF suggests that LDNR consider how to best structure and evaluate these reports in light of the following:

i) Identifying EJ Communities

First, the EPA has clearly stated that the EJSCREEN tool *is not* meant to be used in identifying EJ communities.[9] The EJSCREEN tool can be used to determine whether environmental and public health stressors are elevated in an area of interest when compared to an identified geographic unit. To identify EJ communities, LDNR must develop criteria specific to Louisiana and identify the geographic level of comparison. As an example, New Jersey considers a community to be overburdened when any of these conditions are satisfied:

(1) at least 35 percent of the households qualify as low-income households; OR
(2) at least 40 percent of the residents identify as minority or as members of a state-recognized tribal community; OR
(3) at least 40 percent of the households have limited English proficiency.[10]

If an applicant seeks a permit in an overburdened community, the New Jersey Department of Environmental Protection (NJDEP) evaluates whether that community has already been disproportionately affected through a statistical analysis of widespread impacts. NJDEP is currently promulgating rules and has not yet set a standard, but one stakeholder summarized a few options, including:

(1) Determining whether the host community had more air pollution than a specified percentage of other communities within the State;
(2) comparing the host community statistically to other communities within the same county; or

[9] Environmental Protection Agency. EJSCREEN: Environmental Justice Screening and Mapping Tool, Purposes and Uses of EJSCREEN, *available at* https://www.epa.gov/ejscreen/purposes-and-uses-ejscreen.
[10] N.J. Stat. § 13:1D-158.

(3) Comparing the host community to communities within the same county as well as the State.[11]

As discussed in an October, 2020 NJDEP rulemaking public information session, each of these approaches involves certain priorities and trade-offs.[12] In the end, the NJDEP representatives said they would select one of these approaches to be applied uniformly across all sites and impacts, which would provide additional certainty to the process but would curtail the ability of permittees and communities to identify case-specific factors. LDNR will have to go through a process similar to NJDEP to determine which metrics are most appropriate for identifying EJ communities using the EJSCREEN tool in Louisiana.

ii) Defining the Scope of an EJ Report

We understand that the Louisiana Department of Natural Resources is currently developing procedures for taking into account Environmental Justice concerns in the permitting of CO2 sequestration sites in Louisiana as part of its effort to receive primacy from the EPA for regulating CCS wells in the state. Such procedures should be developed in consultation with frontline communities and EJ groups as already described in these comments. But regardless of the content of such rules, there is a potential gap in EJ policy coverage for CCS if only the sequestration sites themselves receive EJ consideration. The facilities where CO2 is captured, and the pipelines through which it is transported, are at least of equal and probably greater concern. In order to close these gaps, the Office of the Governor should coordinate Environmental Justice efforts across agencies and divisions that have a roll in the permitting and oversight of all aspects of a CO2 sequestration project's life cycle, from source to transport to sink – this concept is already under consideration through the Governor's Climate Initiatives Task Force effort.[13]

As such, LDNR's proposed scope of review is too narrow in that it fails to account for (1) the entire value chain of the project and (2) the probability that the project's AoR does not map the extent of the areas where impacts may occur from injection.

(1) Impacts along the value chain

One way in which the scope of the EJ report is too narrow is a failure to examine the entire value chain. Many of the facilities subject to CO2 capture, the pipelines that transport the CO2 and the fields where CO2 would be injected are in and around communities that have historically suffered environmental harms. Some in these communities have expressed concerns about issues like facility enlargement, perpetuation of traditional pollution at facilities, additional electric generation resources needed to run capturing equipment at facilities, habitat and wetland destruction from pipelines, and improperly managed sequestration facilities. While some of the issues may be beyond the purview of the division at LDNR overseeing Class VI injection sites, it is nevertheless incumbent on the State of Louisiana as a whole to close these gaps in coverage over the lifecycle of sequestration projects.

(2) Differentiating the injection site's AoR from the EJ impact review

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[11] Matthew Karmel & Christopher Whitehead, "Environmental Justice and the Waste Industry—A New Jersey Perspective," Waste360, April 2021, *available at* https://www.waste360.com/legislation-regulation/environmental-justice-and-waste-industry-new-jersey-perspective.

[12] New Jersey Department of Environmental Protection, Office of Environmental Justice. Environmental Justice Law, Policy and Regulation, EJ Rulemaking Public Information Session, October 22, 2020, *available at* https://www.nj.gov/dep/ej/policy.html.

[13] Louisiana Climate Initiatives Task Force, Action Submissions, *available at* https://gov.louisiana.gov/assets/docs/CCI-Task-force/MayMtgs/CTF_ActionsFULL_05052021_pdf.pdf

Secondly, the proposed scope does not necessarily map the areas where impacts may occur from the injection component of the project. Communities surrounding Class VI projects may experience indirect impacts on environmental and public health such as increased emissions and traffic from trucks transporting equipment. Because the project AoR does not account for these impacts, LDNR should be granted discretion to require Class VI applicants to assess such additional issues for the purpose of EJ analyses even where the impacts occur beyond the AoR.

c) Questions to and Responses from Applicants

When reviewing an EJ report, LDNR staff must consider the operator's responses to the five required question responses from *Save Ourselves, Inc., et al vs. the Louisiana Environmental Control Commission, et al*[14] (SOS Decision Questions):

> (1) Have the potential and real adverse environmental effects of the proposed project been avoided to the maximum extent possible?
> (2) Does a cost benefit analyses of the environmental impact costs versus the social and economic benefits of the proposed project demonstrate that the latter outweighs the former?
> (3) Are there alternative projects which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?
> (4) Are there alternative sites which would offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits?
> (5) Are there mitigating measures which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits?

However, merely providing responses to the five SOS questions does not add to, and could possibly detract from, the EJ analysis. EDF suggests that LDNR ask two additional questions:

> (1) What can the applicant or agency do to remedy past environmental harm in the community, and
> (2) How will the applicant and agency mitigate future environmental harm?

These questions force applicants to consider broader implications of a project in the context of historical EJ impacts in the community.

LDNR should be prepared to exercise its discretion, and possibly substitute its own judgment, when reviewing an applicant's responses to the SOS and proposed supplemental questions. As an exercise in trust building, LDNR should define how it will respond to findings of EJ implications and under what circumstances a permit may be modified or denied.

2) Agency Resources and Staff Training

EDF commends LDNR's efforts to obtain sufficient resources and expertise for Class VI permitting.[15] However, EDF suggests Louisiana consider delaying submission of the application for state primacy to the EPA unless and until the state is certain it will have sufficient resources and expertise to adequately oversee the program. We disagree with LDNR's response to our

[14] Save Ourselves v. La. Envtl. Control Comm'n, 452 So. 2d 1152 (La. 1984).
[15] State of Louisiana, Department of Natural Resources, Office of Conservation, Injection and Mining Division. Class VI USEPA Primacy Application: Underground Injection Control Program, May 2021, Docket No. IMD-2021-02; Page 9 of 263, *available at* http://www.dnr.louisiana.gov/assets/OC/im_div/uic_sec/ClassVIPrimacyApplicationstamped.pdf.

December 2020 comments that funding and staffing are outside the scope of Louisiana's application for Class VI state primacy, especially since LDNR discusses the issue in its application. EDF sees a clear link between the inclusion of fees collected to administer the Class VI program in the rule and the ability to adequately resource and staff the Class VI program.

In particular, LDNR states in its application that it will not be able to hire the seven staff needed to support the Class VI program unless the annual $750,000 cap on the Geologic Storage Trust Fund (GSF) is lifted. With the GSF cap in place, LDNR will only be able to hire three or four additional staff and will rely more heavily on third-party contractors. EDF is concerned that, absent lifting this cap, LDNR lacks adequate funding to staff itself.

The Groundwater Protection Council (GWPC) has estimated the cost of acquiring and implementing a Class VI regulatory program using data from multiple states.[16] GWPC split its analysis into five sections: acquiring primacy; processing permits and petitions; conducting routine monitoring of operations; monitoring closure and post closure activities; data management. Altogether, GWPC estimates that it costs a state $1.2 - $21.9 million to administer a Class VI program over 5 years. Louisiana's estimates fall within this range, but the limitations to the analysis and the wide variability of the estimated cost should strengthen LDNR's resolve to secure additional resources.

Unless and until LDNR identifies dedicated and guaranteed sources of funding to acquire and train staff, possibly through lifting the annual cap on the GSF and receipt of greater appropriations from the general fund, or by imposing third-party review fees, Louisiana should consider delaying its application for primacy.

3) Induced Seismicity

There is an additional matter that is important for Louisiana to address even though doing so is not strictly necessary in order to obtain primacy – Louisiana should adopt measures that make sure CO2 injection projects do not cause earthquakes that would alarm the pubic and even cause damage to life and property. The seismicity provisions of EPA's Class VI rule do not go far enough to protect public safety because EPA's Underground Injection Control program jurisdiction is limited to protecting underground sources of drinking water. The State of Louisiana, however, has broad powers to guard the public welfare and is not limited the way EPA is. We believe the state should use these powers as described below.

EDF believes that the risk of significant earthquakes from CO2 injection and storage can be managed, but only if the state adopts clear requirements for assessing and, when necessary, mitigating the risk. We commend two references to the LDNR as sources for ideas that should inform such rules. The first is the third edition of a primer on induced seismicity for regulators developed by the State Oil and Gas Regulatory Exchange, a joint project of the Interstate Oil and Gas Compact Commission and the Ground Water Protection Council.[17] For the first time, the newest edition of the primer contains a discussion of induced seismicity associated with CCS (see Appendix H). The second resource for LDNR's consideration is section 4.3.2.3 (Seismicity Monitoring) of the CCS protocol adopted by the California Air Resources Board for projects

[16] Groundwater Protection Council. Class VI Programs Cost Analysis, 2021. Attached as Appendix A.
[17] Ground Water Protection Council and Interstate Oil and Gas Compact Commission. Potential Induced Seismicity Guide: A Resource of Technical and Regulatory Considerations Associated with Fluid Injection, March 2021, *available at* https://www.gwpc.org/sites/gwpc/uploads/documents/publications/FINAL_Induced_Seismicity_2021_Guide_33021.pdf.

seeking to qualify for the state's large Low Carbon Fuel Standard credit.[18] The protocol requires developers (including developers in other states if they want to qualify for the LCFS payment) to monitor microseismic events, assess whether the project is increasing the risk of quakes above Richter magnitude 2.7, and take actions to mitigate the risk if necessary. This portion of the LCFS protocol has shortcomings both from an environmental perspective and from an operator perspective, but nevertheless it is a good starting place for LDNR to develop a similar rule.

In contrast to what California and some other states have been doing with respect to induced seismicity caused by underground injection, EPA's Class VI Rule merely requires that injection not take place in "seismically active" areas. At best, this can only guard against events that are so large that they would compromise containment and endanger drinking water. Louisiana can and should do better.

* * *

EDF again appreciates the opportunity to comment on this important rule as Louisiana prepares its Class VI primacy application. We look forward to working with Louisiana policymakers and other stakeholders as the state continues to develop a robust CCS oversight framework.

Respectfully submitted,

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[18] California Air Resources Board. Carbon Capture and Sequestration Protocol Under the Low Carbon Fuel Standard, September 2018, *available at* https://ww2.arb.ca.gov/sites/default/files/2020-03/CCS_Protocol_Under_LCFS_8-13-18_ada.pdf.

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Class VI State Programs Cost Analysis

The cost of acquiring and implementing a Class VI regulatory program is a complex issue and will require a much longer period of operational knowledge to evaluate accurately with respect to costs. However, there are essentially five cost factors to consider. These are:

1. Acquiring primacy
2. Processing permits and petitions
3. Conducting routine monitoring of operations
4. Monitoring closure and post closure activities
5. Data management

While knowledge of the first three has some relative knowns, item 4 is currently an unknown since there have been no projects to date that have had to implement closure and post closure monitoring for Class VI wells.

To further complicate any estimates of probable program costs, only two states have actually acquired primacy for the program but has no yet permitted Class VI wells to this point (North Dakota and Wyoming) Therefore, while we were able to utilize figures from North Dakota's Class VI program to examine the probable costs of acquiring and implementing the Class VI program in states, we also had to include cost figures from state programs for other well classes. An analysis of these programs indicates that the closest analog to the Class VI program with respect to permitting and operations costs is the Class I hazardous waste injection well program.

1. Acquiring primacy

With respect to acquiring primacy for the Class VI program this element has two sides:

- State program development and submission costs
- EPA program approval costs

On the state side the GWPC was able to acquire the approximate expenditures from the only state with Class VI primacy (North Dakota primacy program). To attain primacy North Dakota expended approximately $270,000.

2. With respect to costs for EPA to delegate primacy GWPC reached out to individuals with knowledge of the number of full time equivalent (FTE) positions that worked on primacy applications, their governmental pay grades (GS levels), and the approximate number of hours they spent on processing

the primacy application.[1] Based on this information we estimate the cost to delegate primacy at approximately $587,000. **Processing permits and petitions**

To evaluate overall permitting costs the GWPC surveyed several state Class I programs for information concerning implementation costs. These included Texas, Ohio, Oklahoma, Wyoming, and Kansas. Based on an analysis of the information received from these states we have determined that the average state cost to permit a Class I well is about $38,000. It is important to note that this figure does not include the cost of processing the required land disposal restrictions (LDR) exemption approval based on computationally modeling. The estimated actual cost of permit processing including the LDR exemption approval had to be evaluated using figures from the processing of Class I LDR exemption petitions conducted by EPA. Using the mid-point salary range for the positions required to evaluate a LDR exemption petition and the number of FTE's required, the estimated cost per LDR exemption approval was $297,529. Using an average of these permit and petition processing cost figures results in an expected cost of approximately $335,529.

For our purposes we will use the $38,000 figure because Class VI wells do not require an exemption petition. However, it should be noted that there are several features of a Class VI permit application that are more rigorous than a Class I permit so the actual cost of processing a Class VI permit will likely be much higher than the figure we are using.

3. Conducting ongoing monitoring of operations

Ongoing monitoring of operations includes inspections, report evaluation, data management, witnessing of MIT's and other processes.

The average annual cost to conduct two inspections per year and perform other tasks associated with well operations such as witnessing MIT's and pressure fall-off tests, and evaluating quarterly reports is about $8,450. (See table 2) This figure is based on the average annual costs for a Class I well provided by two state Class I primacy agencies.

4. Monitoring closure and post closure activities

Costs associated with the closure and post closure monitoring of Class VI wells cannot be evaluated at this time because there is insufficient data from which to draw any conclusions. Unlike permitting and ongoing operations monitoring, the Class I hazardous program does not provide a good analog for item 4 because it is expected that post closure monitoring of Class VI wells may take up to 50 years or more in some cases.

5. Data Management

Costs relative to information technology (IT) and data management must be considered for both permitting and ongoing operations. For example, the purchase of a computer to conduct plume modeling alone can be as much as $4,000-6,000 and the annual maintenance cost of modeling software as much as $1,500[2]. Additionally, there will be initial and ongoing costs for computers and programs to manage

[1] Figures calculated using a mid-point salary without fringe benefits plus a 20% indirect cost
[2] North Dakota Industrial Commission

routine data elements associated with Class VI injection. This includes an IT infrastructure to manage a program (hardware), management of the data generated by the program (custom software), annual maintenance of infrastructure, replacement plans for aging technology, estimated future costs for growth of the program in the IT budget, and planning for additional costs of customizations and upgrades of software to meet the needs.

Hardware can be an easy cost to estimate based on the initial size of the program being implemented. This initial funding outlay would be a direct cost. Estimates need to be included for 2nd and future years relative to the growth of the program and potential increase in overall budgets to account for the increased size. The current percentage of annual budget that an agency spends for IT infrastructure should be a known quantity. As the budget increases for the addition of the new program the IT budget should be increased accordingly. A rough estimate of 3% minimum of annual budget is suggested for annual IT maintenance costs. For the purposes of this estimate it is assumed that a network is already in place with capacity at the agency.

Hardware Cost – Initial direct outlay based on hardware purchased. As the program grows additional direct outlay costs will occur in subsequent budget cycles.

Infrastructure Maintenance, 3% of Annual Program Budget - Since this is an existing agency this should be included from day one in the budget estimate. This is an annual cost to maintain replacement of aging hardware and support the IT infrastructure.

Development of custom data management software – Initial design and development of a full system to manage Class VI wells could run into the millions of dollars, depending on the current state of the program's data management systems. Developing an additional component/module to manage Class VI for an existing well management system is estimated.

Data Management Assumptions

The Line Item Costs shown below are based on these assumptions:

- That the program adopting Class VI already has and is managing a UIC program for other classes of injection wells.
- The people and network infrastructure necessary to manage an existing program are leveraged.
- The program has an existing well management database in place that can be enhanced for Class VI.
- The database customization is based on past experience of custom development and installation of the Risk Based Data Management System (RBDMS) in 25 oil and gas states.
- Customization cost is based on most recent technology platform being developed for RBDMS.
- Customization is based on a bare minimum development for year 1 necessary to track issued permits, bonding, wells, inspections, and monitoring reports.
- Assumed that for an initialization of program there will be 2 additional people added in the First Year. No assumptions for subsequent years are included.
- Assumed that a total operating budget of the agency is $10 million dollars.

Line Item Costs

- Hardware: $5,000.00 per person minimum for Year 1: $10,000.00. As people are added to the program this cost will recur.
- Software: $2,000 per person for Year 1 of new employee
- Replacement of aging equipment and general IT budget: $300,000 per year based on $10 million agency budget. (This is not solely for Class VI.)
- Custom Software Development: $400,000 for initial customization
- Custom Software Development Support: $100,000 for annual upgrades to meet needs of Class VI program as it matures.

Note: Custom Software Replacement after 5-7 years needs to be included as an estimated future cost. This typically involves long term planning and budgeting as it may run into the tens of millions depending on the complexity of the full system and need.

Cost Estimates

The tables and example scenarios below show the estimated initial and ongoing state cost breakdowns for implementing and administering a Class VI program. These include program development and submission to obtain approval of primacy, processing of permits supported by computational modeling as required for Class VI projects, periodic inspections of well operations, well integrity testing, report evaluations and management of associated data. They do not include administrative, file review or legal costs.

Based on the example scenarios and limitations described above, the cost of implementing and administering state Class VI regulatory programs over a 5-year period can range from $1,291,000 to $21,921,000.

Table 1				
Total state costs for primacy, data management and permitting by number of states and number of permits				
		Cost by number of permits per state		
Number of states	**Initial primacy and data costs**	**1**	**10**	**100**
1	$981,000.00	$ 38,000.00	$380,000.00	$3,800,000.00
2	$1,962,000.00	$ 76,000.00	$760,000.00	$7,600,000.00
3	$2,943,000.00	$ 114,000.00	$1,140,000.00	$11,400,000.00
4	$3,924,000.00	$ 152,000.00	$1,520,000.00	$15,200,000.00
5	$4,905,000.00	$ 190,000.00	$1,900,000.00	$19,000,000.00
6	$5,886,000.00	$ 228,000.00	$2,280,000.00	$22,800,000.00
7	$6,867,000.00	$ 266,000.00	$2,660,000.00	$26,600,000.00
8	$7,848,000.00	$ 304,000.00	$3,040,000.00	$30,400,000.00
9	$8,829,000.00	$ 342,000.00	$3,420,000.00	$34,200,000.00
10	$8,829,000.00	$ 380,000.00	$3,800,000.00	$67,105,800.00

Table 2				
Cost totals for ongoing evaluation activities and computer hardware and software by number of states and number of wells				
		Ongoing activities evaluation cost by number of wells per state		
Number of states	**5 -year data management cost**	**1**	**10**	**100**
1	$507,500.00	$8,450.00	$84,500.00	$845,000.00
2	$1,015,000.00	$16,900.00	$169,000.00	$1,690,000.00
3	$1,522,500.00	$25,350.00	$253,500.00	$2,535,000.00
4	$2,030,000.00	$33,800.00	$338,000.00	$3,380,000.00
5	$2,537,500.00	$42,250.00	$422,500.00	$4,225,000.00
6	$3,045,000.00	$50,700.00	$507,000.00	$5,070,000.00
7	$3,552,500.00	$59,150.00	$591,500.00	$5,915,000.00
8	$4,060,000.00	$67,600.00	$676,000.00	$6,760,000.00
9	$4,567,500.00	$76,050.00	$760,500.00	$7,605,000.00
10	$5,075,000.00	$84,500.00	$845,000.00	$8,450,000.00

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Example Scenarios

Example 1: 1 State with 10 permits/ wells
Initial Cost + Cost of Permits (Table 1) = $1,361,000
5 Year Cost (Table 2) = $930,000
Total 5-year cost = $2,291,000

Example 2: 5 States with 10 permits/ wells each
Initial Cost + Cost of Permits (Table 1) = $6,805,000
5 Year Cost (Table 2) = $4,650,000
Total 5-year Cost = $11,455,000

Example 3: 10 States with 10 permits/ wells each
Initial Cost + Cost of Permits (Table 1) = $12,629,000
5 Year Cost (Table 2) = $9,300,000
Total 5-year Cost = $21,921,000

Overall Analysis

While only two states currently have Primacy for the Class VI program (North Dakota and Wyoming), there are other states either applying for or contemplating an application for Class VI Primacy (e.g., Louisiana, Texas, Oklahoma, Colorado). Consequently, the likelihood of an exponentially growing Class VI program is relatively high. It is clear from even a rough estimate of costs that the annualized expenses of running Class VI programs are substantial and that funding mechanisms to cover these costs will need to include federal support at a much higher than the current $10.5 Million.

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OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION

July 2, 2021

Re: Class VI USEPA Primacy Application.

To whom it may concern:

Gulf Coast Center for Law & Policy (GCCLP) is writing to express our concern over the Louisiana Department of Natural Resources (LDNR), Office of Conservation, Underground Injection Control (UIC) Program's application for primacy from the USEPA, modifying the UIC Program oversight to include Class VI geologic sequestration. Louisiana is not well suited to administer a Class VI oversight program, and we urge that the application be withdrawn and/or denied until its environmental oversight agencies, including LDNR, are capable of administering such a program.

GCCLP is a non-profit, public interest law firm and justice center with a mission to advance structural shifts toward climate justice and ecological equity in communities of color on the frontline of climate change. GCCLP envisions social, economic and political systems throughout the Gulf South that promote equity and justice for all people.

I. Introduction

By almost any metric, Louisiana's Department of Natural Resources and Department of Environmental Quality (LDEQ) have done a poor job fulfilling their missions to protect the environment. The state's environmental woes are well documented. Louisiana is losing coastal land.[1] Louisiana is getting hit by increasingly frequent and increasingly intense hurricanes.[2]

[1] Beland M, Biggs TW, Roberts DA, Peterson SH, Kokaly RF, Piazza S (2017) Oiling accelerates loss of salt marshes, southeastern Louisiana. PLoS ONE 12(8): e0181197. https://doi.org/10.1371/journal.pone.0181197

[2] Twumasi, Y. , Merem, E. , Namwamba, J. , Ayala-Silva, T. , Okwemba, R. , Mwakimi, O. , Abdollahi, K. , Lukongo, O. , LaCour-Conant, K. , Tate, J. and Akinrinwoye, C. (2020) Modeling the Risks of Climate Change and Global Warming to Humans Settled in Low Elevation Coastal Zones in Louisiana, USA. Atmospheric and Climate Sciences, 10, 298-318. doi: 10.4236/acs.2020.103017.

Louisiana is frequently flooding from increasing precipitation.[3] Louisiana has a massive hypoxic zone off of its coast.[4] Louisiana has high levels of toxic pollution from heavy industry, including an area commonly referred to as Cancer Alley.[5] Louisiana has thousands of abandoned oil wells that are polluting the environment.[6]

There are a variety of reasons for the state's problems, not the least of which is chronic understaffing and underfunding of the agencies. But all of the above problems are directly or indirectly caused and made worse by the state's petrochemical industry--both its physical infrastructure and its emissions--which LDNR and LDEQ have failed to properly regulate. This same petrochemical industry is also responsible for the extraction and refinement of fossil fuels that eventually release greenhouse gases in the atmosphere and are responsible for climate change. Climate change is a threat multiplier that is making the above problems worse.

The United Nations' Intergovernmental Panel on Climate Change states that the world must take drastic action to reduce emissions or the earth could face irreversible devastation.[7] Carbon capture, utilization, and storage (CCUS), which relies on Class VI storage wells, is being touted as a way to reduce the state's greenhouse gas emissions, but it is mostly used for enhanced oil recovery at this stage. It is under this context that Louisiana seeks Class VI primacy from EPA. For a multitude of reasons, Louisiana is not well suited to regulate CCUS and Class VI injection wells.

II. Concerns about CCUS in Louisiana

a. <u>CCUS is not a climate solution.</u>

CCUS is expensive, energy-intensive, and unproven at scale, and it does not reduce carbon in the atmosphere.[8] CCUS technology entrenches reliance on fossil fuels rather than accelerating the needed transition to cheaper and cleaner renewable energy.[9] Of particular importance to

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[3] van der Wiel, K., Kapnick, S. B., van Oldenborgh, G. J., Whan, K., Philip, S., Vecchi, G. A., Singh, R. K., Arrighi, J., and Cullen, H.: Rapid attribution of the August 2016 flood-inducing extreme precipitation in south Louisiana to climate change, Hydrol. Earth Syst. Sci., 21, 897–921, https://doi.org/10.5194/hess-21-897-2017, 2017.

[4] Brandon M. Jarvis, Richard M. Greene, Yongshan Wan, John C. Lehrter, Lisa L. Lowe, and Dong S. Ko Environmental Science & Technology 2021 55 (8), 4709-4719
DOI: 10.1021/acs.est.0c05973

[5] Keehan, Courtney, "Lessons from Cancer Alley: How the Clean Air Act Has Failed to Protect Public Health in Southern Louisiana," 29 Colo. Nat. Resources Energy & Envtl. L. Rev. 341 (2018).

[6] Rotblat, Cameron, "Caring for the Orphans: Approaches for Mitigating Fugitive Methane Emissions from Orphaned Oil and Gas Wells," 47 Envtl. L. Rep. News & Analysis 10529 (2017)

[7] IPCC, "Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments," October 8, 2018,
https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

[8] https://www.ewg.org/news-insights/news/confronting-myth-carbon-free-fossil-fuels-why-carbon-capture-not-climate

[9] https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/report/2008/5/false-hope-why-carbon-capture.pdf

targeted communities in Louisiana, the technology also poses environmental, safety, and health risks.[10]

Adding carbon capture to coal- or gas-fired power plants makes them more expensive, less efficient, and less competitive than renewable energy projects, which are already the cheapest source of electricity for most of the country and most of the world.[11] Nearly 80% of captured carbon is just being used to produce more oil.[12]

b. Residents will pay the costs.

Massive tax subsidies will be required to implement carbon capture and storage, and the costs of construction are significantly higher than renewable energy and storage options.[13]

Proponents claim that there is already pipeline infrastructure available for transportation and injection of CO_2 in these areas along the Gulf.[14] However, these pipelines would have to be repurposed - and therefore reconstructed - to accommodate transport of compressed carbon dioxide, placing additional burdens on land, water, and communities, at a hefty cost that would likely be borne by local ratepayers.[15]

Because the cheapest way to build carbon capture infrastructure would be near emitting sites, the same people already overburdened by industrial pollution would be further harmed.[16] In Louisiana, that would put our Black, Brown, and Indigenous communities at even greater risk.[17]

c. Carbon pipelines are dangerous.

Pipelines in Louisiana have accelerated land loss in coastal areas,[18] which is why the Princeton Net Zero America report found that Louisiana was largely unsuitable for CCUS.[19]

Piping CO_2 through communities presents a dangerous threat to health and safety.[20] In order to transport CO_2 through pipelines, it must be highly pressurized and kept very cold, which would require the construction of pipelines that can withstand those conditions. Condensed CO_2 can

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[10] http://weact.nyc/Portals/7/CCS%20White%20Paper%20Final.pdf.
[11] https://www.ewg.org/news-insights/news/confronting-myth-carbon-free-fossil-fuels-why-carbon-capture-not-climate
[12] Garcia Freites, S., & Jones, C. (2021). A Review of the Role of Fossil Fuel-Based Carbon Capture and Storage in the Energy System. Tyndall Centre.
[13] https://ieefa.org/wp-content/uploads/2020/07/CCS-Is-About-Reputation-Not-Economics_July-2020.pdf
[14] https://carboncaptureready.betterenergy.org/wp-content/uploads/2020/08/LA_7_23_2020.pdf
[15] Dismukes, D et al., *Integrated Carbon Capture and Storage in the Louisiana Chemical Corridor*, LSU (Feb 18, 2019), at 79.
[16] https://advances.sciencemag.org/content/advances/7/18/eabf4491.full.pdf
[17] https://www.nytimes.com/2021/04/28/climate/air-pollution-minorities.html.
[18] Baumann, R.H., Turner, R.E. Direct impacts of outer continental shelf activities on wetland loss in the central Gulf of Mexico. *Environ. Geol. Water Sci* 15, 189–198 (1990). https://doi.org/10.1007/BF01706410.
[19] E. Larson, C. Greig, J. Jenkins, E. Mayfield, A. Pascale, C. Zhang, J. Drossman, R. Williams, S. Pacala, R. Socolow, EJ Baik, R. Birdsey, R. Duke, R. Jones, B. Haley, E. Leslie, K. Paustian, and A. Swan, Net-Zero America: Potential Pathways, Infrastructure, and Impacts, interim report, Princeton University, Princeton, NJ, December 15, 2020.
[20] https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_chapter4-1.pdf

be corrosive to the steel used to build those pipelines, increasing the risk of leaks, ruptures and potentially catastrophic running fractures.[21] Explosive decompression of a CO_2 pipeline releases more gas, more quickly, than an equivalent explosion in a gas pipeline, because of the intense pressures involved.[22]

As the Intergovernmental Panel on Climate Change has recognized, "carbon dioxide leaking from a pipeline forms a potential physiological hazard for humans and animals."[23] In areas closest to pipelines, released CO_2 could quickly drop temperatures to -80℉, coating the surrounding area with super-cold dry ice.[24] At high concentrations, CO_2 is a toxic gas that can restrict breathing.[25] Potential contaminants in CO_2 streams, like hydrogen sulfide (H2S), can dramatically compound these risks.

Residents of Yazoo County, Mississippi learned this in 2020, when a Denbury Enterprises CO_2 pipeline ruptured.[26] 300 people were evacuated, and 45 people had to be hospitalized, including some sickened individuals whom authorities found near the scene acting like 'zombies'.

III. Primacy

The Safe Drinking Water Act of 1974 requires EPA to develop minimum federal requirements for underground injection control (UIC) programs and other safeguards to protect public health by preventing injection wells from contaminating underground sources of drinking water (USDWs). Primary enforcement authority, often called primacy, refers to state, territory, or tribal responsibilities associated with implementing EPA approved UIC programs. To assume primacy, a state must adopt regulations at least as stringent as national requirements, develop procedures for enforcement (including conducting monitoring and inspections), adopt authority for administrative penalties, conduct inventories of water systems, maintain records and compliance data, and make reports as EPA may require.[27] Further, a state must develop a plan for providing safe drinking water under emergency circumstances.[28]

Louisiana should not be granted primacy because it cannot or will not develop procedures for enforcement. Louisiana already has primacy for Classes I-V injection wells, for which the LDNR Office of Conservation (OC) is the primary regulator.

a. Existing oil and gas well regulation

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[21] *See* Dismukes et al. at 182.
[22] Mahgerefteh, H. & Denton, G. & Rykov, Y. *Pressurised CO2 pipeline rupture*. Institution of Chemical Engineers Symposium Series (2008), at 869-879.
[23] *IPCC Special Report on Carbon Dioxide Capture and Storage, Chapter 4: Transport of CO2* (2005), at 181
[24] *See* Mahgerefteh et al. at 10.
[25] Liu, X., Godbole, A., Lu, C., Michal, G. & Venton, P. (2015). Study of the consequences of CO2 released from high-pressure pipelines. Atmospheric Environment, 116 51-64.
[26] https://www.clarionledger.com/story/news/local/2020/02/27/yazoo-county-pipe-rupture-co-2-gas-leak-first-responders-rescues/4871726002/
[27] 40 CFR § 145.23
[28] Congressional Research Service, "Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements," Updated July 1, 2021, https://fas.org/sgp/crs/misc/RL31243.pdf.

LDNR and especially OC have done a poor job of regulating existing oil and gas wells. In a May 28, 2014 report, the Louisiana Legislative Auditor found:

> As of July 2013, there are 2,846 orphaned wells that have not been plugged. From fiscal years 2008 through 2013, OC plugged an average of 952 orphaned wells each year even though an average of 170 additional wells were orphaned each year. Because of Louisiana's growing population of orphaned wells, we also evaluated whether OC has effectively managed the population of wells already orphaned.

The report concluded, "Overall, we found that OC has not always effectively regulated oil and gas wells to ensure operators comply with regulations."[29] OC acknowledged that it had failed to meet its own inspection targets for orphan wells because of budget cuts, lack of staff, and a hiring freeze. A more recent report in 2020 found that the number of orphaned wells has increased by 50 percent since the scathing 2014 report.[30] Again, LDNR cited staffing and budgetary shortfalls as contributing to the failures of the agency to regulate the oil and gas industry.

b. Budget and staffing issues

In 2014 when the legislative auditor's report was issued and LDNR said that its inadequate budget was contributing to its inability to regulate oil and gas wells, the total budget for the Office of Conservation was $20,859,703, or 0.072% of the overall budget of $28,778,450,594.[31] The proposed OC budget for 2022 is $24,420,691,[32] or 0.058% of the overall budget of $41,881,210,068[33]. The OC budget has barely kept up with inflation and in relative terms has actually decreased over time. There is little reason to believe that this same office has the capacity to regulate an entirely new class of injection wells.

c. Relation to other governmental bodies

The Louisiana Legislature, which controls the OC's budget, is extremely friendly to the oil and gas industry. When the Speaker of the House Clay Schexnayder chose a designee to represent him at the Louisiana governor's Climate Initiative's Task Force, he chose the head of corporate affairs at BHP Petroleum. When President Biden issued a moratorium on new oil and gas lease

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[29] Louisiana Legislative Auditor, "Regulation Of Oil And Gas Wells And Management Of Orphaned Wells," Performance Audit, May 28, 2018, http://app.lla.state.la.us/PublicReports.nsf/0/D6A0EBE279B83B9F86257CE700506EAD/$FILE/000010BC.pdf.

[30] Schleifstein, Mark, "Number of 'orphaned' wells increased by 50 percent, could cost state millions: audit," nola.com, April 19, 200, https://www.nola.com/news/business/article_313d8dd2-7a9d-11ea-b4a4-e7675d1484f7.html.

[31] https://www.doa.louisiana.gov/media/2qqpps1o/statebudget_fy14.pdf

[32] https://house.louisiana.gov/housefiscal/DOCS_APP_BDGT_MEETINGS/DOCS_APPBudgetMeetings2021/FY22%20Department%20of%20Natural%20Resources%204.19.21.pdf

[33] https://house.louisiana.gov/housefiscal/DOCS_APP_BDGT_MEETINGS/DOCS_APPBudgetMeetings2021/FY%202022%20State%20Budget%20Summary.pdf

sales, the Louisiana Legislature hosted a special listening session about the supposed downsides of the moratorium.[34]

The Louisiana Department of Environmental Quality (LDEQ) would also be involved in the permitting of CCUS facilities and pipelines to transport the carbon dioxide. Dr. Chuck Carr Brown, the secretary of LDEQ, recently revealed his feelings about CCUS at a meeting of the Climate Initiatives Task Force. “Carbon capture will be critical. Completing and building out the pipelines will be critical, not only in Louisiana but for the rest of the nation,” Dr. Brown said.[35] As stated above, there are a number of reasons related to environmental quality that Louisiana is not a good candidate for CCUS, yet Dr. Brown’s statement indicates that LDEQ has already made up its mind about permitting the technology, regardless of the risks.

Louisiana at its agencies have shown little willingness to regulate the petrochemical industry, and there is no reason to believe that it will be any different with CCUS. OC will be under tremendous political pressure to permit and under-regulate these capital-intensive petrochemical projects.

d. Planning for emergencies

Louisiana already allows for the underground storage of carbon dioxide in salt domes.[36]
Salt domes are unique geologic structures that are used commercially for mining salt. Because petroleum also tends to form under salt domes, they are also frequently the site of petroleum extraction. But extraction and injection around salt domes can be dangerous.

There have been two major disasters caused by petroleum extraction on top of salt domes. On Nov. 20, 1980, an oil rig in Lake Peigneur punctured the salt dome below Jefferson Island. The hole resulted in a massive sinkhole, which drained the lake and caused the Delcambre Canal to backflow into the hole. The Gulf of Mexico flowed backward up the canal and into the sinkhole.[37]

In 2012, the Bayou Corne salt mine operated by Texas Brine, Occidental Chemical and Vulcan Materials in Assumption Parish collapsed, creating a giant hole in the Louisiana swamp.
A judge later ruled the companies put "economic interests over environmental and safety concerns" in operations that led to the formation of the sinkhole. Texas Brine had to buy out dozens of home and camp owners in what had previously been a quiet and scenic fishing area.

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[34] https://www.businessreport.com/politics/louisiana-legislators-to-hear-from-industry-public-on-bidens-lease-moratorium

[35] https://house.louisiana.gov/H_Video/VideoArchivePlayer?v=house/2021/jun/0608_21_ClimateInitiatives (1:55:20 mark).

[36] R.S. 30:23(A)

[37] Askelson, Kristin, “Avery Island mine collapse latest in a string of salt mine disasters in Louisiana,” The Advocate, December 15, 2020, https://www.theadvocate.com/acadiana/news/article_8a92e65e-3ef9-11eb-a9e2-63e191724b80.html.

LDNR must have a plan to provide safe drinking water in the event of such an emergency.[38] However, the state's application for primacy provides no plan for the occurrence of a sinkhole. Until the state provides this plan, its application is incomplete and must be denied.

IV. Conclusion

CCUS is a risky technology that is not well suited for Louisiana's fragile coastline and already overburdened environmental justice communities. In order to be given primacy to regulate this technology, Louisiana must show it has procedures in place to enforce the provisions of the Safe Drinking Water Act and provide safe drinking water in the event of an emergency. However, the state has chronically underfunded the Office of Conservation which would be responsible for regulating Class VI wells. OC still has thousands of unplugged and abandoned oil wells that should be cleaned up before granting the agency the ability to permit any new wells. The agency must also be properly staffed and funded in order to effectively enforce the provisions of the SDWA. The state also has no plan to provide safe drinking water in the event a salt dome is punctured by an injection well, which is likely to occur. For these reasons, the primacy permit must be denied.

Sincerely,

Kendall Dix, policy lead
Gulf Coast Center for Law & Policy

[38] Environmental Protection Agency, "Class VI - Wells used for Geologic Sequestration of CO2," https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2 (last accessed July 1, 2021).

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OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION

6 July 2021

Office of Conservation, Injection & Mining Division
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Re: Class VI USEPA Primacy Application

Thanks for the opportunity to common on Louisiana Department of Natural Resources ("LDNR") application for primacy for Class VI wells for Carbon Sequestration

This is a momentous decision for the future of Louisiana, and Healthy Gulf needs the Department to consider a wide array of concerns, and pick a narrow path forward. In the past, the Department has been less selective about sensitive areas for drilling, and, as a consequence, we live in a state with a large burden of failed and failing oil and gas infrastructure, in a state where those failures have larger consequences than in most states.

The LDNR must refine its Environmental Justice analysis, identify overburdened communities, as well as avoid and notify them.

The Department can't just say "EJ Screen" and think that it has a method for determining Environmental Justice impacts. EJ Screen is not a method or policy. LDNR can't fulfill an obligation for Environment Justice by saying "we will consult the US Census" but must develop a consistent demographic method for how pollution affects our rural state.

Carbon Capture is inherently unjust, because it trades improvements in air quality in the shadow of industrial plants, for sequestration in a location that is also probably going to be unjust, given the economics of land in the United States. Current federal applications in our area seek to take carbon from Beaumont and Port Arthur, two of the most humble coastal Environmental Justice communities in the nation. Here, petrochemical facilities, built out into the floodplain of the Neches River, disparately affect Black americans and Native Americans; and facilities have left the communities in penury, with little flood protection when storms arrive.

We foresee that our own state program will engage CF Industries, our top climate changer, in Donaldsonville, a similar coastal Black community in Louisiana. Donaldsonville is one of the poorest communities in the state. The Department must create a program that is beneficial to Donaldsonville, and can help lift it from penury. As Donaldsonville goes, goes our state.

LDNR must develop an environmental justice method that considers communities in Texas, and considers communities that are at the source of the carbon dioxide to be placed in Louisiana.

LDNR must develop a method for considering communities along the pipelines that would convey CO2 from Texas, or from facilities in Louisiana, to wells, and whether these communities are disparately impacted.

Especially when we consider EJ Screen with an eye for rural block groups, Louisiana is a rural state, we need a "meaningfully greater" analysis that looks at rural nature of our towns. People are isolated from notices and notices on accidents, notices than can save their lives.

LDNR must identify "Overburdened communities" and then avoid them, notify them if they cannot be avoided, and hold hearings in the locations of the community identified, so that people know when and how they need to flee the area during incidents.

LDNR must identify a method for regulating the material in the carbon dioxide before it gets to Louisiana. Every analysis we've reviewed says there isn't an analysis of the impurities in the source carbon for facilities being advertised for carbon sequestration. USEPA is assuming all of these sources will be flue gas from coal-fired power plants, and those sources will be a minority of sources in the stream. LDNR must study impurities from oil refineries, ammonia plants, and LNG facilities enter the carbon stream, and how those impurities can interact with the formations.

We incorporate our other Environmental Justice comments by bullet points, and include draft worksheets appended to our comment.

- Alternative demographic methods beyond a mere "50%" are needed, and outlined in US EPA June 2016, although not clearly.
- Block groups are the most statistically coherent and refined areas that are small enough to meet a community's understanding of itself, especially in rural areas--and LDNR is very likely to operate in rural areas most of the time.
- USACE started down the correct path, using US EPA 2016 for its Bayou Bridge Env Justice analysis in its record of decision, Dec 2017.
- In our view USACE identified the "Overburdened Communities" impacted by the pipeline correctly. We have other disagreements with its narrative.
- HealthyGulf developed a worksheet for using this USACE rural demographic method, attached.
- CPRA's SVI analysis is intense, and worth reading, in order to learn about the unique sociology of Louisiana as reflected in census data; but it is ultimately unclear as a policy document. We are opposed to its use of PCA.
- New Jersey's demographic method would exclude some communities known to be Environmental Justice communities in Louisiana, so we cannot recommend its adoption directly; but it is another option for "Meaningfully Greater" analysis. It may likely exclude some rural areas in Louisiana LDNR would need to know about.
- Many of New Jersey's other practices of notification and permitting, as outlined in statute, are excellent.

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LDNR must study impurities in carbon from petrochemical generation before primacy.

Louisiana will mostly receive Carbon from the state of Texas, via the existing Denbury pipeline, from the Houston Ship Channel, and cannot determine the source material once the carbon is in the pipeline, so it seems a challenge for the department to regulate the source material in the pipeline. It's unclear how Louisiana can do that at all, since PHMSA regulates the content of materials in Carbon Dioxide pipelines, and the sources will only be regulated by the state of Texas.

We are deeply concerned that the State must take over the monitoring and maintenance of wells after ten years. This is unusual when we compare our lack of resources with the companies in question, as well as with Texas, as well as other primacy applicants. Why would our state take on those expenses?

LDNR must consider lost, orphan, and unplugged wells in its applications.

Louisiana has 9729 unplugged gas wells, and 13,839 unplugged oil wells, including 2589 wells that the department cannot locate or plug, LDNR must consider the cumulative impacts of thousands of perforations to the integrity of our aquifers and the formation in any application and deny applications if there is an overburden of unplugged, abandoned, and lost wells. The department cannot guarantee the integrity of the carbon capture system and have wells it cannot locate running through the same aquifer.

--Unplugged wells must be considered before Aquifers are perforated
--Abandoned wells must be considered before Aquifers are perforated
--Lost Wells (Wells that cannot be located) must be considered before Aquifers are perforated

These inactive, unplugged wells that will continue to place a burden on the department and our descendants. Wells can always leak. These unaccounted for wells reflects poorly upon the departments ability to monitor a Class VI program, particularly on the coast.

The magnitudes of facilities proposed for Louisiana will exceed all state programs to date, program must remain federal

To maintain integrity of the wells, LDNR must exclude CCU surface infrastructure from the coastal zone. Unless LDNR excludes Class VI surface activity from the coastal zone, such activities are inconsistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and Executive Orders.

A recent Princeton study says that Louisiana is unsuitable for carbon capture for many reasons, including cultural impacts and wetlands impacts.

Current proposals, both applied for, and advertised in the press, to our knowledge, all include massive pipeline impacts to coastal wetlands.

Since 2013, Louisiana has become more of a trading floor for petrochemicals than a producer, and being the trading floor has been hundreds of acres of impacts from pipelines, every year we've examined. From 2014-2016 alone, pipelines impacted over 2000 acres of wetlands in the New Orleans District of the Army Corps--the area south of Baton Rouge, excluding the Pearl and Sabine Rivers. Mitigation is often lacking for these facilities.

Table 1. Wetlands impact of pipeline 404 applications, 2014-2016.

New Orleans District 404 Program					
Wetland Acres Directly Impacted					
	2014	2015	2016		Total
Grand Total	2119.0	2038.0	3766.2		7923.2
Pipelines	649.6	613.3	872.4		2135.3
Residential Developments	218.8	165.5	601.5		985.7
Commercial Developments	100.7	217.2	492.7		810.5
Oil and Gas Facilities	319.3	270.4	165.0		754.7
Transportation Projects	406.9	310.8	36.7		754.4
Drainage Projects	66.1	157.0	510.9		734.0
Levees	183.7	170.4	235.7		589.8
Ports	13.2	36.3	426.9		476.4
Utility Projects	2.0	3.8	374.9		380.7
Industrial Developments	147.4	49.7	47.4		244.5
Recreational Developments	11.4	43.8	2.1		57.3

Impacts to wetlands have led to increasing economic damages to the state of Louisiana. Louisiana has seen some of the highest economic damages from storms in the nation since 1980, according to NOAA. Our damages rank with Texas and Florida, although we are not nearly as wealthy as Texas and Florida.

Pipelines in wetlands are more likely to corrode from saltwater, and more likely to fatigue with the movement of tidal and flood water into wetland soils.

Pipelines in the coastal zone are more likely to destroy wetlands, and are more exposed to risks of storms while weakening wetland protection from storms for our economy and the integrity of the pipelines themselves.

Disrupting these wetlands directly conflicts with Louisiana's restoration and community-protection goals. The *Comprehensive Master Plan for a Sustainable Coast* ("Master Plan") clearly states that valuable wetlands must be preserved.

One of the key assumptions of 2007's Master Plan is that "a sustainable landscape is a prerequisite for both storm protection and ecological restoration."[1] And in 2012's iteration, these land-use specifications were further clarified:

We do not want construction of new hurricane protection systems to encourage unwise development in high risk areas, as has occurred in the past. Such development increases overall levels of risk and diminishes the effectiveness of the protection structures themselves. This phenomenon is called "Induced Risk," and it runs counter to the master plan's objectives of sustaining wetland ecosystems and reducing the flooding risks borne by coastal communities. *Similarly, wetland areas inside the hurricane protection system need to remain intact and undeveloped* [emphasis added].[2]

Filling in these wetlands removes both the ecosystem and flood-protection functions of these tracts of land, in direct conflict with the state's goals. The Master Plan further states that "overall hydrology must be improved by minimizing impediments to water flow."[3] Allowing this new use, which will impact up to hundreds of acres of coastal wetlands every year, not only limits ecological function, but it also fails to minimize water-flow impediment or improve overall hydrology.

The Louisiana Legislature has approved many versions of the Coastal Master Plan,[4] with overwhelming public support.[5]

On April 4th, 2016, Louisiana Governor John Bel Edwards gave even greater weight to the foundational recommendations laid out in the Master Plan by issuing Executive Order No. JBE 2016-09 ("Executive Order"). Like Executive Order No. BJ 2008-7 issued by his predecessor,[6] the Governor's mandate again requires all state agencies, departments, and offices to "administer their regulatory practices, programs, projects, contracts, grants, and all other functions vested in them in a manner consistent with the Coastal Master Plan and public interest to the maximum extent possible."[7] This requirement is intended to "effectively and efficiently pursue the State's integrated coastal protection goals."[8]

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[1] Coastal Protection and Restoration Authority of Louisiana, *Executive Summary*, *in* Louisiana's Comprehensive Master Plan for a Sustainable Coast 3 (2007).
[2] Coastal Protection and Restoration Authority of Louisiana, *2012 Comprehensive Master Plan for a Sustainable Coast*, p 159*).*
[3] *Id.*
[4] SCR No.62, 2012 Leg., Reg. Sess. (La. 2012).
[5] Louisiana Coastal Master Plan Public Opinion Survey, Southern Media & Opinion Research, Inc. Online at http://www.mississippiriverdelta.org/files/2012/04/2012-Louisiana-CMP-Opinion-Survey.pdf.
[6] *See* Exec. Order No. BJ 2008-7, issued 1/23/08: http://dnr.louisiana.gov/assets/docs/conservation/groundwater/Appendix_B.pdf
[7] *See* Exec. Order No. JBE 2016-09, issued 4/4/16: http://gov.louisiana.gov/assets/ExecutiveOrders/JBE16-09.pdf
[8] *Id.*

Gas pipelines in the coastal zone are more likely to have accidents, more likely to have larger accidents, and this will increase over the life of any project. Louisiana already has a pipeline incident rate (per mile) three times higher than other states (twice Texas), and our sense is that these losses of integrity are largely driven by incidents in the coastal zone.

When we consider Gas transmission pipelines exclusively, pipelines on the Louisiana coast have twice as many incidents as the national onshore rate (Table 2). As our coastal zone loses wetland integrity, incident rates will approach the horrendous rates of gas pipeline incidents seen offshore in the Gulf (Figure 1).

Because the department will assume operations of projects for the majority of project life, LDNR must consider capital and mobilization costs as it answers the IT questions. Capital and mobilization costs for coastal operation are higher, more boats, more equipment that is water based, and more expensive than normal onshore operations.

The coastal zone is a poorer area of the state, and the coast is a disparately native american area of the state, it would be simple to avoid overburdened communities with great evacuation needs if the activities were excluded from the coastal zone.

The Denbury pipeline, touted as the backbone of Louisiana's Carbon transport system, has already been designed to avoid the coastal zone. So, the department can minimize transportation impacts to all communities by following the industry's example.

Table 2. Gas Transmission Incidents (PHMSA) 2010 - 2017

	Gas Transmission Incidents (PHMSA) 2010 - 2017			
	OCS	Coastal LA	USA	USA no OCS
Incidents, Gas Distribution and Gas Transmission, 2010-2017	151	45	920	769
Pipeline Miles	2478.27	8394.89	301909	299431
Rate --Inc/(Mi*1000)	60.93	5.36	3.05	2.57
How Many Times Onshore National Rate	**23.72**	**2.09**		

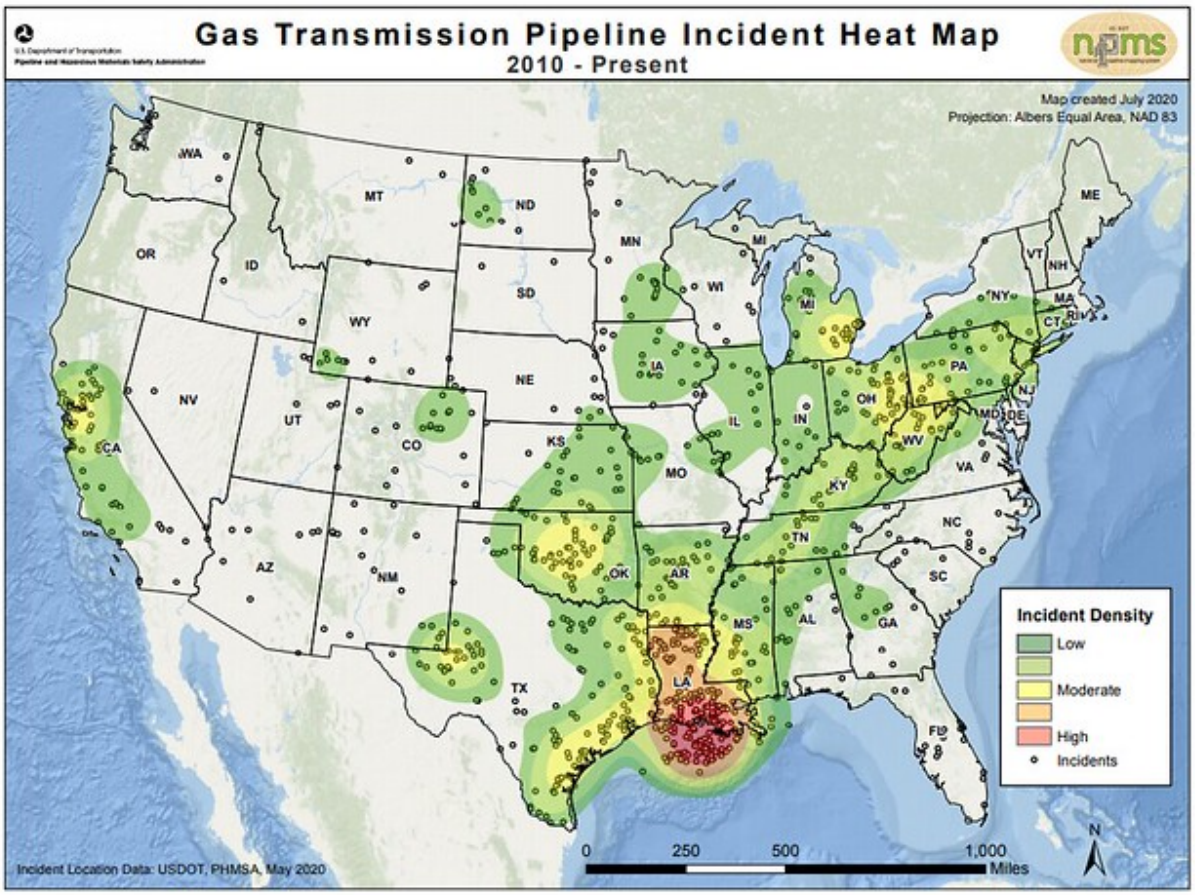


Figure 1. Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety. Gas Transmission Pipeline Incident Heat Map with Incident Points 2010 - Present . Map created July 2020
https://www.npms.phmsa.dot.gov/Documents/NPMS_HeatMap_GTIncidents_wPoints.pdf

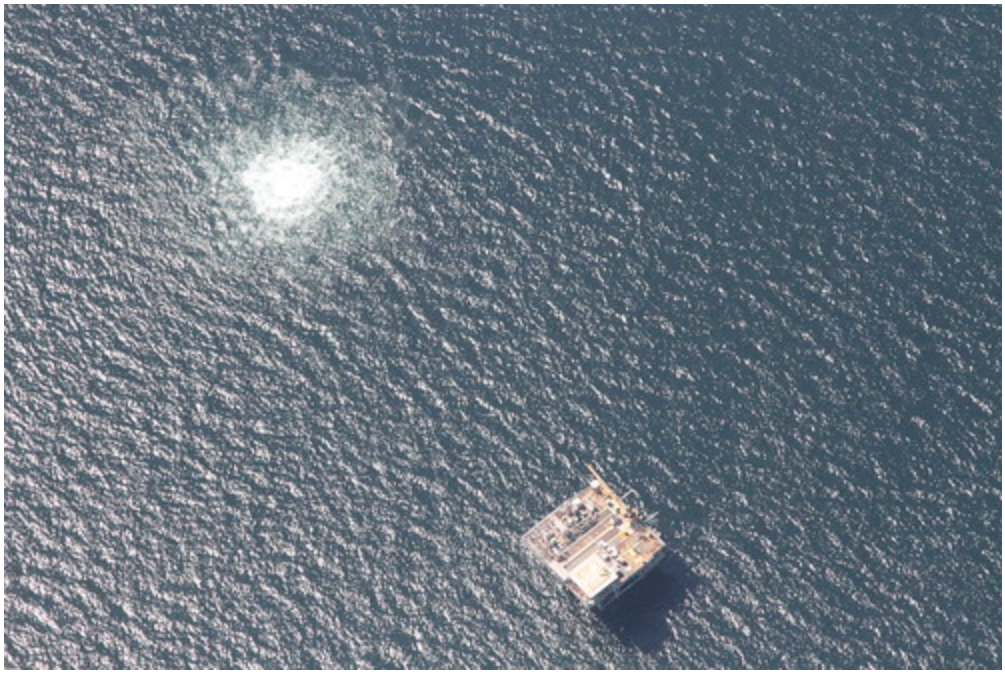


Figure 2 NRC report 119 3205 Energy XXI GOM LLC platform 20147 pipeline release into West Delta 30

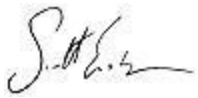
OFFICE OF CONSERVATION
JUL 06 2021
INJECTION & MINING DIVISION

In conclusion, LDNR must take the mandates put forth by the Clean Water Act, Louisiana's *Comprehensive Master Plan for a Sustainable Coast,* Governor John Bel Edwards, and the Louisiana Supreme Court seriously.

In order to keep us and the public properly informed, we request notification of denials, approvals, and/or changes to the LDNR's Application.

We look forward to a written response.

For a healthy Gulf,
[sent via e-mail]



Scott Eustis
Community Science Director
HealthyGulf
935 Gravier Suite 700 New Orleans, LA 70122
New Orleans, LA 70112
(504) 525.1528 x212 Scott@healthygulf.org

Laura Sorey

From: Injection-Mining
Sent: Monday, July 12, 2021 3:59 PM
To: Laura Sorey
Subject: FW: Carbon sequestration.

From: Johnny Kindred [mailto:johnny.kindred1957@gmail.com]
Sent: Friday, July 9, 2021 9:28 AM
To: Injection-Mining <Injection-Mining@LA.GOV>
Subject: Carbon sequestration.

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Storing carbon dioxide in Louisiana injection wells is basically a call to set up the state as a landfill. As other states begin to store their carbon here, our most abundant and precious resource, fresh water, will become more and more compromised. This will occur in neighborhoods of the poor, as they cannot defend against it. Fossil fuel is waning and wind and solar are gaining. Will we miss the boat on these technologies in favor of turning Louisiana into a trash dump for the benefit of the oil companies? Please be responsible for the lives of those who follow, not just those here now.

Laura Sorey

From: Injection-Mining
Sent: Monday, July 12, 2021 3:58 PM
To: Laura Sorey
Subject: FW: Carbon sequestration -- a false hope

Another public comment for Class VI

From: Karen Snyder [mailto:klsnyder299@gmail.com]
Sent: Sunday, July 11, 2021 2:39 PM
To: Injection-Mining <Injection-Mining@LA.GOV>
Subject: Carbon sequestration -- a false hope

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

I do not support the state's application to the EPA to authorize "carbon capture" and storage projects. This is an oil and gas ploy to escape a real program to reduce carbon emissions.

Karen Snyder
320 N Carrollton Ave #303
New Orleans, LA 70119

Laura Sorey

From: Injection-Mining
Sent: Monday, July 12, 2021 3:59 PM
To: Laura Sorey
Subject: FW: Deny primacy CCS for CO2 permit approval for LA

From: kim feil [mailto:kimfeil@sbcglobal.net]
Sent: Friday, July 9, 2021 9:15 AM
To: Injection-Mining <Injection-Mining@LA.GOV>
Subject: Deny primacy CCS for CO2 permit approval for LA

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Having lived in Louisiana for 30 years and then another almost 30 in Texas, I have several concerns about this request....

1) CCS projects would be occurring where communities of color/low-income are already overburdened. People living in cancer alley and the reputation in itself already shows a disregard to remove these people from proximity of harm. For example I worked at a bank near the Diamond neighborhood in Norco for 5 years and was in at least two lockdown emission events. The residence in the Diamond neighborhood were ONLY accommodated through a legal fight, https://nvdatabase.swarthmore.edu/content/black-residents-diamond-win-fight-shell-chemical-relocation-1989-2002
I lived close by and was ground zero when the Shell explosion happened; the paint came off my car. I got a $200 check and don't know if I will come down with cancer one day from those years of exposure and that one major event... I was so close I could feel the ground rumble and the glass to my car door was hot to the touch.

2) My time spent in Texas as a fractivist has taught me that the oil and gas industry avoids more stringent regulations in shipping, processing, and type of injection wells used for produced water by not acknowledging that disturbing Pandora's Box results in TNORM ladened waste. So it is with TNORM ladened CCS for CO2 (aka Radiocarbon).

At the very least acid resistant cement is needed in construction of these injection CCS for CO2 wells.

3) Louisiana it does not have the same depth of shale and protective layers of rock like the Bakken Formation. Just as Florida suffers with salt water erosion in their drinking water, so too does Louisiana lose so much land to the swamp. The LAST thing we need to be doing is poking more holes.

Instead reduce our dependence on fossil fuels and direct our efforts on renewable energy. In the meantime we can make good use of the CO2 for net power for example as is being done in Laporte Texas...."This 50 megawatt demonstration plant is the world's largest attempt to use carbon dioxide as a working fluid to drive a turbine to generate electricity. Therefore CO2 emissions from natural gas combustion to generate electricity is zero."

Since Covid, people all over the world understand and appreciate the natural beauty and importance of vacationing and living more naturally, prudent, and wanting to be more respectful of Mother Nature being well aware that climate change and pandemics are examples of how we should not piss her off.

Sent from AT&T Yahoo Mail on Android

Laura Sorey

From: Kim Goodell <kimgoodell@icloud.com>
Sent: Tuesday, July 13, 2021 8:19 PM
To: Injection-Mining
Cc: Thomas Harris; Laura Sorey
Subject: APPLICATION FOR PRIMACY---CLASS VI CCS WELLS

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Reference is made to that Application by The State of Louisiana Department of Natural Resources Office of Conservation requesting that LA be granted primacy with regard to Class VI Wells. It is my understanding that a second opportunity for Public Comment shall be afforded in conjunction with EPA review and decision making process associated with same.

It was in the 2019 Legislative Session that a suite of bills were proposed to facilitate this untested, yet to be fully developed, newly emerging enterprise of carbon sequestration. More specifically, 1) HB 163 providing for carbon capture sequestration and the transfer of generator liability to the State of LA (which received little debate), 2) HB 510/615 Voluntary Audit Bill (which was fully vetted and debated, and tabled to be proposed yet again in 2020 & 2021 Legislative Session) and 3) HB 545 that provided for the reinjection of certain produced fracking fluids at the discretion of the operator (eliminating all gov oversight i.e. Office of Conservation oversight, input and approval). Following the 2019 Legislative Session, the LDEQ conducted a series of Listening Sessions for the Voluntary Audit Policy. I submitted public comments in conjunction with same, and by reference here and attachment below I incorporate those same public comments here for the Class VI Well Primacy Application.

LA Attorney General Jeff Landry states in his February 21, 2021 letter made a part of the Application, that LA has not enacted any environmental audit laws providing for immunity or privilege. Several weeks ago, HB 72 was enacted with provisions that clearly include qualified immunity, privilege, and confidentiality provisions. The voluntary audit bill passed also provides for Environmental Assessments only if requested —all of which is contrary to existing state and federal environmental laws that have been around for decades. The problem is not with our current environmental and regulatory framework, it is with enforcement and compliance compromised with special industry influence. It is with defunding our most critical agencies, such that they are ill-equipped to carry out responsibilities and duties necessary to fully protect our air, land, water and consequently our health for future generations to come. It is with passing legislation that will only serve to protect the polluter and tax the taxpayers.

It is apparent that industry has failed to report water discharges. Some of these discharges, no doubt are within the confines of areas requiring greater scrutiny under the SDWA—1) our Areas of Aquifer Recharge, 2) our Wellhead Protection Areas serving to safeguard municipal water facilities and the surrounding areas of influenc, and 3) Exceptions to Aquifers (basically granted for injection wells some of which inject highly toxic substances). Failure to report will not only exacerbate cleanup efforts, it serves to conceal the actual threat to the public health depriving the public of their right to know. Failure to report also deprives the agency of critical information necessary for the protection and conservation of our water resources, our fragile ecosystems and wetlands——all, most critical habitat necessary for healthy wildlife and marine life.

What does DNR know about these discharges and toxic sites (reported or not) and their impact to all our EPA designated Sole-Source Aquifers ? To our groundwater? Too our surface water resources? Cumulatively how do these discharges impact the sustainability of our aquifers? Can you identify all freshwater aquifers that are no longer fit for consumption as a result of these contaminated sites? Are the areas of contamination posted? Help the public put into perspective what the threat is to their health.

How difficult will it be to site a Class VI well with noted water discharges and countless hazardous sites left for decades with little or no corrective action? How difficult will it be to site a Class VI well when compounded with highly faulted regimes, areas of subsidence, unstable salt domes and other geo hazards? Didn't the people of LA appropriate funds to develop and build a geo-hazards atlas to aid in that quest? What is the status of same?
How difficult will it be to assess the risk of leakage and faulty containment ? I received notice of a DNR adhoc meeting regarding CCS in late March and a second one was held in late June. In the March meeting DNR confirmed that they would not be approving the use of Salt Domes (plasticity noted) and suggested likely delays (and likely rejection) of applications in the NW part of LA (fracking territory). At the conclusion of the presentation, in the public comment period then I thanked them for the presentation and for the exclusion of Salt dome use and areas of intense fracking and asked if they could further scrutinize and exclude other areas like areas of aquifer recharge, wellhead protection areas and known hazardous sites. I noted that a good number of our municipal water facilities hHas DNR flagged these areas for non-use?

But, none of that matters if generator liability passes on to the State and if the existing threats to our aquifers, groundwater, lakes and rivers never get fully assessed nor disclosed. Can we take inventory of our most sacred resources before considering ways to further exploit Louisiana? Louisiana can not afford to supplant EPA in this process. EPA needs to continue to be the overseer of environmental activities like this, collaborate with our state agencies for solutions to both our climate crisis (and water crisis) and counterbalance the obvious, very stifling, negative industry influence.

Kim Voorhies Goodell
Louisiana Citizen

Begin forwarded message:

From: Kim V Goodell <goodellk@bellsouth.net>
Subject: A1 200321----HR 231 (2019)
Date: October 21, 2019 at 4:29:47 PM CDT
To: deq.publicnotices@la.gov
Cc: Bill Goodell <bill@goodelllaw.com>, Kim Goodell <goodellk@bellsouth.net>

These comments are being submitted in reference to "A1 200321 & HR 231 (2019)".

I see HR 231 as "Plan B" to Stuart Bishop's HB 510/615. Rep. _____ authored/sponsored/defended HB 510/615 both in the House-Natural Resources Comm (which he served as Chairman) and on the House Floor where it was rigorously debated for over 2 1/2 hours. Rep Bishop offered testimony that the bill was to serve just "itty bitty" violations and that the EPA supported the bill as proposed. We know that not to be true. Generally speaking it is bad government policy to hide information about environmental issues because you don't know

who it may impact and how it may impact them—"itty bitty" or not. Further, it is the cumulative impact of environmental violations (large and ittybitty) that we should look to when shaping policy to protect our air, land, water and natural resources as provided for in Article IX, Sec 1 of the Louisiana State Constitution. As to Rep _____assertion that the EPA supported his bill, the EPA has clearly set forth its position, registered with Federal Register Entries as far back as April 11, 2000 (encourage self auditing but do not compromise the integrity and enforceability of environmental laws) and as recent as March 29, 2019 (specifically for oil and gas/petro-chemical industry and new owners of facilities); most important, it only speaks to air emissions. The EPA March 2019 policy provided leniency as to penalties as a consideration of self reporting, the information, data and science is never to be withheld from the public and the EPA may deny participation to any repeat offenders. To otherwise grant special interest treatment is not acceptable. To otherwise hold secret/confidential matters clearly impacting the environment and public help is unacceptable. To insure the health of the citizens of the state and in maintaining the integrity of the environment, we must collectively start taking the longview in matters of legislation, stewardship, enforcement, compliance and accountability (and recognize LA law is clear—the polluter pays, not the taxpayer). Fundamental to good government policy is understanding that the right to clean air, and clean, safe, affordable water is a human right—not to be displaced by industrial concerns.

As to HR 231 itself, I offer the following for your consideration:
Usage/demand for underground drinking water supplies has sharply risen and will continue to increase. Our understanding of contaminated fate and transport, geology, hydrology, and geochemistry, and the tools used to asses them have dramatically evolved. In our state, many hazardous sites have been identified and left for decades with little or no corrective action—threats to drinking water, aquifers, rivers and public health impacts vary. Enforcement of cleanup rules often is inadequate. Many of these sites are situated in areas where greater scrutiny is mandated per the Safe Drinking Water Act because they lie within the confines of either (i) WELLHEAD PROTECTION AREA (areas surrounding and impacting municipal water utility ofacilities), (ii) AREAS OF RECHARGE FOR SOLE SOURCE AQUIFERS, and/or (iii) AQUIFER EXEMPTION AREA granted most often for underground injection wells. the majority of these sites are rarely posted or designated as such—denying communities the right to know about the threats to their water supplies and consequently their health.

The sites I fear most are the ones that directly impact our municipal water facility supplies, our EPA -designated sole source aquifers and the AREAS OF RECHARGE associated with each. Audits have been conducted of all of our municipal water facilities. Over 300 have received unsatisfactory ratings requiring replacement along with relocation because of contaminants…..its not just old, lead pipes. How many are the result of industry pollution, aquifer and surrounding groundwater pollution. Our five major sole source aquifers have been monitored and studied for sustainability as well as over use and contamination. when is the public going to be apprised of the info and all info, science and data made available to The Public?

The Public, as well as government, needs publicly accessible and user-friendly databases with the latest scientific data and interpretations of the existing hazards. Industry must be held accountable for promptly reporting environmental hazards when it becomes known to them—— simultaneous concealment can not be tolerated. VIOLATIONS REGARDING EMISSIONS AND DISCHARGES MUST BE STRICTLY ENFORCED. FAILURE TO REPORT AND ENFORCE PROMPTLY WILL ONLY SERVE TO EXACERBATE THE COST AND JEOPARDIZE THE EFFICACY OF ANY CLEANUP PLAN.

THE PUBLIC looks to the LDEQ as the lead agency responsible for all the enforcement and

compliance necessary for the protection of our water resources. THE PUBLIC looks to the LDEQ to have the appropriate interface with any and all other state and federal agencies necessary to protect and enforce compliance. THE PUBLIC looks to our legislative branch to make sure LDEQ are appropriately funded for staff and have all advanced technology required and we look too the legislature to enact any new laws to help facilitate a clean, healthy environment first and to regulate industry . THIS LEGISLATIVE ACTION, does not serve well in that regard. This bill together with other bills passed in the 2019 Legislative Session such as HB 125 (expedited environmental enforcement eliminating legal dept review), HB 545 (reinfection of fracking produced water at discretion of operator, circumventing Office of Conservation review and input, and HB 163 (possible displacement of generator liability in matters of carbon capture, transport, storage, sequestration) all will prove to be detrimental to the Louisiana environment and more specifically to our water resources. We will continue to pushback on any legislation that undermines LDEQ duty to protect and conserve. WE will continue to push back on this sort of legislation.

July 1, 2021
7725 Birch Street
New Orleans, La. 70118
To:
Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

Dear Board Members:
Please include my comments in the record of the primacy application hearing.
While I have no scientific expertise in the area of CCS, several common-sense observations are relevant.

Considering the historically cozy relationship between industry -- the oil and gas industry in particular -- and Louisiana regulatory agencies, it seems dubious to imagine that the state of Louisiana would provide better oversight of this potentially very dangerous technology than the EPA. One only needs to recall that the state allowed oil and gas companies to devastate our coastal marshes without any serious remediation enforcement.

It may be the case that CCUS will prove to be a necessary component in slowing the progression of climate change, but it is my understanding that most of the CO_2 captured so far has been used to further extract oil and gas. It is pumped into wells in order to extract residual product and then eventually escapes back into the atmosphere through natural faults and the many holes that these companies have drilled through the sediment layers. In short, it's not surprising that the oil and gas industry is interested in this technology, particularly since the public will pay for it through tax breaks.

The idea that geological formations would be used to store CO_2 is itself scary enough. In 1986, 1746 people and 3500 head of livestock were killed when *natural* processes caused the sudden release of CO_2 at Lake Nyos in Cameroon. Should one believe that industry in Louisiana could be trusted monitor such storage -- even for the minimal time that would be required by the tax giveaways? Deepwater Horizon? Bayou Corne? Even scarier is the prospect of ruptures in the high-pressure pipelines that transport the CO_2. A recent such event in *rural* Yazoo County, Mississippi led to mass evacuation and the hospitalization of about 50 people. Would you like to look out of your kitchen window and see a large, highly pressurized tube carrying tons of a deadly asphyxiant? That is certainly what folks living in the most marginalized communities in Louisiana will see if the necessary pipeline network is actually ever built.

Sincerely,
Mike Easley
Mike Easley

OFFICE OF CONSERVATION
JUL 08 2021
INJECTION & MINING DIVISION

Laura Sorey

From: Injection-Mining
Sent: Monday, July 12, 2021 3:58 PM
To: Laura Sorey
Subject: FW: Comments on Primacy for CCS/Class 6 wells

Can you save this in our Comments folder?

From: Michael Tritico [mailto:michaeltritico@yahoo.com]
Sent: Monday, July 12, 2021 11:46 AM
To: Injection-Mining <Injection-Mining@LA.GOV>
Subject: Comments on Primacy for CCS/Class 6 wells

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

RESTORE
P.O. BOX 233
LONGVILLE, LA 70652
(337)-725-3690
michaeltritico@yahoo.com

July 12, 2021

Louisiana Department of Natural Resources
Injection and Mining Division

Comments on Proposed Shift in Primacy from USEPA to LDNR for CCS Projects

Dear LDNR:

Thank you for the opportunity to comment on the proposal. RESTORE understands that LDNR wants increased authority because it has a better grasp of local geologic conditions than does EPA and that EPA depends on LDNR to provide them all relevant information.

That system, if it has been working well for other things, should be kept in place for carbon capture and sequestration projects. If it has not been working well for other things then the whole system needs to be reevaluated.

As for storage of carbon monoxide or carbon dioxide as a means of addressing climate change, I agree with the thought that storing those things instead of either not generating them in industrial processes or not recycling them in closed loop industrial processes simply sustains the era in which exists the consequences of their releases.

As for geologic storage in perpetuity, there may be underground strata where that could work although in South Louisiana there are numerous faults (such as the ones that radiate outward from the salt as its pillars push upward to form domes) and there are other fractures that make the subsurface layers interconnected vertically. Contamination in one layer can (and does) move vertically through “chimneys” and eventually even

contamination that was thought safely-sequestered in some deep sand climbs into the Jasper, Evangeline, and even up into the Sole Source Chicot Aquifer. Deep strata sequestration here is the opposite of guaranteed.

As for storage in salt dome caverns, just look at the continuing evidences of that concept being a bad idea: Mt. Belvieu, Texas, the Louisiana salt domes at Lake Peigneur, Bayou Corne, Sulphur, and Hackberry, all of which have had and continue to have problems. All salt domes are plastic, twisting, moving upward into fresh water sands which dissolve the salt shells and undermine the heavy overlying earth setting up collapses and formations of lakes. Salt domes are no place to consider doing anything longterm.

Thank you for the opportunity to submit these comments.

Sincerely,

Michael Tritico, Biologist and President of RESTORE

Restore **E**xplicit **S**ymmetry **T**o **O**ur **R**avaged **E**arth

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

OFFICE OF CONSERVATION
JUL 08 2021
INJECTION & MINING DIVISION

June 30, 2021

To the Office of Conservation, Injection & Mining Division of Louisiana Department of Natural Resources:

Thank you for your work.

I am writing in OPPOSITION to approval of the Class VI USEPA Primacy Application for the following reasons:

1. Has Louisiana DNR demonstrated competency for primacy? Our system of Environmental Federalism means that state and federal governments work together. Often, EPA retains primacy unless states demonstrate competency to achieve the requisite, rigorous, Congressionally-mandated levels of regulation. Before primacy is transferred from EPA to LDNR, the public needs to see documented evidence that Louisiana LDNR has this competency.
2. Has LDNR determined that LDNR program is at least as stringent at the federal regulations? According to EPA: "EPA's role in approving a state's program is to determine that it is at least as stringent as the federal regulations."[1] For state primacy, LDNR must demonstrate this for the specified category of regulation: Class VI wells. Federal Primacy is critical for many environmental issues. Research has shown that, in general, state primacy over the Clean Water Act (CWA) has had mixed results. In some cases, "...federal inspections are more effective than state inspections."[2] Research shows that state environmentalism is not correlated with assuming primacy: "primacy assumption appears to be driven predominately by other factors, which differ substantially across the air and water policy arena."[3]
3. Where are LNDR enforcement records on other wells? EPA recognizes 6 categories of Underground Injection Control (UIC) wells. Millions of metric tons of CO_2 are currently injected in such wells; however, data are not reported according to well type.[4] Louisiana currently has primacy for Classes I-V wells.[5] An adequate track record of state-level regulation on wells for which state primacy already exists needs to be demonstrated. Note that Class II wells, for which Louisiana already has primacy, inject CO_2 for "enhanced oil recovery" (EOR). The EPA established federal requirements for Class VI wells in 2010.[6]
4. Class VI wells may present more of a danger to the CWA, Safe Water Drinking Act (SWDA), Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CAA) than the other 5 classes of UIC wells. Because the purpose of Class VI wells is exclusively long-term storage, they may be significantly deeper than the other wells. Also, Class VI wells may be closer to coal or other fossil fuel power plants, posing a potential for carrying hazardous chemicals into drinking water, aquifers or soil (by leakage).

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[1] "Response to Public Comments for the Wyoming Class VI Primacy Application" https://www.regulations.gov/document/EPA-HQ-OW-2020-0123-0024 (in linked pdf)

[22] "Enforcement Federalism: Comparing the Effectiveness of Federal Punishment versus State Punishment" https://link.springer.com/article/10.1007/s10640-020-00530-0

[3] Does the Primacy System Work? State versus Federal Implementation of the Clean Water Act https://academic.oup.com/publius/article-abstract/51/1/131/5830831

[3] Primacy Implementation of Environmental Policy in the U.S. States. https://academic.oup.com/publius/article-abstract/36/2/259/1934505?redirectedFrom=fulltext

[4] https://www.epa.gov/ghgreporting/subpart-uu-injection-carbon-dioxide

[5] https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program

[6] https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration co2,,https://www.epa.gov/sites/production/files/2021-03/documents/class_vi_permit_application_outline_-_final_508_002.pdf

LDNR needs to demonstrate that these issues are addressed in the primacy application and in its own regulations.

5. Precedent on primacy in the area of class VI wells is not well-established and may be overturned. Currently, only two states (Wyoming [submitted and approved in 2020][7] and North Dakota[8] [submitted in 2013, approved in 2018]) have primacy in Class VI wells. Both were granted during the Trump administration. It is likley that Trump-era EPA decisions will be revisited by the new EPA administrator.
6. I found inaccuracy in the public EPA record concerning public comments in Wyoming's process. This brings into question the integrity of the primacy transfer process. In the Federal Register article[9] documenting Wyoming's application for primacy, it is stated: "EPA received seven public comment submissions. Of the seven commenters, all submitted comments in support of the rule and one requested clarification on certain aspects of Wyoming's UIC Class VI Program." Examination of the actual comments[10] reveals this not to be correct. The number of commenters is not actually documented. The comments (not commenters) are numbered. Comment #1 requests EPA information about staffing and funding issues, an unsupportive comment. Comment #2 urges EPA to ensure conflict of interest provisions are in place, an unsupportive comment. Comment #3 urges EPA retention of records to ensure environmental safety, an unsupportive comment.
7. Very low numbers of Class VI wells suggest more precedent is needed concerning safety and regulatory mechanisms. There are only 6 wells permitted by the EPA in the country.[11] There are only 2 functioning wells (in Illinois) and 3 (in Indiana and California) in "pre-construction." 6 are permitted in Illinois.[12] States which have Class VI primacy (Wyoming and North Dakota) do not have the wells, while states which have the wells do not have primacy.
8. Minimally, it would be best to defer the decision, since there are no wells in Louisiana for which jurisdiction will be transferred. There is no record of any effective regulation in Louisiana for these wells.
9. What is the impetus for the current application? It appears that the impetus for the application consists of laying regulatory framework for such wells in Louisiana. Enthusiasm for Carbon Capture, Utilization and Storage or Carbon Capture and Storage (CCUS/CCS) is driven by greed (in general and in Louisiana) for short term profit, rather than concern about Climate Change. An 2020 opinion piece from American Association of Petroleum Geologists entitled: "Carbon Capture and Storage Potential in Southern Louisiana: A New Business Opportunity" clearly states that pursuit of CCUS/CCS for underground storage will help restore the flagging oil/gas economy in Louisiana.[13] A quote from the abstract: "...new tax incentives create an attractive business case; but the commercial industry is still in its infancy. A combination of factors makes Louisiana an attractive place to kickstart that industry." LDNR primacy would, in effect, subsidize the hydrocarbon business by lowering entry barriers. If government seeks to subsidizes business (which is traditionally antithetical to conservatives), it should subsidize industries that will genuinely solve Climate Change.

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[7] https://www.epa.gov/newsreleases/cheyenne-epa-announces-wyomings-primacy-class-vi-underground-injection-control-program . At the press conference announcing this, Governor Mark Gordon said: "Our newfound Class VI injection well regulatory primacy is part of the State's larger strategy to keep coal burning.... The advancements we've made in carbon capture research alongside the Department of Energy and the strategic partnerships we've formed uniquely position the State to extend the life of coal ...."
https://www.federalregister.gov/documents/2020/10/09/2020-20544/wyoming-underground-injection-control-program-class-vi-primacy

[8] https://www.dmr.nd.gov/oilgas/GeoStorageofCO2.asp

[9] https://www.federalregister.gov/documents/2020/10/09/2020-20544/wyoming-underground-injection-control-program-class-vi-primacy

[10] https://www.regulations.gov/document/EPA-HQ-OW-2020-0123-0024

[11] https://www.epa.gov/uic/class-vi-wells-permitted-epa

[12] Observations on Class VI Permitting: Lessons Learned and Guidance Available

[13] https://archives.datapages.com/data/gcags/data/070/070001/73_gcags700073.htm

OFFICE OF CONSERVATION

JUL 08 2021

INJECTION & MINING DIVISION

10. Has environmental justice (EJ) been considered? President Biden and the White House Environmental Justice Advisory Council (WHEJAC) recommend that EJ be considered in all programs going forward. EPA provides tools for EJ.[14] In Louisiana, the petrochemical plants producing CO_2, for which the wells are being drilled, are primarily located in "sacrifice zones" of Black, Brown and Indigenous communities which already suffer disproportionately high risks of cancer, high rates of asthma and high death rates from COVID. A complete EJ analysis needs to be conducted. For example, hundreds, perhaps thousands, of unmarked burial sites of formerly enslaved persons have recently come to light.[15] Louisiana law states that any known cemetery must be cordoned off and protected. Since most petrochemical plants are located on former plantations, undoubtedly, the overlap will be significant.
11. Does Louisiana have a program ready? In order for Louisiana to have a program to permit Class VI wells, it must have mechanisms in place for such oversight. No such evidence is available publicly. If it exists, it should be easily accessible to the public on the internet. EPA requirements for Class VI wells include[16]:
    a) *Extensive site characterization requirements*
    b) *Injection well construction requirements for materials that are compatible with and can withstand contact with CO_2 over the life of a GS project*
    c) *Comprehensive monitoring requirements that address all aspects of well integrity, CO_2 injection and storage, and ground water quality during the injection operation and the post-injection site care period*
    d) *Financial responsibility requirements assuring the availability of funds for the life of a GS project (including post-injection site care and emergency response)*
    e) *Reporting and recordkeeping requirements that provide project-specific information to continually evaluate Class VI operations and confirm USDW protection*
12. Does LDNR have sufficient staff and resources to establish and enforce primacy? An example from another EPA region reveals: for UIC violations and enforcement, in 2018, EPA Region 3 (in Pennsylvania and Virginia) noted approximately 1500 conducts requiring inspections of wells (classes II and V), with 120 requiring follow up over several years, including several emergency orders.[17]
13. Does LDNR have the budget? Environment & Natural Resources is less than 1% of the state discretionary and non-discretionary spending for the 2020-2021 budget.[18] New positions would have to be authorized and funded. Louisiana, like most states, may be facing dire financial circumstances in the next fiscal year.
14. Has LDNR demonstrated competency to test for chemicals that the CO_2 may dissolve and carry? CO_2 can dissolve and carry toxins, pipe materials, rock minerals and other chemicals which may contaminate drinking water.

I understand that the purpose of the present hearing is ostensibly not to discuss merits of CCUS/CCS. However, I am also writing in OPPOSITION to CCUS/CCS and permitting ANY Class VI wells for the following reasons:

1. Primacy is not the correct question. We need to address the technology itself.
2. Our governor, our president and 197 nations have acknowledged the dire situation of The Global Climate Crisis and are united in supporting action to solve it by reducing GHG emissions.
3. Although CCUS/CCS is portrayed by some stakeholders as a solution because it sounds as though one can easily inject gigatons of CO_2 gas in the ground and it will stay there forever. The stated purpose of CCUS/CCS is to avert Climate Change through "deep decarbonization." In fact, CCUS/CCS is the opposite

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[14] https://www.epa.gov/sites/production/files/2015-07/documents/epa816r11002.pdf
[15] "The Lost Graves of Louisiana's Enslaved People" https://www.nytimes.com/interactive/2021/06/27/us/louisiana-graves-enslaved-people.html
[16] https://www.epa.gov/sites/production/files/2021-03/documents/class_vi_permit_application_outline_-_final_508_002.pdf
[17] "UIC Enforcement."https://www.epa.gov/sites/production/files/2018-06/documents/enforcement_tools_2018_-_roger_reinhart.pdf
[18] https://www.doa.la.gov/media/xvcnijzs/statebudgetfy21.pdf

of a solution. CCUS/CCS will not significantly reduce anthropogenic CO_2 from the atmosphere. It will ***increase*** it both directly and indirectly because:

a. Directly: This technology promotes continued fossil fuel consumption, which is directly responsible for Climate Change.
b. Directly: To contribute to solving Climate Change, the CO_2 must essentially remain underground forever. Gasses, by their nature do not remain stationery.
c. Directly: Moreover, regulations require safe storage for only 50 years. What will happen to the CO_2 after that?
d. Directly: There will inevitably be leaks during manufacturing, transport and drilling processes.
e. Indirectly: CCUS/CCS also allows continues massive-scale production of CO_2 for EOR.[19] This will create additional commercialization of CO_2.
f. Indirectly: Collected CO_2 is planned for use in many unproven, uneconomical and climate-destructive technologies, such as "blue hydrogen," bioenergy, direct air capture.

4. What percent of CO_2 injected into Class VI wells is retained? One study suggests that up to 10% of CO_2 stored in underground geological reservoirs may leak from storage caves and pool into aquifers.[20]
5. The wells present a risk to clean water. Stored CO_2 is corrosive, carries potentially dangerous chemicals and therefore may cause violations of SDWA and CWA.
6. Even if CCUS/CCS works, it would maximally reduce emissions by only 10%. Efforts (time, money, energy and resources) for CCUS/CCS could otherwise be spent more fruitfully on developing nonfossil fuel-based energy sources.
7. Aside from long-term climate consequences, release of concentrated CO_2 (an asphyxiant) into the air has immediate disastrous consequences for health. In Feb. 2020, at least 300 people were evacuated and 48 hospitalized after a CO_2 pipe leak in Yazoo City, Mississippi.[21] In 1986, 1746 people died from a natural release of carbon dioxide at Lake Nyos in Cameroon.[22] Although the latter was a natural disaster, there is little doubt that development of CO_2 pipeline infrastructure may perpetrate such disasters.
8. The technology does not exist yet. Claims of successful pilot programs are either unfinished or pertain to Class II UIC, which is EOR.
9. Where is the profit in pumping a waste product underground? Although CCUS/CCS is touted as profitable, it is difficult to see how financial profit will be gained other than through tax credits. One of the largest proposed plants was recently abandoned at a >$3 billion loss.[23] The renewable energy transition will be simpler and more profitable.
10. Many documents claim there is a "consensus" (including in the Biden administration) that CCUS/CCS is necessary to decarbonize the world. In fact, the consensus among climate activists and researchers[24] is the OPPOSITE. The consensus is ***opposed*** to CCUS/CCS.

Sincerely and Thank You,

Marion "Penny" Freistadt, PhD, MBA

[19] "Evaluation of Coal and Natural Gas With Carbon Capture as Proposed Solutions to Global Warming, Air Pollution, and Energy Security" https://web.stanford.edu/group/efmh/jacobson/Articles/I/NatGasVsWWS&coal.pdf

[20] https://www.sciencedirect.com/science/article/pii/S1750583613001242

[21] https://www.wjtv.com/news/breaking-evacuations-in-order-following-gas-leak-in-yazoo-county/

[22] https://en.wikipedia.org/wiki/Lake_Nyos_disaster

[23] theguardian.com/environment/2018/mar/02/clean-coal-america-kemper-power-plant

[24] Flexible electricity generation, grid exchange and storage for the transition to a 100% renewable energy system in Europe; https://www.sciencedirect.com/science/article/pii/S0960148119302319 ; Evaluation of Coal and Natural Gas With Carbon Capture as Proposed Solutions to Global Warming, Air Pollution, and Energy Security: https://web.stanford.edu/group/efmh/jacobson/Articles/I/NatGasVsWWS&coal.pdf

POOJA PRAZID
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Office of Conservation, Injection, & Mining Division
617 N 3rd St, 8th floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primary Application

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To the Office of Conservation, Injection, and Mining Division,

My name is Pooja and I am a resident of St Bernard Parish, in an area where the CO_2 emission are more than a million metric tons, primarily from industrial facilities. I am against the subsidy of the fossil fuel industry through the promotion of carbon capture and storage. The carbon capture and storage is expensive, energy-intensive, and has not been proven at scale - we should be transitioning to renewables. As a process engineer at a manufacturing plant who works on ~~renewables~~ energy projects, I can see quite clearly that the industry is moving towards clean, renewable energy sources, and Louisiana must recognize that to stay competitive. As a citizen, I know that carbon pipelines will endanger my community either through leaks or the risk of explosion. The wells and pipelines would contribute to land loss, which deeply hurts St. Bernard's residents and our businesses as we face coastal erosion and greater flooding. For St. Bernard's sake, please reject CCS, as it is a false solution, and harmful to frontline communities.

Thank you,
Pooja Prazich

OFFICE OF CONSERVATION

JUL 15 2021

INJECTION & MINING DIVISION

Office of Conservation
Injection & Mining Division
617 North Third Street, Eighth Floor
Baton Rouge, LA 70802
injection-mining@la.gov

July 13, 2021

Re: Class VI USEPA Primacy Application; Docket No. IMD-2021-02

To whom it may concern:

These comments are on behalf of the Sierra Club and the Louisiana Green Army. These comments are in addition to comments made by General Russell Honoré (Ret) at the DNR hearing on this matter.

The Louisiana Green Army and the Sierra Club are **strongly opposed** to approval of the Class VI USEPA Primacy Application to the Environmental Protection Agency by the Louisiana Department of Natural Resources (LADNR).

Here are some of our concerns

- Louisiana regulatory agencies have a poor record when it comes to enforcing environmental regulations, putting the interests of oil and gas companies over the health and wellbeing of the people and the region's fragile ecosystems. The EPA must retain and even strengthen its role in regulating the impacts that the fossil fuel industry has on the environment.

- We have grave concerns about the **Environmental Justice/Environmental Racism** impacts of CO2 injection wells will have a disparate impact on black, indigenous, and other communities of color, and Louisiana's proposal to rely solely on EJSCREEN is not enough to assess, prevent, and mitigate adverse environmental justice impacts. The EPA must retain its regulatory authority to ensure that injection wells do not have a disparate impact on Louisiana's environmental justice communities.

- The storage of carbon in injection wells is a new technology. Nationwide, there are only six permitted projects, 2 are operational and 3 are in pre-construction. The EPA must lead the states in monitoring the impacts of these wells and ensuring that the regulatory framework fully considers the impacts on local populations and the fragile ecosystems that define the Louisiana coast.

- Carbon Capture is being developed to justify the continued use of fossil fuels. At a time when the US must be investing its financial and human resources to transition to renewable sources of energy, we cannot make it easier for fossil fuel companies to continue their operations. The EPA must play a role in ensuring that CO2 injection wells are part of the decarbonization of our energy and industrial sectors, and not just a way to greenwash business as usual.

LADNR has not exhibited that it has the staff and funding capacity to operate this program. We did not see a detail analysis in the LADNR Application to EPA showing that LADNR currently has the staff and funding in hand to operate this new Class VI Program. *EPA retains primacy unless states demonstrate competency to achieve the requisite, rigorous, Congressionally-mandated levels of regulation. Before primacy is transferred from EPA to LDNR, the public needs to see documented evidence that Louisiana LDNR has this competency.* [i]

The Louisiana Green Army and the Sierra Club echo Dr. Freistadt question:

What is the impetus for the current application? It appears that the impetus for the application consists of laying regulatory framework for such wells in Louisiana. Enthusiasm for Carbon Capture, Utilization and Storage or Carbon Capture and Storage (CCUS/CCS) is driven by greed (in general and in

Louisiana) for short term profit, rather than concern about Climate Change. An 2020 opinion piece from American Association of Petroleum Geologists entitled: "Carbon Capture and Storage Potential in Southern Louisiana: A New Business Opportunity" clearly states that pursuit of CCUS/CCS for underground storage will help restore the flagging oil/gas economy in Louisiana.13 A quote from the abstract: "…new tax incentives create an attractive business case; but the commercial industry is still in its infancy. A combination of factors makes Louisiana an attractive place to kickstart that industry." LDNR primacy would, in effect, subsidize the hydrocarbon business by lowering entry barriers. If government seeks to subsidizes business (which is traditionally antithetical to conservatives), it should subsidize industries that will genuinely solve Climate Change. [ii]

The Louisiana Green Army and the Sierra Club have similar concerns to the ability of LADNR raised by the Gulf South Center for Law and Policy:

Louisiana should not be granted primacy because it cannot or will not develop procedures for enforcement. Louisiana already has primacy for Classes I-V injection wells, for which the LDNR Office of Conservation (OC) is the primary regulator.

a. <u>Existing oil and gas well regulation</u>

LDNR and especially OC have done a poor job of regulating existing oil and gas wells. In a May 28, 2014 report, the Louisiana Legislative Auditor found:

> *As of July 2013, there are 2,846 orphaned wells that have not been plugged. From fiscal years 2008 through 2013, OC plugged an average of 952 orphaned wells each year even though an average of 170 additional wells were orphaned each year. Because of Louisiana's growing population of orphaned wells, we also evaluated whether OC has effectively managed the population of wells already orphaned.*

The report concluded, "Overall, we found that OC has not always effectively regulated oil and gas wells to ensure operators comply with regulations." OC acknowledged that it had failed to meet its own inspection targets for orphan wells because of budget cuts, lack of staff, and a hiring freeze. A more recent

report in 2020 found that the number of orphaned wells has increased by 50 percent since the scathing 2014 report. Again, LDNR cited staffing and budgetary shortfalls as contributing to the failures of the agency to regulate the oil and gas industry.[iii]

We hereby incorporate into our comments the comments submitted by the following organizations and persons:

- Alliance for Affordable Energy
- Center for International Environmental Law
- Climate Reality Project New Orleans
- Gulf Coast Center for Law & Policy
- Deep South Center for Environmental Justice
- Marion "Penny" Freistadt, PhD, MBA

We also request written responses to our questions and concerns.

Yours in the Struggle,

Darryl Malek-Wiley

Sierra Club
Senior Organizing Representative
Environmental Justice and
Community Partnership Program

716 Adams Street
New Orleans, LA 70118

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[i] *Marion "Penny" Freistadt, PhD, MBA to LADNR 30 June 2021 page 1*

[ii] *Ibid page 2*

[iii] *Gulf Coast Center for Law & Policy 2 July 2021 letter to Office of Conservation pages 4-5*

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

Submission of Public Comment

RE: Class VI USEPA Primacy Application

To Whom It May Concern,

Thank you for the opportunity to comment on Louisiana's Class VI USEPA Primacy Application. My name is Spenser Schott and I live at 728 Dumaine Street in New Orleans, Louisiana. I'm twenty-seven years old and have felt challenged planning my entire adult life due to the legacy of infrastructure's disregard for health, safety, and environmental risks. Decisions made before I was born did not have my generation's health or safety in mind, and I refuse to be silent and complicit concerning the wellbeing of future generations and the wellbeing of the planet we all call home.

I write to you with concern about Carbon Capture and Storage ("CCS") technologies. Please withdraw any support for this complete non-solution to the climate crisis. Allowing the continued burning of fossil fuels is not a solution. Capturing merely a fraction of the carbon to store underground is not a solution. And planning to offset whatever you cannot capture is not a solution to the climate crisis. Spending resources on implementing a false solution, which increases our reliance on fossil fuels, is an egregious waste of money & time we don't have. CCS is a distraction and you are relying on the ignorance of the public to move forward with your plans to protect the oil & gas industry with these subsidies. Stop using the guise of Carbon Capture and Storage technologies to justify your inaction -- your "business-as-usual" inaction -- in the face of the climate crisis. You are all killing us. You are killing your planet.

Implementing CCS technologies moves us backwards. We wouldn't be looking to capture and store carbon underground if we left fossil fuels in the ground in the first place. Please spend more time, money, and resources on protecting and restoring the ecosystems that naturally act as carbon sinks. Spend taxpayer money to create sustainable jobs, reduce our reliance on oil, gas, and coal, and gear up for the rapid electrification we'll need to make a dent in the harm caused by hundreds of years of reckless infrastructure decisions.

Sincerely,

Spenser Schott

OFFICE OF CONSERVATION

JUL 06 2021

INJECTION & MINING DIVISION

To:
Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802
Ref: Class VI USEPA Primacy Application

OFFICE OF CONSERVATION

From:
Andy Kowalczyk
Sustainable Energy Economy Solutions
819 Saint Roch Avenue
New Orleans, LA 70117

JUL 13 2021

INJECTION & MINING DIVISION

I appreciate the opportunity to provide comments on the very serious issue of businesses in Louisiana using Carbon Capture and Sequestration (CCS), and Carbon Capture Utilization and Sequestration (CCUS) technologies. I am an independent consultant that works on policy issues in the power sector, but my work has increasingly included new sectors as technologies shift from the fossil fuel energy sector, to the power sector through electrification. For 50 years CCS and CCUS technologies have been courted as a solution to controlling airborne pollutants that come from fossil fuel industries. Over this time, there has been a sustained enthusiasm from corporations and business trade groups in the fossil fuel sector and petrochemical industries that produce process emissions. However, this enthusiasm has produced little in the way of commercially scalable technologies, but it has resulted in political gains, such as the 45Q tax credit for facilities that utilize CCS technologies. I would like to submit that this single-track thinking regarding pollution controls has not resulted in meaningful action in reducing emissions. Instead it has delayed implementation of a meaningful strategy to combat emissions, and has only drawn resources away from alternative solutions like electrification, stricter pollution controls and regulations and increased visibility through monitoring for nearly five decades.

The legacy has been an increase in emissions and health impacts in fossil fuel, electric power, and petrochemical industries writ large[1] without a clear case study in successful implementation of CCS technologies. Currently, the only technology that has been scaled for the power sector is that of 'amine scrubbers' for capturing CO2 from flue gas at coal and gas fired power plants. Although this pollution control has been implemented at facilities across the US, there have been case studies that indicate a high degree of financial and transition risk for not only developers and owners of CCS projects, but also for a

[1] World Resources Institute CAIT Climate Data Explorer 'Global Historical Emissions' Industrial Sector, Energy Sector (Excluding Electric Power). 2018. (https://www.climatewatchdata.org/ghg-emissions) Emissions from 1990-2018 have increased by 150 Megatons in all sectors combined, excluding the electric power sector.

labor force dependent on profitable facilities for their employment. This is leaving out that there are also public safety concerns as well.

In summer of 2020 the Petranova coal fired power station located in Thompsons, Texas was reported to be offline due to price swings in the oil market from economic impacts of the COVID19 pandemic[2]. The exposure of Petranova to these impacts were due to the fact that the facility was using captured CO2 to send to oil fields for enhanced recovery. As the market declined due to the economic impacts on the oil market, Petranova became uneconomical to run without another revenue stream aside from selling electricity. Leaving aside for a moment the fact that CO2 being captured at Petranova is only being displaced, being sent to oil fields for the extraction of more CO2 rich fossil fuels, there is the issue of whether Petranova is a useful facility. Where does that leave us in terms of our long term energy economy and workforce? At best, facilities like this, seem to be a placeholder for better technology. At worst, they become infamous examples of wasteful government spending, like in the case of Southern Company's Kemper County which the Department of Energy, under former Secretary Ernest J. Moniz contributed $387 million to[3]. Mr. Moniz is currently serving on the board of directors for Southern Company[4].

There are a great many reasons why power sector applications for CCS and CCUS are failing, mainly due to increased capital costs as well as operations and maintenance which include pollution controls, but the abundance of affordable energy options certainly does not help. However, there are many reasons why CCS and CCUS technologies are a public health hazard as well. Recent accidents like the pipeline blowout in Yazoo County, Mississippi which injured 46 are a cause for increased scrutiny[5]. Additionally, the reduction of emissions should not be solely focused on one strategy. It should be examined fully how electrification and more energy efficient technologies and controls can transform manufacturing industries and reduce CO2 emissions safely, while driving economic growth and retaining long term value for a decarbonizing economy. We know electricity works, and we also know that carbon free electricity like

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[2] E&E News 'Petra Nova is closed: What it means for carbon capture' 2020. (https://www.eenews.net/stories/1063714297)

[3] SPB Global 'Coal-fired plant carbon capture projects face headwinds' June 2021. (https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/coal-fired-plant-carbon-capture-projects-face-headwinds-65100551)

[4] Press Release 'Former United States Secretary of Energy Dr. Ernest Moniz to Join the Board of Southern Company' 2018 (https://www.southerncompany.com/newsroom/business-leadership/dr-ernest-moniz-to-join-southern-company-board.html)

[5] Clarion Ledger 'Foaming at the mouth': First responders describe scene after pipeline rupture, gas leak' 2020. (https://www.clarionledger.com/story/news/local/2020/02/27/yazoo-county-pipe-rupture-co-2-gas-leak-first-responders-rescues/4871726002/)

that from renewable energy will be increasingly available in the future. There is much less certainty around CCS and CCUS technologies.

This opportunity should be an increased call for scrutiny of CCS and CCUS technologies. I encourage the Office of Conservation to vet the application of CCS and CCUS technologies thoroughly in the event of the adoption of rules governing implementation at facilities in Louisiana. As a starting point, here are a few suggestions:

- Although there is a range of opinions on when fossil fuels will be displaced, stranding assets related to fossil fuels and displacing workers are real risks related to continued use of them. Limit these as much as possible. The application of CCS and CCUS technologies should be targeted, limited and strategically focused on the public good, and not strictly focused on economic development. Without a clear track record of success for CCS and CCUS technologies, you are gambling on economic development and the outcomes of a labor force dependent on the means of economic development.

- Before projects are approved, the agency must develop a comprehensive list of public and worker safety violations that may occur in the sequestration, transportation and storage of CO2. Maintain a public facing dashboard or reporting database that identifies repeat offenders, and assesses the permitting of CCS and CCUS projects

- The impact to agricultural lands, as well as Louisiana's wetlands need to be considered heavily in the permitting of pipelines and other facilities involved in CCS and CCUS. As it was referred to in the Yazoo County example, there are ample risks related to pipeline ruptures that have significant impacts to the quality of the exposed environment as well as agriculture yield or livestock.

OFFICE OF CONSERVATION

JUL 13 2021

INJECTION & MINING DIVISION

Sincerely,

Andy Kowalczyk

OFFICE OF CONSERVATION

STATE OF LOUISIANA

INJECTION AND MINING DIVISION

DOCKET NO. IMD 2021-02

CLASS VI USEPA PRIMACY APPLICATION

REPORT OF HEARING

HELD AT

BATON ROUGE, LOUISIANA

JULY 6, 2021

Michelle S. Abadie, CCR

Baton Rouge, Louisiana

OFFICE OF CONSERVATION

STATE OF LOUISIANA

INJECTION AND MINING DIVISION

DOCKET NO. IMD 2021-02

CLASS VI USEPA PRIMACY APPLICATION

Report of the public hearing held by the Office of Conservation, State of Louisiana, on July 6, 2021, via Zoom Video, in Baton Rouge, Louisiana.

IN ATTENDANCE:

REPRESENTING THE OFFICE OF CONSERVATION:

John Adams, Attorney, Office of Conservation

Laura Sorey, Injection and Mining Division

ALSO PRESENT:

REPRESENTING ALLIANCE FOR AFFORDABLE ENERGY:
JESSE GEORGE
4505 S. CLAIBORNE AVENUE
NEW ORLEANS, LOUISIANA 70125

REPRESENTING GREEN ARMY:
GENERAL RUSSEL HONORE
14443 MEMORIAL TOWER DRIVE
BATON ROUGE, LOUISIANA 70818

REPRESENTING SELF:
MARION FREISTADT
Marionfreistadt@yahoo.com

REPRESENTING GREATER NEW ORLEANS INTERFAITH CLIMATE COALITION:
JONATHAN LEO
10942 NEALE FRASER DRIVE
BATON ROUGE, LOUISIANA 70810

REPRESENTING HEALTHY GULF:
SCOTT EUSTIS
935 GRAVIER, SUITE 700
NEW ORLEANS, LOUISIANA 70112

REPRESENTING CLIMATE REALITY PROJECT:
BLAKE BAUDIER
6123 DAUPHINE STREET
NEW ORLEANS, LOUISIANA 70117

REPRESENTING SELF:
KIM GOODELL
304 WOODBLUFF DRIVE
LAFAYETTE, LOUISIANA 70503

REPRESENTING AIR PRODUCTS CF INDUSTRIES:
JIM HARRIS
721 LORREL STREET
BATON ROUGE, LOUISIANA 70801

REPRESENTING SELF:
SCOTT PATTON
521 LAUREL STREET, SUITE A
BATON ROUGE, LOUISIANA 70801

REPRESENTING EARTHWORKS, INC.:
KAITLYN JOSHUA
4821 INNISWOLD ROAD
BATON ROUGE, LOUISIANA 70009

REPRESENTING HARRIS, DEVILLE AND ASSOCIATES:
JACI JUNEAU
521 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

REPRESENTING ALLIANCE FOR AFFORDABLE ENERGY:
KANITRA CASTON-HILL
7725 DEVIN AVENUE
BATON ROUGE, LOUISIANA

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DOCKET NO. IMD 2021-02

CLASS VI USEPA PRIMACY APPLICATION

* * * * *

MR. ADAMS:

We're going to go ahead and get started, so let me begin by saying good afternoon and welcome to the Office of Conservation's public hearing for Docket No. IMD 2021-02.

My name is John Adams. I'm an attorney for the Office of Conservation. I've been designated by the Commissioner of Conservation to act as hearing officer for today's hearing. My duty as hearing officer is to see that a clear and accurate record of this hearing is made so that the decision makers understand all of the testimony. Please do not disrupt the comments, as such only tend to distort or mask the recording, and it makes the job of the court reporter more difficult.

The purpose of today's hearing is to allow all interested persons an opportunity to enter into the record any relevant oral or written comments concerning the application to the United States Environmental Protection Agency by the Louisiana Office of Conservation for Primary Enforcement Authority of Class VI Carbon Sequestration Injection Wells.

Based on comments received so far from the public, the Louisiana Office of Conservation is extending the public comment period from the close of the hearing today until 4:00 p.m. on July 13th, that's a week from today, 2021.

Additionally, based on public request, comments may also be -- will be accepted by email until the end of the extended public comment period. Emailed comments must be submitted to Injection-mining@la.gov. And I'll -- I'll -- I'll spell that out for you. It's I-N-J-E-C-T-I-O-N, hyphen, Mining, M-I-N-I-N-G@la.gov by 4:00 p.m. on Friday, July 31st, 2021. Hard copy, mailed -- mailed written comments will also be accepted during that time.

So that everyone has an opportunity to make comments for the record, I would ask that each of you, who have not already done so, fill out one of these blue attendance cards. They're located at the front table. We ask that each person include your email address on the blue attendance card, in addition to any other requested information on the card. Please mark whether or not you -- you wish to speak, and then bring the card up here to the table to the court reporter.

Also, if you desire to submit written comments

for consideration, please, provide them to the court reporter before the hearing adjourns, or, once again, you may mail them to the Office of Conservation prior to the close of the comment period.

Please understand that this afternoon you may make statements or submit written comments. If you have a lengthy statement that you intend to read, I would ask that you, please, summarize the statement and submit the written statement to the court reporter for inclusion in the record. Comments -- oral comments today will initially be limited to four minutes per person. However, once everyone has had the opportunity to speak, there'll be additional time for people to expound on comments that they previously had made.

If you plan to enter into the record any oversized documents that are larger than legal size, they must be reduced to at least legal size. If you plan to enter into the record a video recording, you need to submit a copy to the court reporter in a -- a manner that you can transport it to the court reporter.

Copies of the Class VI Primary Enforcement Authority, also known as Primacy, applications were available for public review at the Injection and

Mining Division in Baton Rouge, Louisiana, on the Injection and Mining Division web page, and on the official Conservation web page.

Public notices regarding this hearing were published at least 30 days before this hearing in the *Town Talk of Alexandria*, *The Times-Picayune* of southeastern Louisiana, *The Times* of Shreveport, *The News Star* of Monroe, the *American Press* of Lake Charles, and *The Advocate*, which is the official state journal.

Again, the comment period has been extended to 4:00 p.m., July the 13th. Written comments should be delivered to the Office of Conservation Injection and Mining Division at -- in -- in this building, which is 617 North Third Street, the 8th Floor, Baton Rouge, Louisiana, 70802. Please reference Docket No. IMD 2021-02. If you need the address or the email address, come see me after the hearing, and I'll give it to you again.

At this time, I'll now file into the record the appropriate State exhibits and provide a synopsis of the application.

The Office of Conservation Injection and Mining Division is seeking to modify the existing Underground Injection Control Program by adding regulatory

authority of Class VI Carbon Dioxide Injection Wells into the scope of the existing Primacy Agreement with the United States Environmental Protection Agency.

The State submits the following exhibits into the record:

Exhibit 1 is the original public notice.

Exhibit 2 is the proof of publication for various state newspapers.

Exhibit 3 is the list of interested parties notified of the public hearing today.

Exhibit 4 is the documentation of application availability.

Exhibit 5 is the Class VI USEPA Primacy application.

And Exhibit 6 is reserved for public comments or exhibits that are received today or during the comment period.

The docket is now filed into the record, so it's time to allow interested persons to read their comments into the record.

As you begin speaking, please, state your name and who you represent.

And for those of you that have not already filled out a blue card that wish to speak, please, come up and grab one and do so now.

Our first speaker is Ms. Jennifer Mouton. If you'll come up to this microphone up here.

MS. MOUTON:

(Inaudible.)

MR. ADAMS:

Okay. Thank you very much. Oh, yeah. It says "no" here in the big check box. My apologies, sorry about that.

Our first speaker is Jesse George.

STATEMENT BY JESSE GEORGE

BY MR. GEORGE:

Thank you very much. Jesse George, on behalf of the Alliance for Affordable Energy.

As much as it pains me to say this, Louisiana is a tragic case. Our state is addicted to fossil fuels, and like many addicts, instead of seeking to break our addiction, we seek ways to become functional addicts.

The pipe dream of carbon capture and sequestration is a prime example of this. False promises about carbon capture and sequestration abound propagated purposely by those with a vested interest in perpetuating our addiction. Carbon capture and sequestration does not remove any carbon from the atmosphere; rather, in the most optimistic scenario, it would prevent a minute fraction of the carbon

emitted by industrial processes from being released. It has never been proven to work at scale or to securely store carbon over the long term.

Currently, the vast majority of the tiny fraction of carbon that is captured is used for forced injection oil recovery, which only further exacerbates the climate crisis. In order for this technology to be economically feasible on a national scale would require, first, the construction of pipelines equivalent to the mileage of existing oil and gas pipelines pumping lethally-concentrated and highly-pressurized CO2 gas through communities around the country.

We know from experience with oil and gas pipelines that the communities that bear the most risk when these projects are cited and constructed are low-income communities and communities of color.

Fossil fuel companies have touted the false solution of carbon capture and sequestration for decades as a way to obfuscate and distract from the harmful effects of continuing oil and gas extraction and associated greenhouse gas emissions.

Last week, undercover video emerged of Exxon's senior director for federal relations, Keith McCoy, candidly admitting to the underhanded tactics these

companies use to meaningful action to reduce carbon emissions and mitigate the effects of climate change. Meanwhile, images of the infernal glow of an uncontrolled, undersea fire at a natural gas well in the Gulf of Mexico played across our screens. We ignore such obvious portents at our peril.

Here we are in the midst of yet another hurricane season predicted to be more active than average. In fact, it's storming cats and dogs outside. Of course, more frequent and more intense hurricanes are yet another symptom of a warming climate.

I just returned from visiting my parents in Lake Charles over the holiday weekend. Their home is still not repaired from Hurricane Laura last year. I'd be willing to bet that others in this room are in the same position or know folks who are.

The executives of Exxon or Chevron or Shell or BP do not care for the people or the natural landscape of this state. They view it as just another place from which to extract whatever they can while contributing as little as possible in return.

In contrast, I've never held an address outside of Louisiana, or, for that matter, north of I-10. I care deeply for this state. I believe it is worth fighting for and protecting, and I know that we do not

have time to devote to false solutions.

Rather than lend credence to yet another lie of the fossil fuel industry, we should focus public resources on the only sure solution to our climate crisis, a sharp abatement of fossil fuel extraction and a rapid deployment of energy efficiency and renewable energy, which are the cheapest ways to meet our energy needs, are proven technologies for reducing greenhouse gas emissions, and provide the basis for a new, clean energy economy, not one based on dirty, oil and gas.

Above all, the great irony of the idea of carbon capture and sequestration is that Mother Nature perfected the secure storage of carbon billions of years ago in the form of petroleum deposits. The best way to keep excess carbon out of our atmosphere is to leave it in the ground.

Thank you very much.

MR. ADAMS:

Thank you, sir.

Our next speaker is General Russel Honore.

STATEMENT BY GENERAL RUSSEL HONORE

GENERAL HONORE:

My name is Russel Honore. I live at 142 Memorial Tower Highway, Baton Rouge, and lead the Green Army.

I commend our State for attempting to take actions to deal with the global warming that we face, not only nationally, but globally, and the challenge of climate change to our national security. We already have significant issues when using injection wells as we import production water from other states that is used in oil and gas production and manufacturing, and we allow that production water to be brought to Louisiana in places like the Atchafalaya Basin where we inject that production water in abandoned Wells.

The State, nor the federal government, have established a standard for how long in abandoned well pipes would have the integrity to hold this carbon, just like we don't have one for how long it will hold the production water that we're pumping into the earth. Indications is water that's going through these injection wells go to our aquifer. And I'm concerned for the Green Army and our friends to put carbon inside an injection well, whether it's a new well or an existing well -- and we have over 6,000 of them -- to reuse them oil and gas wells or to put new ones in or even try to use the caverns or salt domes, that would be a high-risk operation, because the operation has not been made operationalized, as the

previous speaker.

Our concern is what could this do to our aquifers? We have three significant aquifers in the state of Louisiana, the Chicot, the Southern Hills, and the -- one more --

MR. ADAMS:

Carrizo Wilcox.

GENERAL HONORE:

Yes, sir. Thank you, sir.

What that might do to the integrity of our aquifers.

Right now, there's a litigation going on in DeSoto Parish where the parish pushed back and said, no on injection. The State said, yes. Now they're in litigation because that parish water has now -- has been polluted by production water. So we're dealing with a technology we don't know.

I request that -- and my comments are that we not do this, because this will open us up to other states sending carbon here through pipelines to be stored, and that comes at a risk.

Four hundred of our 1,200 water systems in the parishes now are at risk, and we -- and the State just have a plan to fix those water systems. And to bring in more stuff to pump into the ground could put our

aquifers and the local water systems at risk, because we're dealing with an unknown technology.

Did -- it sounds good.

The other thing is, it leaves room for speculators on Wall Street to trading carbon to say they're sending it to Louisiana. We already receive their production water. We receive all the protein that come down the Mississippi River that create a 6,000-square-mile dead zone for manufacturing toilets and agriculture runoff. We don't need something else that might infringe on the quality of life in Louisiana. And comments are that we not do this project. This is not proven technology.

Thanks for the opportunity to speak, and thanks for extending the comment period. Thank you very much.

MR. ADAMS:

Thank you, sir.

Marion Freistadt. And feel free to correct me on pronouncing your name.

MS. FREISTADT:

That's why I changed my name to Penny.

STATEMENT BY MARION FREISTADT

MS. FREISTADT:

Good afternoon to the LDNR, Office of

Conservation, Injection and Mining Division. Thank you for your work and for the opportunity to provide public comment.

My name is Marion Freistadt. As mentioned, I prefer to be called Penny. I'm a volunteer -- I'm -- I'm working -- I'm speaking on my own behalf, and I am speaking in opposition to the approval of the Class VI USEPA Primacy application for the following reasons.

Number one, has LDNR demonstrated competency for Primacy? The public needs to see documented -- documented evidence that LDNR has this competency. If this information is publicly available, it has not been readily found.

Number two, has LDNR determined that its program is at least as stringent as the federal regulations? According to EPA, EPA's role in approving a State's program is to determine that it is at least as stringent as the federal regulations. Research has shown that, in general, State Primacy over the Clean Water Act has had mixed results. In some cases, federal inspections are more effective than State inspections. And I have references. I have sent this as a paper letter, as well.

Number three, where are the LDNR enforcement records on the other wells? Currently, Louisiana has

Primacy on the VI -- pardon me -- on V wells, Classes I through V. EPA recognizes six categories of the UIC wells. An adequate track record of State level regulation on these wells for which State Primacy already exists needs to be demonstrated.

Also, are there regulations concerning potential seismic impact? Class VI wells may be -- may present more of a danger to the Clean Water Act, the Safe Drinking Water Act, and the other congressionally-mandated regulations.

Class VI wells may be more dangerous than the -- the other five classes, because they are built for long-term storage, so they may be deeper than the other wells. They're going to be closer to fossil fuel projects, so there's -- pardon me, I misspoke -- the Class VI wellS, because they're closer to fossil fuel projects, they have more potential for carrying toxins into drinking water and aquifers, as General Honore was discussing.

LDNR needs to demonstrate that these issues are addressed in the Primacy application and in its own regulations.

Precedent on Primacy in the areas of Class VI wells is not well established and may be overturned.

Currently, only two states, Wyoming and North

Dakota, have Primacy on Class VI wells. Both were granted during the Trump administration. It is likely that the Trump era EPA decisions will be revisited by the new EPA administrator.

And this is an -- I'm also presenting another reason that I'm very concerned. I found inaccuracy in the public EPA record concerning public comments on Wyoming's Primacy application. So this brings into question the integrity of the Primacy transfer process. In the *Federal Register* article documenting Wyoming's application for Primacy it's stated EPA received seven public comment submissions. Of the seven commentors, all submitted comments in support of the rule, and, in fact, when you look at the actual comments, that's not correct. The actual number of commenters is not fully documented, and of the comments that are presented in the *Federal Register*, three of them are not favorable.

Very low numbers of Class VI wells suggest that more precedent is needed concerning safety and regulatory mechanisms. Minimally, it would be best to defer this decision since there are no wells in Louisiana for which jurisdiction will be transferred, at least that I could find documented.

What is the impetus for the current application?

It appears the impetus consists of laying regulatory framework for such wells in Louisiana.

A 2020 opinion piece from American Association of Petroleum Geologists, entitled "Carbon Capture and Storage Potential in Southern Louisiana, a New Business Opportunity," clearly states that the pursuit of CCUS/CCS for underground storage will develop -- will help restore the flagging oil and gas economy in Louisiana. And this is a quote from the abstract, "a combination of factors makes Louisiana an attractive place to kickstart this industry. LDNR Primacy would, in effect -- in effect, subsidize the hydrocarbon business by lowering entry barriers.

I also have another important concern, which is whether environmental justice has been considered. This is mentioned by the previous speakers, as well. I'd like to point out, President Biden and the White House Environmental Justice Advisory Council recommend that environmental justice be considered in all programs going forward. EPA provides tools for EJ.

In Louisiana, the petrochemical plants producing carbon dioxide for which the wells would be drilled are primarily located in sacrificed zones of black, brown, and indigenous communities, which already suffer disproportionately high risks of cancer, high

rates of asthma, and high death rates from COVID. Hundreds, perhaps thousands, of unmarked burial sites of formerly enslaved persons have recently come to light. These sites are all along the Mississippi River, the sites of the former plantations, and they are now the current and proposed petrochemical sites. And this is where the Class VI wells will be drilled, because that's near the carbon dioxide sources.

Louisiana law states that any known cemetery must be cordoned off and protected. Since the petrochemical plants are located on former plantations, undoubtedly, the overlap will be significant. LDNR needs to demonstrate sufficient regulatory capacity to address this issue. A complete EJ analysis needs to be conducted.

Does LDNR have sufficient staff and resources to establish and enforce Primacy? An example of -- from EPA Region III, which is Pennsylvania and Virginia, of 2018 UIC violations and enforcement noted approximately 1,500 conducts requiring inspections of wells -- this is Class II and V -- with 120 requiring follow up over several years, including several emergency orders.

Does LDNR have the budget for Primacy? Environment and natural resources is less than one

percent of the State's discretionary and non-discretionary spending from the 2020-2021 budget. New positions and training would have to be authorized and funded. Louisiana, like most states, will be facing dire financial circumstances in the near future.

Has LDNR demonstrated competency to test for the chemicals that the carbon dioxide may dissolve and carry? Carbon dioxide can carry toxins, caustic pipe materials, rock minerals, and other chemicals which may contaminate the drinking water in violation of the Clean Water Act and the Safe Drinking Water Act.

Those are my objections to the Primacy application, but also have some comments about the technology itself, the CCUS/CCS. Primacy is not the correct question. We need to address the technology itself.

Our governor, our president, and 197 nations have acknowledged the dire situation of the global climate crisis and are united in supporting action to solve it by reducing greenhouse gases -- greenhouse gas emissions.

The stated purpose of this technology to avert climate change through deep decarbonization is false. In fact, it's the exact opposite. It will increase anthropogenic carbon dioxide, both directly and

indirectly, because the technology promotes continued fossil fuel consumption, which is directly responsible for climate change.

To contribute to solving climate --- climate change, the carbon dioxide must essentially remain underground forever. Gases, by their nature, do not remain stationary. We cannot inject gigatons of carbon dioxide gas underground and expect it to stay there forever.

The regulations require source -- safe storage for 50 -- only 50 years. What will happen to the carbon dioxide after the 50 years? There will inevitably be leaks during manufacturing, transport, and drilling processes. And the sister technology, the EOR, enhanced oil recovery, for the Class II wells will basically create additional commercialization opportunities for carbon dioxide.

I have other comments, but I -- I think I've covered most of it.

Thank you very much.

MR. ADAMS:

Thank you.

Our next speaker is Mr. Jonathan Leo.

STATEMENT BY JONATHAN LEO

MR. LEO:

Good afternoon. Thank you for the opportunity to be able to present public comment on this very important Primacy application of Louisiana for a Class VI UIC Program Control.

I am a -- an environmental lawyer. I have only been in Louisiana for the past year. My roughly 40 years of practicing environmental law and doing environmental consulting work is in California, where I still am an active member of the California bar.

I began my career as an environmental crimes prosecutor with Los Angeles, and I have represented, for over 15 years, different kinds of businesses in private practice in organic and organic chemical manufacturers, regulated industries of various kinds, in administrative, as well as judicial proceedings. So I have a fair degree of understanding of how different elements of the regulatory system work.

I'm not going speak of the science of carbon capture sequestration and storage. I am gonna speak to what I regard as concerns that I have regarding the enforcement program outlined in the application for Primacy and particular emphasis on concerns I have regarding the environmental justice element.

I'll start with the environmental justice element, which is more -- I can be more specific

about. Section 2(H) of the Memorandum of Understanding, Addendum 1, that is part of the permit application talking about environmental justice says, and I quote, the State agrees to examine the potential risks of a proposed Class VI well to identify any particular impacts on minority and low-income populations, unquote.

Section 3 of the permitting administration and judicial review procedures of the State's 1422 program description, also part of the application, states that, an owner or operator be required, and, again, I quote, to conduct an EJ review and submit a report as part of the application process. At a minimum, I'm still quoting, the State will require the report to consider the data and factors available in the EPA-developed EJ screen tool and identify any portions of the Area of Review which encompass EJ areas.

And it concludes with this statement, when the application is submitted, LOC staff will use the EJ screen tool to evaluate the location of the project. The EJ Impact Report submitted by the applicant will -- will be reviewed to ensure that it is thorough, contextualized, and agrees with the data from the EJ screen tool, close quotes.

The problem is that EPA's website in describing

the EJ screen tool, which Louisiana's application in the context of environmental justice review identifies as its central resource in providing this -- this service says, and here I quote from EJ's website -- from the EPA's website, EJ screen is not used by EPA staff for any of the following, and identifies four areas. Those four areas that EJ screen is not appropriate for are a means to identify or label an area as a, quote, EJ community, unquote, to quantify specific risk values for a selected area, to measure cumulative impacts of multiple environmental factors, or as a basis for agency decision making or making a determination regarding the existence or absence of EJ factors, close quotes.

There is only one other element of the application that Louisiana has -- has submitted to EPA that could conceivably implicate an EJ analysis, and that is what it refers to as the SOS questions, which I believe is a term taken from a judicial decision in the Louisiana Court from the 1980s regarding environmental review.

And what is clear from the SOS questions, whether it's in the context of how the State of Louisiana would use these evaluative questions in an environmental justice context or in any other kind of

environmental impact assessment context, demonstrates that, in my judgment -- and I've -- I've -- I've litigated NEPA cases, and I used -- worked with the regulations extensively -- is inconsistent with and impossibly, actually, in violation of the principles of a NEPA analysis.

The SOS questions clearly demonstrate, all five of them or perhaps six, that their purpose is to require a project proponent to balance the protection or potential harm to the environment from the project with a calculation of the so-called nonenvironmental benefits that the project will generate, which is not just shorthand, but in -- elsewhere made very explicit, the promotion of business opportunity and -- and profit. That kind of cost benefit analysis is not found in NEPA, and the National Environmental Policy Act certainly would apply to the review of any application for a permit for a UIC Class VI well under this kind of admin -- of this kind of regime.

What this persuades me of is that the State of Louisiana has not thoroughly evaluated the integrity of mechanisms that it proposes to use to identify what is a sensitive environmental justice community potentially. And I refer back to and incorporate by reference in my own testimony the remarks made both by

General Honore and Ms. Freistadt -- I'm hoping I pronouncing her last name correctly -- because I think they're very relevant here, as well.

There is an infirmity that indicates a lack of understanding on the part of the State of Louisiana of how to evaluate environmental justice concerns in the context at the very least of this underground injection well program.

I would suggest that the Primacy application be denied, or at least delayed, until this issue, which is of possibly greater concern in Louisiana than any other state in the United States, before that application be proceed -- go forward.

My last remarks are going to address enforcement specifically, and here I also want to refer back to Ms. Freistadt's remarks. In my judgment, and I've worked with both the Clean Air Act, Clean Water Act, and the RCRA programs in the state of California, where California is an authorized -- authorized state to implement the Clean Water Act, Clean Air Act, and RCRA programs, federal programs, within the state.

It's much the same here with the UIC program. There has to be -- in order for a Primacy application to be granted, there has to be a convincing determination made that the State is seeking to

implement the federal program within its own borders, not only be able to dot I's and cross T's in a checklist about whether or not it has certain kinds of permitting and monitoring and enforcement programs and staff, but what kind of permitting monitoring and enforcement it's got.

That requires serious due diligence on the part of EPA to go behind what Louisiana is professing it is capable of doing in this application and actually look at what the training of which staff members currently with the Department of Natural Resources who would be administering this program, if it were granted Primacy actually is. How many of them are there? How many years have they been doing the kind of work that would be called for by the -- by the compliance requirements of this program? If they are not currently properly trained for that, how much money and how long will it take before they are able to do that?

This is the concern I have that underlies all of the statements in the application regarding enforcement, because it seems to me that it is somewhat cavalier in the way that it's described.

And in particular, there are inconsistencies within the application documents submitted by Louisiana with respect to what the civil enforcement

provisions of its program would be, in particular.

And this is almost like the -- the very beginning of a compliance enforcement program when a director of a program or an administrator of a program learns from inspectors in the field that the inspectors have concerns, that the project -- operator may be in violation of the permit conditions or certain statutory or regulatory provisions, and those lead to a Notice of Violation or a -- a threat that, if certain things are not corrected within a given period of time, a Notice of Violation may be issued, followed perhaps by a Compliance Order. There has to be a -- a clear picture of where this is going to end up potentially, consistency, both for the -- the -- the program administrator, as well as for the project operator.

In this case, in the statutory section cited in Louisiana -- Louisiana's application, both in the 14 -- program 1422 description, as well as in the Memorandum of Understanding, Addendum 1, different sections of Louisiana's civil Enforcement provisions are cited. One of which says the maximum civil penalty may be $5,000 per day of violation.

Another one referenced, again, in the -- in one of these documents says that where civil penalties can

be imposed for violations of a UIC Compliance Order, they can rise to as much as $25,000 per day of violation.

And there are still a third section that discusses civil enforcement where Compliance Order violations may be punished by a maximum, I believe, $37,500 a day.

It's not clear, in other words, which of these compliance enforcement mechanisms in a civil context is applicable here, and I think that's critical to clarify.

In the criminal context, and this is where my own specialty is, there is a provision which references hazardous waste enforcement in the application. And I may not have done enough homework. It's possible that, under Louisiana law, which I don't know, certainly, as well as I know California law, the kinds of materials which are proposed to be injected into the geologic structures of the Class VI UIC program would be classified as hazardous waste under Louisiana law without for the review.

I don't believe that's the case. Because this is a brand-new program, I don't see anything in the timing or amendment of any of those definitional sections of the criminal provisions that indicates to

me they have been adjusted in light of Class VI UIC programs, which leads me to wonder whether or not, if I were a prosecutor, Attorney General, or somewhere else in the state of Louisiana looking at the possibility of criminal enforcement of some serious willful or intentional or -- or criminally negligent violations of the operation of one of these projects, I would not be certain what my charging section would be or what the prima facie case that I would have to make out in order to get a conviction would be to a jury.

And if it's unclear to me looking at this as a former prosecutor, that, to me, signals that there would be impunity on the part of operators who would be advised by their private, whether outside or in-house counsel, that Louisiana is not going to be able to enforce these -- these provisions.

Thank you for your time. Thank you for your consideration.

My conclusion is that, at the very least, this application should be delayed until these questions can be addressed by EPA with Louisiana, or else denied.

Thank you.

MR. ADAMS:

Thank you.

Mr. Scott Eustis.

STATEMENT BY SCOTT EUSTIS

MR. EUSTIS:

Thanks. Thanks for the opportunity to comment.

My name is Scott Eustis. I'm representing Healthy Gulf at 935 Gravier in New Orleans, and we're here today to comment on the things we need to see from the Department in order to make a program like this meet cost benefit in order to make it worth it to proceed with an application.

This is a momentous decision for the future of Louisiana, and Healthy Gulf needs the Department to consider a wider range of concerns and pick a narrow path forward for the kinds of locations and wells that it approves.

In the past, the Department has been less selective about sensitive areas for drilling. As a consequence, we do live in a state with a large burden of failed and failing oil and gas infrastructure in a state where those failures have larger consequences than in most states.

The LDNR must refine its environmental justice analysis to identify overburdened communities, as well as avoid them, and failing to notify communities of

additional risks posed by the infrastructure.

You know, the application as proposed mentions EJ screen, but that's not -- that's a tool. It's -- the Department needs to develop a method of maybe using that tool, and just as -- you know, it wouldn't really be an environmental justice policy, if you just said the United States Census and pointed to the census over there, but the Department itself must develop a consistent demographic method for how pollution affects our rural areas.

There's -- there's plenty of precedent in the way that the Army Corps and EPA have proceeded from EPA best practices beyond what's been published in the *Federal Register* for Class VI. I think we definitely need a Department to go beyond that -- what's in the *Federal Register* in order to develop an idea of which communities are overburdened and then actively avoiding those communities, if possible.

Carbon capture is -- is kind of inherently unjust, because it -- it's basically trading improvements in air quality in the shadow of industrial plants for sequestration in another location that could also be -- have unjust implications.

The current federal applications in our area seek

to take carbon from Beaumont and Port Arthur. And, you know, if you had to pick any places in the country to identify as environmental justice communities, Beaumont and Port Arthur would be -- would be them. So the petrochemical facilities in those areas, which are built out into the floodplain of the Natchez River disparately affect black Americans and native Americans, and the facilities have left the communities in penury with little flood protection when the storms arrive and people often have to evacuate in the middle -- midst of chemical disaster. So, you know, we have many similar communities in Louisiana.

We foresee that our -- within our state, you know, we foresee that the program will engage CF Industries in Donaldsonville, the top climate changer in the state of Louisiana, which is similarly located in a coastal community, a disparately black community, a community that has not received benefits from the massive petrochemical pollution and risk that it receives.

Donaldsonville is one of the poorest communities in the state, and so, you know, I'd like the Department to consider creating a program, and when you think about it, think about how this would be

beneficial to Donaldsonville. How do we lift communities that are in the shadow of petrochemical pollution? How can we lift our brothers and sisters from penury? As Donaldsonville goes, so goes our state.

So we have more comments on particular methods, but I do think that using the United States Census and EJ screen with an eye for rural areas, rural block groups, and comparing block groups with parish reference, that's how, sociologically, we need to identify overburdened communities, and that's how LDNR could be in compliance with the meaningfully greater language of the Executive Orders on environmental justice.

I believe we have other comments that will be written on other efforts, such as CPRA's Social Vulnerability Index Analysis, as well as New Jersey -- New Jersey's rules and demographic method and protocols for notification.

The Department must study impurities in the carbon from petrochemical generation before proceeding with its application.

You read the press, you look at existing applicants, the EPA, Louisiana will mostly be receiving this waste stream from the state of Texas,

most likely via the existing Denbury pipeline from the Houston Ship Channel. But, once it goes in the pipe, which begins in the Ship Channel, it's hard to determine -- you know, it'd be difficult for the Department to determine what is actually in the pipeline.

We know that EPA has only ever considered impurities from coal-fired power, and that's what's in their rule. But from the applications we've seen, again, from Beaumont and Port Arthur, you can -- you can imagine the array of petrochemical facilities and the array of impurities by reviewing the -- the Title V applications from those facilities.

The Denbury pipeline backs up to the Houston Ship Channel, and so we're talking about what's coming out of the smoke stacks at Shell Deer Park going into and pass Louisiana's drinking water, our underground aquifers.

So we know that EPA hasn't considered -- that they haven't considered anything beyond coal-fired power as a source of carbon dioxide, so we do think the Department needs to look at impurities that must be removed in Texas from a -- a much wider array -- array of petrochemical facilities.

Louisiana Department of Natural Resources must

consider lost, orphan, and unplugged wells in its applications for wells. Louisiana has 9,729 unplugged gas wells and 13,839 unplugged oil wells, inactive, you know, nonproductive facilities that are found to be more likely to be leaking methane. And, within those numbers, there are 2,589 wells that the Department cannot locate or plug. So all of these go through our drinking water, through our aquifers.

LDNR must consider the cumulative impacts of thousands of perforations to the integrity of our aquifers and the formation in any application and have that be a basis for denial of applications if there is an overburden of unplugged, abandoned, and lost wells. The Department cannot guarantee the integrity of the carbon capture system and have wells that it can't even locate running through the same aquifer.

I'll skip to -- to maintain basic integrity of the wells at the surface. the Department must exclude carbon capture surface infrastructure from the Coastal Zone. Unless LDNR excludes Class VI surface activity from the Coastal Zone, such activities are inconsistent with Louisiana's Master Plan for Sustainable Coast and Executive Orders, in addition, just being a greater financial burden on the Department.

A recent Princeton study stated that Louisiana is generally unsuitable for carbon capture for many reasons, but they include cultural impacts, which I believe the Department is considering under environmental justice, and wetlands impacts.

Current proposals, both the -- the applications we have in the public that are publicly available, as well as things that are advertised in the press, they -- they all include wells and massive pipeline impacts to coastal wetlands.

You know, my grandfather was a petroleum geologist. Certainly, you know, some of us have benefited from the legacy of that industry, but, since 2013, Louisiana has become more of a trading floor for petrochemicals rather than a producer. And being the trading floor for other states and other companies has resulted in hundreds of acres of impacts from pipelines every year that we've looked.

From 2014 to 2016 alone, pipelines impacted over 2,000 acres of wetlands in the New Orleans District of the Army Corps, the area south of Baton Rouge, excluding the Pearl and Sabine. Mitigation is often lacking for these facilities. It's the highest single category of wetlands impact to the Coastal Zone, even as, you know, we are reeling from pipeline impacts

from my grandfather's day.

Our damages in the state of Louisiana from storms rank up with Texas and Florida as the highest in the United States, and we are not nearly as wealthy as Texas and Florida. The infrastructure placed in wetlands is more likely to corrode from saltwater and more likely to fatigue with the movement of tidal and flood water as it moves through wetland soils.

I'll skip ahead to some comments about the rates of failure that we already see. Gas pipelines in the Coastal Zone are more likely to have accidents or incidents, as listed by the PHMSA, the Pipeline Hazardous Material and Safety Administration, and more likely to have larger accidents and releases, and this will likely increase over the life of any project considered here, since the lifespan is 50 years for Class VI.

Louisiana, and already has a pipeline incident rate, that's all pipelines, when you look at just our state. And all -- all of the incidents across the nation, we have it three times higher than other places -- than the entire nation considered, and that's about twice as high as Texas, and this is just incident rate per mile.

So our sense is that the loss of integrity from

infrastructure, it's largely driven by incidents in the Coastal Zone, especially during hurricanes.

When we consider gas transmission pipelines exclusively, pipelines on the Louisiana coast have twice as many incidents as the national onshore rate. And as our Coastal Zone loses wetland integrity, incident rates will approach the frankly horrendous rates of gas pipeline incidents we see offshore. Offshore, it's -- it's orders of magnitude more than the -- the normal U.S. onshore rate of pipelines.

So we're losing material, and we're also -- as the carbon or other things in the pipeline spread across the community, there's an increase of risk, if the facilities are in the Coastal Zone.

Just, in general, as far as environmental justice, the Coastal Zone is a generally poor area of the state, as well as being a generally disparately native American area of the state. So it would be simple to avoid coastal overburden -- it would avoid a lot of overburdened communities who have -- part of that overburden is the great evacuation need when incidents occur. There's a lack of infrastructure to get people out of the way of incidents and releases that cause loss of life and health impacts, and so it -- excluding surface facilities from the Coastal Zone

would just to be a very simple way of complying with environmental justice.

And the Denbury pipeline, which I've mentioned, which has already seen as kind of the backbone of Louisiana's carbon transport system, has RA been designed to avoid the Coastal Zone? This is the pipeline the nation talks about when it talks about carbon sequestration in Louisiana. When the University of Houston has week-long seminars, Houston depends on this pipeline in order to sequester its carbon. This pipeline is outside of the Coastal Zone, except for the community of Donaldsonville.

So we foresee that the Department can minimize many costs, many different kinds of impacts to land and water, as well as transportation impacts to all communities simply by following the current example and excluding activities from the Coastal Zone.

We'll have more, and I'd like to submit these written comments into the record.

MR. ADAMS:

All right. Thank you. If you would go ahead and hand those to the court reporter.

That is all of my blue speaker cards that I've received. Is there anyone else who would like to put oral comments in the record today?

Seeing -- yes, sir. If you'd like to come up out here and fill out one of these blue cards, please, and if you would, please, put your email address on there. There's not a spot for it, but go ahead and include it anyway.

If you would, sir, go ahead and step to the microphone and give us your name and who you represent.

STATEMENT BY BLAKE BAUDIER

MR. BAUDIER:

Thank you. My name is Blake Baudier. I'm here as a spokesperson for the Climate Reality Project, New Orleans Chapter. I'm here in solidarity with our neighbors in the River parishes -- parishes.

I'm here to offer comment in opposition to the State's application for Primacy to permit and oversee injection wells of carbon dioxide and other elements. If granted Primacy, the State regulatory agencies, which are already overburdened by monitoring industry, would not be able to perform necessary oversight in this complicated and dangerous process.

Also, the permitting of injection wells would put the people of Louisiana who are already in vulnerable communities at greater risk for poor health -- poor health, injury, and death.

Lastly, permitting injection wells would work in opposition to Louisiana's Coastal Master Plan by providing industrial practices that are already greatly damaging a -- the endangered Louisiana wetlands.

Thank you.

MR. ADAMS:

Thank you.

And Ms. Katelyn Joshua, ooh, never mind. You checked the "no" box. My apologies.

Is there anyone else who would like to put oral comment into the public record?

Seeing none, I would like -- oh, yes, ma'am. If -- yeah. If you would go ahead and put your comments in the record, and hand us your card afterwards.

STATEMENT BY KIM GOODELL

MS. GOODELL:

I'll be -- I'll be brief.

My name is Kim Goodell. I'm a lifelong resident of Louisiana.

After 25 years in the oil and gas business, I turned my attention to water resource management, government governance, protection, and conservation with regard to Louisiana water resources.

I see this process, this technology, carbon

capture sequestration, as a great threat with many risks to our water resources, both the sustainability of our aquifers, our surface waters, and our groundwater.

I received this morning at about 11 o'clock an official notice that you -- you all would be extending the public comment period, and that you would be allowing for electronic submission of comments and testimony, and I intend to supplement my comments by electronic email and just wanted to go on record now that I would be doing that.

Thank you.

MR. ADAMS:

Thank you.

Is there anyone else who would like to put oral comments into the record?

Seeing none. I would like to remind everyone that the comment period was extended. It will close at 4:00 p.m., Tuesday, one week from today, July 13th, 2021. And up until that time, we will accept comments that are both -- both postmarked that date or that have been received by our office via email by that date. If you need the mailing address or the email address, by all means, stop by after the hearing, and -- and I will provide them to you, once again.

Seeing that there are no more comments, the -- this hearing for Docket No. IMD 2021-02 is hereby adjourned, pending the public comment period.

Thank you very much.

CERTIFICATE

I, MICHELLE S. ABADIE, Certified Court Reporter in and for the State of Louisiana, as the officer before whom this hearing was held, do hereby certify that the comments of the Hearing Officer, John Adams, Attorney, Office of Conservation, on July 6, 2021, in Baton Rouge, Louisiana, and public comments **heard** in Docket No. IMD 2021-02 were reported by me in the stenomask reporting method, was prepared and transcribed by me or under my personal direction and supervision; that the foregoing pages, numbered 1 through 48, inclusive, is a true and correct transcript to the best of my ability and understanding; that I am not related to counsel, if any, or to the parties herein, nor am I otherwise interested in the outcome of this proceeding.

_____

MICHELLE S. ABADIE, CCR #24032

CERTIFIED COURT REPORTER

John Bel Edwards
GOVERNOR

Thomas F. Harris
SECRETARY

Richard P. Ieyoub
COMMISSIONER OF CONSERVATION

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF CONSERVATION

September 17, 2021

David Gray
Regional Administrator
U.S. Environmental Protection Agency
Region 6
1201 Elm Street
Dallas, Texas, 75270

Re: Summary Report of Public Comment
Office of Conservation
Class VI USEPA Primacy Application
Docket No. IMD 2021-02

Dear Mr. Gray:

The Louisiana Commissioner of Conservation conducted a public hearing on July 6, 2021, relative to the Class VI USEPA Primacy Application. A comment period was held open from May 28, 2021, to July 13, 2021, which afforded interested parties an opportunity to comment on the primacy application for Class VI geologic sequestration.

Notice of the public hearing was published in six newspapers across Louisiana so as to ensure statewide attention of the comment period and public hearing. The docket number for the public hearing was Docket No. IMD 2021-02.

The Office of Conservation received seven oral public comments at the hearing and 21 written public comments. Copies of these comments are enclosed as well as the responses by the Louisiana Office of Conservation.

Please contact me at 225-342-5569 if there are any questions or if any clarification of the above is needed.

Yours very truly,

Stephen H. Lee, Director
Injection and Mining Division
Louisiana Office of Conservation

SHL:lcs

Enclosures

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September XX, 2021

Spenser Schott
728 Dumaine Street
New Orleans, LA 70116

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Schott:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI injection well primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Darryl Malek-Wiley
Sierra Club and Louisiana Green Army
716 Adams Street
New Orleans, LA 70118

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Malek-Wiley:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control (UIC) program as implemented by the LOC Injection and Mining Division (IMD).

EPA's determination of IMD's ability to effectively manage the existing UIC program is evaluated in a number of ways. With regards to existing primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. This review determines "consistency with the program submission, Safe Drinking Water Act (SDWA)

applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the program description.

New details on the use of the EJSCREEN have been included in the revised program description. As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point for conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in depth environmental justice (EJ) analysis. Further requirements regarding EJ analysis methods and forms of enhanced public outreach will be detailed in future guidance.

Please see the revised program description for updated funding expectations and detailed breakdown of annual cost estimates, sources of funding, and Class VI fee calculations. This includes an estimate of how funds will be allocated to various program activities. The $750,000 cap on the Louisiana Carbon Dioxide Geologic Storage Trust Fund (GSF) was removed with the Louisiana Legislature's passage of HB 572 in the 2021 Regular Session. Additionally, HB 572 enables LOC to charge the applicant a permit fee not to exceed the cost of permit review and authorizes the contracting of professional services to assist with permit or application reviews. As noted in the program description, IMD plans to add seven new positions to support the Class VI program: three geologists, three engineers, and one attorney.

Regarding concerns as to IMD competency, the IMD technical staff consists of petroleum scientists split between the Engineering Section and the Geology Section. The competency of the engineers and geologists who make up IMD's technical staff is demonstrated in several ways:

- Annual reviews conducted by EPA demonstrate IMD's successful administration of the UIC program;
- Staffers must meet minimum qualifications in education and professional experience to work in the UIC program, including at least a baccalaureate degree with a major in engineering, geology, geosciences, earth and environmental science, or geophysics with at least one year of professional experience for entry level technical positions;
- Staff performing engineering duties are required to either be or to work under a licensed professional engineer (P.E.) in good standing with the Louisiana Professional Engineering and Land Surveying Board; and

- Supervisory staff performing geologic duties are required to either be or to work under a licensed professional geoscientist (P.G.) in good standing with the Louisiana Board of Professional Geoscientists.

Additional documentation such as personal resumes such as personal resumes and work histories are not required components of the primacy package.

The stringency of Louisiana's regulations is demonstrated in the primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for LDNR to proceed with rule promulgation.

As referenced in the program description, the framework for enforcement and compliance procedures is laid out in LAC 43:XVII.3629.

The LOC Engineering – Regulatory Division implements the Louisiana Oilfield Site Restoration Program which regulates orphan wells. Injection wells are regulated as part of the UIC program implemented by OC IMD. The UIC program is funded separately from Louisiana Oilfield Site Restoration. After start up, funding for the Class VI program will be primarily sourced from the GSF. As such, there will be no direct competition for funding between the respective programs regulating injection wells and orphan wells.

The comment references an audit of the orphan well program that was conducted by the Louisiana Legislative Auditor (LLA). The audit in question does not refer to or evaluate the regulation, enforcement, or financial services related to injection wells. It offers no assessment of IMD's effectiveness in implementing the UIC program. As such, it is not relevant to LDNR's application for Class VI primacy.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Andy Kowalczyk
Sustainable Energy Economy Solutions
819 Saint Roch Avenue
New Orleans, LA 70117

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Kowalczyk:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate, energy, and economic policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

Regarding the concerns as to the permitting of pipelines, pipelines are regulated by at the federal level by the pipeline and Hazardous Materials Safety Administration (PHMSA). Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of IMD. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before the OC issues a permit-to-construct. The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
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DEPARTMENT OF NATURAL RESOURCES
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THOMAS F. HARRIS
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RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Pooja Praznid
7900 Patricia Street
Apartment 3304
Chalmette, LA 70043

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Praznid:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI injection well primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

Regarding the comment on coastal erosion, construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of IMD. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before the OC issues a permit-to-construct. The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Dr. Marion Freistadt
marionfreistadt@yahoo.com

RE: Class VI USEPA Primacy Application Comment

Dear Dr. Freistadt:

Thanks you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment 1 LDNR Response:

The Underground Injection Control (UIC) Program is implemented by the Louisiana Department of Natural Resources (LDNR) Office of Conservation (LOC) Injection and Mining Division (IMD). The IMD technical staff consists of petroleum scientists split between the Engineering Section and the Geology Section. The competency of the engineers and geologists who make up IMD's technical staff is demonstrated in several ways:

- Annual reviews conducted by the Environmental Protection Agency (EPA) demonstrate IMD's successful administration of the UIC program;
- Staffers must meet minimum qualifications in education and professional experience to work in the UIC program, including at least a baccalaureate degree with a major in engineering, geology, geosciences, earth and environmental science, or geophysics with at least one year of professional experience for entry level technical positions;
- Staff performing engineering duties are required to either be or to work under a licensed professional engineer (P.E.) in good standing with the Louisiana Professional Engineering and Land Surveying Board; and
- Supervisory staff performing geologic duties are required to either be or to work under a licensed professional geoscientist (P.G.) in good standing with the Louisiana Board of Professional Geoscientists.

Additional documentation such as personal resumes such as personal resumes and work histories are not required components of the primacy package.

Comment 2 LDNR Response:

According to the EPA's *UIC Program Class VI Primacy Manual*, a state applying for Class VI primacy must demonstrate that it has, "Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting,

inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells)."

The stringency of Louisiana's regulations is demonstrated in the primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for LDNR to proceed with rule promulgation.

Comment 3 LDNR Response:

Enforcement and compliance records for all UIC wells can be accessed though LNDR's SONRIS online database or onsite at IMD. All UIC enforcement and compliance records are publicly accessible.

Comment 4 LDNR Response:

The permit review process requires a detailed analysis of the injection project and surrounding area. This includes, at a minimum, the identification of any potential geologic features or artificial penetrations that could serve as potential leakage pathways. Mitigation measures such as corrective action will be required for artificial penetrations that were not plugged or constructed in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs.

With regards to concerns to impacts on the Safe Drinking Water Act (SDWA), LOC is revising the existing UIC program under Section 1422 of SDWA to include program oversight for Class VI wells. The EPA promulgated federal requirements under SDWA for the underground injection of carbon dioxide in 2010 establishing a new class of injection wells (Class VI). The primacy application is intended to demonstrate that the Louisiana UIC program with Class VI oversight is at least as stringent as its federal counterpart.

Comments 5-9 LDNR Response:

As mandated by the EPA, an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to the primacy proceedings of other states; EPA Class VI permitting history; or climate and energy policy are not relevant to the substance of the Class VI primacy application as described above and are beyond the regulatory scope of the UIC program as implemented by LOC IMD.

Comment 10 LDNR Response:

Please see the revised program description of the primacy application for details on environmental justice (EJ) considerations.

Comment 11 LDNR Response:

As stated above under Comment 2 LDNR Response, the Class VI primacy application includes a regulatory crosswalk. The crosswalk is a line by line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. This includes requirements for site characterization, compatibility for well construction materials, comprehensive monitoring, financial responsibility, and reporting and recordkeeping.

The final crosswalk is publicly accessible and was published on the LOC and IMD websites on May 28, 2021, as part of the Class VI primacy application. The Class VI regulations containing the above referenced requirements are publicly available under Title 43 of the Louisiana Administrative Code on the LOC and Louisiana Division of Administration websites.

Comment 12 and 13 LDNR Response:

After start up, funding for the Class VI program will be primarily sourced from the Carbon Dioxide Geologic Storage Trust Fund (GSF). As noted in the revised primacy application, the Louisiana Legislature passed HB 572 in the 2021 Regular Session, allowing LOC to charge the applicant a permit fee not to exceed the cost of permit review. This one-time fee along with annual regulatory fees, application fees, grants, and compliance fines will be deposited in the GSF.

EPA's determination of IMD's ability to effectively manage the existing UIC program is evaluated in a number of ways. With regards to existing primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. This review determines "consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the program description.

As noted in the program description, IMD plans to add seven new positions to support the Class VI program: three geologists, three engineers, and one attorney.

Comment 14 LDNR Response:

Several provisions within LAC 43:XVII. Chapter 36 address characterization of the proposed carbon dioxide stream:

- §3607.C.2.f.iii – carbon dioxide stream information as part of proposed operating data;
- §3617.A.2.a.v – corrosiveness of the carbon dioxide stream;
- §3619.A.3.c – required to assess the compatibility of the proposed stream with injection zone fluids, minerals in the injection and confining zones, and wellbore construction materials; and
- §3625.A.1 – required to prepare, maintain, and comply with an approved testing and monitoring plan that includes analysis of the carbon dioxide stream with sufficient frequency to yield data representative of the chemical and physical characteristics.

These testing and monitoring requirements will be mandatory for every project, regardless of carbon dioxide stream source. Analyses, proposed testing and monitoring plans, and monitoring data submitted by the owner or operator will be reviewed by qualified technical staff. The details regarding competency of technical staff are stated above under Comment 1 LDNR Response.

LDNR Response to additional comments related to CCUS/CCS merits and policy:

As stated above under Comments 6-9 LDNR Response, comments pertaining to climate and energy policy are not relevant to the substance of the Class VI primacy application as described above and are beyond the regulatory scope of the UIC program as implemented by LOC IMD.

Neither federal nor Louisiana regulations require that injected carbon dioxide only be safely stored for 50 years. The site enters the post-injection site care (PISC) phase when injection ceases. Upon the beginning of PISC, the owner or operator shall continue to conduct monitoring as specified in the commissioner-approved post-injection site care and site closure plan for at least 50 years or an approved alternative timeframe as detailed in LAC 43:XVII.3633.A.2.a. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under LAC 43:XVII.3633.A.2.b is submitted and approved by the commissioner.

LDNR response to additional comments offered during public hearing on July 6, 2021:

LDNR concurs on the importance of accounting for induced seismicity. The EPA currently does not have regulations regarding induced seismicity for Class VI injection wells, so this is not required as part of the Class VI primacy application. However, LOC is developing clear requirements for assessing seismicity as part of the permit review process. This guidance will include provisions to account for the evolution of technology in this emerging field. The promulgation of this guidance will be considered in future rule-making.

Per LAC 43:XVII.603.H, the Commissioner of Conservation has the ability to impose additional application requirements ensure that the project will be protective of the USDW as well as the health, safety, and welfare of the public. This may include additional monitoring plans for microseismicity or any other plans deemed necessary based on a site-specifc technical evaluation.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil

servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Mike Tritico
RESTORE
P.O. Box 233
Longville, LA 70652

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Tritico:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Potential risks to the aquifer are extensively evaluated as part of the Class VI application process. These provisions are intended to ensure against the movement of fluid containing any contaminant into the underground source of drinking water (USDW) (LAC 43:XVII.3603.D). The application process requires thorough technical evaluations to identify, avoid, and mitigate potential risks to the USDW. These evaluations include but are not limited to: detailed site characterization; delineation of the area of review (AOR) or the region surrounding the proposed well where the USDW may be endangered by injection activity; identification of potential geological or artificial conduits within the AOR; and demonstrating proper well construction to ensure that injected fluids are safely contained within the permitted injection zone.

Per LAC 43:XVII.3603.A.2, geologic sequestration of carbon dioxide in solution mined salt caverns will not permitted. La R.S. 30:23 et seq. does allow for temporary underground storage of carbon dioxide in salt caverns; however, LDNR has not promulgated regulations for any kind of carbon dioxide storage in caverns and has no plans to do so.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the

governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Mike Easley
7725 Birch Street
New Orleans, LA 70118

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Easley:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control (UIC) program as implemented by the LOC Injection and Mining Division (IMD).

According to the EPA *UIC Program Class VI Primacy Manual*, a state applying for Class VI primacy must demonstrate that it has, "Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells)."

The stringency of Louisiana's regulations is demonstrated in the primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for the Louisiana Department of Natural Resources (LDNR) to proceed with rule promulgation.

Wells that inject carbon dioxide or other fluids to enhance the production of oil and gas are classified as Class II enhanced oil recovery (EOR) wells. Louisiana already has primacy for Class II wells, so this comment is not relevant to the application for Class VI primacy.

LAC Title 43:XVII.3615.A and 3615.B detail the requirements for applicants to demonstrate the integrity of the geologic system. This includes requirements that the confining zones be free of transmissive faults or fractures so that the injected carbon dioxide steam and any displaced formation fluids will be contained. Applicants are also required to, at a minimum, identify all penetration in the AOR that penetrate the confining and injection zones (§3615.B.3.b). Corrective action must be performed as necessary in order to prevent the movement of carbon dioxide or other fluids that may endanger USDWs (LAC Title 43:XVII.3615.C).

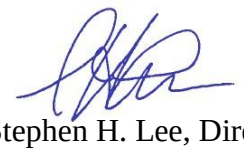
Regarding the concerns as to the permitting of pipelines, interstate pipelines are regulated by at the federal level by the Pipeline and Hazardous Materials Safety Administration (PHMSA). Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Kim Goodell
304 Woodlbuff Drive
Lafayette, LA 70503

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Goodell:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to research initiatives such as the Louisiana Coastal Geohazards Atlas, Louisiana Department of Environmental Quality (LDEQ) programs, or climate policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control (UIC) program as implemented by the LOC Injection and Mining Division (IMD).

The EPA's *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* indicates the primacy application's Attorney General's statement should certify that:

> since the state was granted primacy for the UIC Program, the state either still does not have environmental audit privilege and/or immunity laws, or, if there are now environmental audit privilege

and/or immunity laws, that these laws will not affect the ability of the state to meet enforcement and information-gathering requirements under SDWA.

The voluntary environmental self-audits program referenced in HB 72 of the 2021 Regular Session of the Louisiana Legislature is an LDEQ program and does not have any bearing on IMD's administration of the Sections 1422 and 1425 of the Safe Drinking Water Act (SDWA).

The Sole Source Aquifer Program of SDWA Section 1424(e) and the Wellhead Protection Program of SDWA Section 1428 are also administered by LDEQ and are beyond the regulatory authority of LDNR. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct.

The comment regarding "aquifer exceptions" is presumed to refer to aquifer exemptions. LAC 43:XVII.3603.F, which corresponds to the federal rule at 40 CFR 144.51(I)(5), allows for the owner or operator to petition the commissioner for the expansion of the areal extent of Class II aquifer exemptions for the purpose of Class VI injection with the concurrence of the EPA. However, the LOC currently has no plans to permit the expansion of any existing aquifer exemptions. The removal of this provision will be considered in future rule making.

Regarding the concerns over failure to report potential environmental incidents, Class VI owners or operators are required to report any noncompliance which may endanger health or the environment within 24 hours of becoming aware of the circumstances (LAC 43.XVII.3609.L.6.a). Class VI owners or operators must report any monitoring or other information that indicates a contaminant may cause endangerment to a USDW or any noncompliance with a permit condition or injection system malfunction which may cause fluid migration into or between USDWs within 24 hours (LAC 43.XVII.3609.L.6.b).

Potential risks to the aquifer are extensively evaluated as part of the application process. These provisions are intended to ensure against the movement of fluid containing any contaminant into the USDW (LAC 43:XVII.3603.D). The application process requires thorough technical evaluations to identify, avoid, and mitigate potential risks to the USDW. These evaluations include but are not limited to: detailed site characterization; delineation of the area of review (AOR) or the region surrounding the proposed well where the USDW may be endangered by injection activity; identification of potential geological or artificial conduits within the AOR; demonstrating proper well construction to ensure that injected fluids are safely contained within the permitted injection zone.

Regarding the reference to liability passing to the state, La R.S. 30:1109 states that the commissioner shall issue a certificate of completion ten years, or any other timeframe established by rule, after injection activities have ceased. LAC 43.XVII.3633.A.2.a establishes this timeframe as at least 50 years, or an approved alternative timeframe, and states that the owner or operator must continue to conduct monitoring according to the post-injection site care (PISC) and closure plan for the duration of that time. Before the site is approved for closure at the end of the PISC phase, the owner or operator must submit to the commissioner for approval, a demonstration that no additional monitoring is needed to ensure that the geologic sequestration project does not pose a threat to the USDW. The PISC phase with owner or operator monitoring will continue if such a demonstration cannot be made or is not approved (LAC 43.XVII.3633.A.2.d).

During the PISC phase, the operator will still hold liability for the geologic sequestration project and must continue to maintain financial responsibility sufficient to cover costs of site closure and well plugging (LAC 43.XVII.3609.C.4.a.i). After the conclusion of the PISC phase and issuance of the certificate of completion, the funds in the GSF for that site will be held in perpetuity. These funds may be used for the actions detailed at La R.S. 30:1110.E.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Kim Feil
kimfeil@sbcglobal.net

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Feil:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment 1 LDNR Response:

Please see the revised program description for updated details on environmental justice (EJ) requirements for Class VI projects.

Comment 2 LDNR Response:

While the incidence of TNORM or TENORM (technologically enhanced naturally occurring radioactive materials) during hydraulic fracturing is not relevant to the contents of Louisiana's application for Class VI primacy, LDNR would like to address the assertion that radiocarbon (^{14}C) is a TENORM element in carbon dioxide streams sourced from fracking-produced hydrocarbons. According to the EPA, TENORM is defined as "Materials which may contain any of the primordial radionuclides or radioactive elements as they occur in nature, such as radium, uranium, thorium, potassium, and their radioactive decay products, such as radium and radon, that are undisturbed as a result of human activities."

Since the half-life of ^{14}C is much shorter than the age of fossil fuels, ^{14}C is not considered to be a radionuclide associated with TENORM from the production of fossil fuels or any incidental carbon dioxide.

Pursuant to LAC 43:XVII.3617.A.2.a, all well materials must be compatible with fluids that the material may be expected to come in contact with. This requires applicants to account for the corrosiveness of the carbon dioxide stream and formation fluids (LAC 43:XVII.3617.A.2.a.v) as well the quantity, chemical composition, and temperature of the carbon dioxide steam (LAC 43:XVII.3617.A.2.a.ix). LAC 43:XVII.3617.A.2.e further elaborates that cement and cement additives must be able to maintain integrity over the lifetime of the injection project and is subject to verification via wellbore cement evaluation technologies.

Comment 3 LDNR Response:

The permit review process requires a detailed analysis of the injection project and surrounding area. This includes, at a minimum, the identification of any potential geologic features or artificial penetrations that could serve as potential leakage pathways. Mitigation measures such as corrective action will be required for artificial penetrations that were not plugged or constructed in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Karen Snyder
klsnyder299@gmail.com

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Snyder:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI injection well primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
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OFFICE OF CONSERVATION

THOMAS F. HARRIS
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RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Jonathan Leo
Greater New Orleans Interfaith Climate Coalition
10942 Neale Fraser Drive
Baton Rouge, LA 70810

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Leo:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Louisiana Department of Natural Resources (LDNR) recognizes that environmental justice (EJ) considerations are an important part of Class VI permitting process. Regarding concerns as to EJSCREEN, new details on the use of the EJSCREEN have been included in the revised program description. As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point for conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in depth EJ analysis. Further requirements regarding EJ analysis methods and forms of enhanced public outreach will be detailed in future guidance.

The SOS Decision Questions are mandated by judicial decision pursuant to the Public Trust Doctrine and are part of the permit decision process. The LDNR Office of Conservation (LOC) has the authority to weigh the responses to the SOS Decision Questions as part of the permit decision process. However, the five required question responses for the SOS Decision Questions do not constitute an EJ analysis.

Regarding references to the National Environmental Policy Act (NEPA) and suggestions that it may be applicable to state permitting actions, it is the understanding of this office that NEPA only applies to federal actions.

The comment refers to the question of EPA oversight of LDNR administration of this regulatory program. The Underground Injection Control (UIC) program is implemented by the LDNR LOC Injection and Mining Division (IMD). EPA's determination of IMD's ability to effectively manage the existing UIC program is evaluated in a number of ways. With regards to existing primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. This review determines "consistency with the program submission, SDWA

applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the program description.

The IMD technical staff consists of petroleum scientists split between the Engineering Section and the Geology Section. The program description includes details on existing IMD staffing levels and notes that IMD plans to add seven new positions to support the Class VI program: three geologists, three engineers, and one attorney. The competency of the engineers and geologists who make up IMD's technical staff is demonstrated in several ways:

- Annual reviews conducted by the EPA demonstrate IMD's successful administration of the UIC program;
- Staffers must meet minimum qualifications in education and professional experience to work in the UIC program, including at least a baccalaureate degree with a major in engineering, geology, geosciences, earth and environmental science, or geophysics with at least one year of professional experience for entry level technical positions;
- Staff performing engineering duties are required to either be or to work under a licensed professional engineer (P.E.) in good standing with the Louisiana Professional Engineering and Land Surveying Board; and
- Supervisory staff performing geologic duties are required to either be or to work under a licensed professional geoscientist (P.G.) in good standing with the Louisiana Board of Professional Geoscientists.

The comment includes concerns as to the structure of the proposed compliance monitoring and enforcement program. Compliance and enforcement as detailed in the program description and memorandum of agreement addendum mirrors the exisiting approach compliance and enforcement for the UIC program as approved by the EPA. Please see the revised program description and memorandum of agreement addendum for updated statutory references for fines and enforcement.

State law currently allows for only the injection of carbon dioxide. In order for incidental materials to be injected, Louisiana would need to adopt a version of the Resource Conservation and Recovery Act (RCRA) conditional exclusion for materials incidental to the carbon dixode stream. Such a waiver would be adopted the Louisiana Department of Environmental Quality (LDEQ) and is beyond the regulatory scope of the UIC

program as implemented by IMD. As such, this comment is not relevant to this application for Class VI primacy.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Johnny Kindred
Johnny.kindred1957@gmail.com

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Kindred:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Jesse George
Alliance for Affordable Energy
4505 South Claiborne Ave
New Orleans, LA 70125

RE: Class VI USEPA Primacy Application Comment

Dear Mr. George:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to energy and climate policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity

– that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
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OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Scott Eustis
HealthyGulf
935 Gravier Suite 700
New Orleans, LA 70122

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Eustis:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

"The LDNR must refine its Environmental Justice analysis, identify overburdened communities, as well as avoid and notify them."

LNDR Response:

Environmental justice (EJ) reviews will only be required for communities within the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity, known as the area of review (AOR). Injection wells are regulated under the Underground Injection Control (UIC) program as implemented by the Office of Conservation (LOC) Injection and Mining Division (IMD). Surface facilities not associated with injection operations, pipelines, and facilities in other states are beyond the regulatory scope of the UIC program. As such, the EJ review as part of the Class VI injection well application will be limited to the geographic extent of the AOR.

New details on the use of the EJSCREEN have been included in the revised program description. As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point for conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in depth EJ analysis. Further requirements regarding EJ analysis methods and forms of enhanced public outreach will be detailed in future guidance.

There are a number of provisions in LAC 43:XVII. Chapter 36 that include requirements to analyze the physical and chemical characteristics of the carbon dioxide stream. These include:

- LAC 43:XVII.3607.C.2.f.iii – carbon dioxide stream information as part of proposed operating data;
- LAC 43:XVII.3617.A.2.a.v – corrosiveness of the carbon dioxide stream;
- LAC 43:XVII.3619.A.3.c – assessment of the compatibility of the proposed stream with injection zone fluids, minerals in the injection and confining zones, and wellbore construction materials; and
- LAC 43:XVII.3625.A.1 – requirement to prepare, maintain, and comply with an approved testing and monitoring plan that includes analysis of the carbon dioxide stream with sufficient frequency to yield data representative of the chemical and physical characteristics.

These testing and monitoring requirements will be mandatory for every injection project, regardless of carbon dioxide stream source.

"LDNR must study impurities in carbon from petrochemical generation before primacy."

LNDR Response:

LDNR would like to clarify that while interstate pipelines are regulated by the Pipeline and Hazardous Materials Safety Administration (PHMSA), intrastate pipelines are regulated by LOC Pipeline Division. As noted above, there are a number of provisions that require analysis of the physical and chemical characteristics of the carbon dioxide stream at various points in the life of the project regardless of carbon dioxide stream source or geographic origin.

"LDNR must consider lost, orphan, and unplugged wells in its applications."

LNDR Response:

The permit review process requires a detailed analysis of the injection project and surrounding area. This includes, at a minimum, the identification of any potential geologic features or artificial penetrations that could serve as potential leakage pathways. Mitigation measures such as corrective action will be required for artificial penetrations that were not plugged or constructed in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs.

Per LAC 43:XVII.3607.C.1.a.ii, the applicant will be required to identify all injection wells, producing wells, abandoned wells, dry holes, and stratigraphic boreholes with a 2-mile radius of AOR. The commissioner may require additional evaluation methods such as magnetic drone surveys to quantify any mis-located or unpermitted wells. Per LAC 43:XVII.3607.C.2.d, applications must include a tabulation of all wells within the AOR that penetrate the base of the USDW along with details of well type, construction, date drilled, location, depth, record of plugging and/or completion, and any other information the commissioner may require. LAC 43:XVII.3615.C et seq. details the requirements for corrective action that applicants may be required to undertake for wells within the AOR in order to prevent movement of fluid into or between USDWs.

"To maintain integrity of the wells, LDNR must exclude CCU surface infrastructure from the coastal zone. Unless LDNR excludes Class VI surface activity from the coastal zone, such activities are inconsistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and Executive Orders."

LDNR Response:

While not strictly relevant to the Class VI primacy application, LDNR would like to address the assertion that a Princeton University study has found Louisiana to be unsuitable for geologic storage. The 2020 interim report of Princeton's "Net-Zero America" does not claim that Louisiana is unsuitable for geologic storage of carbon

dioxide. Section "Pillar 4: CO2 capture, transport, usage, and geologic storage" provides an overview of "practicable storage capacities" as well as pipeline networks and estimated costs. The section does not include any claims regarding site suitability.

Section "Pillar 2: Clean electricity – Clean firm electricity sources" includes environmental and cultural suitability mapping with regards to modern siting constraints for thermal power plants. However, this section does not include any analysis of siting for geologic storage or make any claims regarding site suitability for the same.

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of LOC. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct.

The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As noted above, interstate pipelines are regulated by at the federal level by PHMSA. Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

The statement that LDNR will "assume operations of projects for the majority of project life," is not accurate. After injection ceases, the site enters into a phase of post-injection site care (LAC 43:XVII.3633). During this time, the owner or operators must properly plug the injection well(s), monitor the site for the timeframe established in the permit, demonstrate that USDWs are not being endangered, and complete plugging of all monitoring wells prior to being granted approval to proceed with site closure. Owners or operators shall be required to maintain qualifying instruments of financial responsibility that are sufficient to cover the costs of corrective action, injection well plugging, post-injection site care and site closures, and emergency and remedial response (LAC 43.XVII.3609.C.4.a.i).

Regarding the request to be notified of denials, approvals, and/or changes to LDNR's primacy application, you have been included on the Class VI Interested Parties contact list. You will receive notification of any future updates on the status of Class VI primacy and how to access any related documents. This information will also be shared via the LOC and IMD websites and any other required methods of public notice.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop

permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Lt. General Russel Honoré, USA, Ret.
14443 Memorial Tower Drive
Baton Rouge, LA 70810

RE: Class VI USEPA Primacy Application Comment

Dear General Honoré:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As a general note, multiple commenters have stated or implied that the Louisiana Department of Natural Resources (LDNR) Office of Conservation (LOC) should not pursue primary enforcement authority (primacy) over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Potential risks to the aquifer are extensively evaluated as part of the application process. These provisions are intended to ensure against the movement of fluid containing any contaminant into the underground source of drinking water (USDW) (LAC 43:XVII.3603.D). The application process requires thorough technical evaluations to identify, avoid, and mitigate potential risks to the USDW. These evaluations include but are not limited to: detailed site characterization; delineation of the area of review (AOR) or the region surrounding the proposed well where the USDW may be endangered by injection activity; identification of potential geological

or artificial conduits within the AOR; and demonstrating proper well construction to ensure that injected fluids are safely contained within the permitted injection zone.

According to the EPA's *UIC Program Class VI Primacy Manual*, a state applying for Class VI primacy must demonstrate that it has, "Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells)."

The stringency of Louisiana's regulations is demonstrated in the primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for LDNR to proceed with rule promulgation.

LAC 43:XVII.3603.A.3 states that owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate that the wells were engineered and constructed to requirements to protect the USDWs. A converted well must meet all other requirements in LAC 43:XVII. Chapter 36.

Per LAC 43:XVII.3603.A.2, sequestration of carbon dioxide in solution mined salt caverns will not permitted. La R.S. 30:23 et seq. does allow for temporary underground storage of carbon dioxide in salt caverns; however, LDNR has not promulgated regulations for any kind of carbon dioxide storage in caverns and has no plans to do so. Furthermore, existing regulations for salt cavern storage and solution mining wells are completely separate from the provisions regarding geologic sequestration and are thus not relevant to the Class VI primacy application.

Questions regarding the importation of carbon dioxide into Louisiana for sequestration involve legal questions and policy beyond the scope of the Class VI primacy application.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Kendall Dix
Gulf Coast Center for Law & Policy
P.O. Box 784
Slidell, Louisiana 70459

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Dix:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment I-II LDNR Response:

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control (UIC) program as implemented by the LOC Injection and Mining Division (IMD).

While not strictly relevant to the Class VI primacy application, Louisiana Department of Natural Resources (LDNR) would like to address the assertion that a Princeton University study has found Louisiana to be unsuitable for geologic storage. The 2020 interim report of Princeton's "Net-Zero America" does not claim that

Louisiana is unsuitable for geologic storage of carbon dioxide. Section "Pillar 4: CO2 capture, transport, usage, and geologic storage" provides an overview of "practicable storage capacities" as well as pipeline networks and estimated costs. The section does not include any claims regarding site suitability.

Section "Pillar 2: Clean electricity – Clean firm electricity sources" includes environmental and cultural suitability mapping with regards to modern siting constraints for thermal power plants. However, this section does not include any analysis of siting for geologic storage or make any claims regarding site suitability for the same.

Regarding the concerns as to the permitting of pipelines, interstate pipelines are regulated by at the federal level by the Pipeline and Hazardous Materials Safety Administration (PHMSA). Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

Comment III LDNR Response:

The stringency of Louisiana's regulations is demonstrated in the primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for LDNR to proceed with rule promulgation.

As referenced in the program description, the framework for enforcement and compliance procedures is laid out in LAC 43:XVII.3629.

The statement that "a state must develop a plan for providing safe drinking water under emergency circumstances," refers to a provision of Section 1413 of the Safe Drinking Water Act (SDWA). Section 1413 authorizes states, territories, and Indian tribes to assume primacy for public water system supervisions (PWSS). Louisiana Department of Health (LDH) Office of Public Health (OPH) holds primacy for PWSS.

LDNR's UIC program oversees Class I, III, IV, and V injection wells under Section 1422 and Class II injection wells under Section 1425. Primacy for Class VI wells is addressed by Section 1422. As such, the provision regarding drinking water under emergency circumstances is not relevant to the Class VI primacy application.

The LOC Engineering – Regulatory Division implements the Louisiana Oilfield Site Restoration Program which regulates orphan wells. Injection wells are regulated as part of the UIC program implemented by OC IMD. The UIC program is funded separately from Louisiana Oilfield Site Restoration. After start up, funding for the Class VI program will be primarily sourced from the Carbon Dioxide Geologic Storage Trust Fund. As such, there will be no direct competition for funding between the respective programs regulating injection wells and orphan wells.

Per LAC 43:XVII.3603.A.2, sequestration of carbon dioxide in solution mined salt caverns will not permitted. La R.S. 30:23 et seq. does allow for temporary underground storage of carbon dioxide in salt caverns; however, LDNR has not promulgated regulations for any kind of carbon dioxide storage in caverns and has no plans to do so. Furthermore, existing regulations for salt cavern storage and solution mining wells are completely separate from the provisions regarding geologic sequestration and are thus not relevant to the Class VI primacy application.

Comment IV LDNR Response:

See responses above.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Scott Anderson
Environmental Defense Fund
301 Congress Avenue
Austin, TX 78701

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Anderson:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment 1 LDNR Response:

Louisiana Department of Natural Resources recognizes that environmental justice (EJ) considerations are an important part of Class VI permitting process. Regarding concerns as to EJSCREEN, new details on the use of the EJSCREEN have been included in the revised program description. As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point for conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in depth EJ analysis.

Further requirements regarding EJ analysis methods and forms of enhanced public outreach will be detailed in future guidance. EDF's recommendations regarding public participation and report evaluation will be taken into consideration during the development of EJ guidance.

EJ reviews will only be required for communities within the region surrounding the geologic sequestration project where USDWs may be endangered by the injection activity, known as the area of review (AOR). Injection wells are regulated under the Underground Injection Control (UIC) program as implemented by the Office of Conservation (LOC) Injection and Mining Division (IMD). Surface facilities not associated with injection operations such as pipelines and facilities in other states are beyond the regulatory scope of the UIC program. As such, the EJ review as part of the Class VI injection well application will be limited to the geographic extent of the AOR.

The SOS Decision Questions are mandated by judicial decision pursuant to the Public Trust Doctrine and are part of the permit decision process. LOC does not have the statutory authority to add supplemental questions

beyond the five required questions. LOC has the authority to weigh the responses to the SOS Decision Questions as part of the permit decision process, but LOC has not identified any legal basis to deny an application based on the results of an EJ assessment.

Comment 2 LDNR Response:

Please see the revised program description for updated funding expectations. The $750,000 cap on the Louisiana Carbon Dioxide Geologic Storage Trust Fund (GSF) was removed with the Louisiana Legislature's passage of HB 572 in the 2021 Regular Session. Additionally, HB 572 enables LOC to charge the applicant a permit fee not to exceed the cost of permit review and authorizes the contracting of professional services to assist with permit or application reviews.

Comment 3 LDNR Response:

LDNR concurs with EDF on the importance of accounting for induced seismicity. The EPA currently does not have regulations regarding induced seismicity for Class VI injection wells, so this is not required as part of the Class VI primacy application. However, LOC is developing clear requirements for assessing seismicity as part of the permit review process. This guidance will include provisions to account for the evolution of technology in this emerging field. The promulgation of this guidance will be considered in future rulemaking.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

CC: Adam Peltz, EDF
Jenna Graham, EDF

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Monique Harden
Deep South Center for Environmental Justice
3157 Gentilly Blvd, #145
New Orleans, LA 70122

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Harden:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment I LDNR Response:

New details on the use of the EJSCREEN have been included in the revised program description. As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point for conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in depth environmental justice (EJ) analysis. Further requirements regarding EJ analysis methods and forms of enhanced public outreach will be detailed in future guidance.

Comment II LDNR Response:

Per LAC 43:XVII.603.H, the Commissioner of Conservation has the ability to impose additional application requirements ensure that the project will be protective of the underground source of drinking water (USDW) as well as the health, safety, and welfare of the public. Additionally, new details regarding technical reviews have been included in the revised program description:

> Technical review may incorporate information from sources such as: the most up-to-date science and findings available from peer reviewed public literature; data and information presented at symposiums or conferences; procedures or recommended practices from the US EPA, qualified national laboratories, or published standards; and the most up-to-date versions of EPA-published guidance documents.
>
> Technical review of the permit application will determine if applicants will need to provide additional evaluation data or monitoring plans beyond that required in 29-N-6. Evaluation data that is not required in the regulations but may be required prior to permit approval could include evaluation methods such as

magnetic drone surveys to quantify any mis-located or unpermitted wells, geophysical data to support geologic interpretation, groundwater information to support hydrogeological interpretation, or other methods deemed necessary by the Commissioner. Additional monitoring plans may also be required by the Commissioner to monitor microseismicity, groundwater, reservoir pressures or plume extent, or any other plans deemed necessary based on a site-specific technical evaluation.

It is the mandate of the Underground Injection Control (UIC) program to protect the USDW, however, this does not limit or alter the duty of the Louisiana Department of Natural Resources (LDNR) pursuant to the Louisiana constitution to protect the health, safety, and welfare of the people. The regulations intended to protect the USDW also serve towards that purpose. And as noted above, the commissioner has the authority to impose additional application requirements ensure that the project will be protective of the USDW as well as the health, safety, and welfare of the public.

With regards to specific example of "the solvent properties of carbon dioxide" referenced in the comment, this is addressed in several ways. Applicants are required to assess the compatibility of the proposed carbon dioxide stream with injection zone fluids and minerals in the injection and confining zones (LAC 43:XVII.3619.A.3.c). Reactive transport modeling (chemical reactions between constituents) may be required by the commissioner as part of the computational modeling for multiphase flow used for AOR boundary delineation.

Comment III LDNR Response:

LAC 43:XVII.3603.F, which corresponds to the federal rule at 40 CFR 144.51(I)(5), allows for the owner or operator to petition the commissioner for the expansion of the areal extent of Class II aquifer exemptions for the purpose of Class VI injection with the concurrence of the EPA. However, the Office of Conservation (LOC) currently has no plans to permit the expansion of any existing aquifer exemptions. The removal of this provision will be considered in future rule making.

Comment IV LDNR Response:

The requirements for iterative site characterization are referenced at several points throughout LAC 43:XVII Chapter 36 and are at least as stringent as the federal requirements. Updated site characterization must be submitted at multiple points through the lifespan of an injection project:

- In fulfillment of all requirements for a Class VI permit application prior to well construction (LAC 43:XVII.3607.C); and
- Prior to well operation (LAC 43:XVII.3619).

Robust site characterization is a critical and required component of the process of area of review (AOR) boundary delineation. After injection has commenced, owners or operators must reevaluate the AOR using site characterization, monitoring and operational data, and computational modeling at least every five years or as warranted by monitoring and operational conditions (LAC 43:XVII.3615.C.2 et seq.).

If a permit is modified under the conditions laid out in LAC 43:XVII.3613.C, a draft permit will be prepared and will be subject to all applicable procedures (LAC 43:XVII.3613.C.4). These procedures shall include being publicly noticed and made available for public comment (LAC 43:XVII.3611.C.4).

The potential presence of faults and fractures must be addressed on a site-by-site basis. Applicants are required to identify and characterize any faults that may transect the confining zone within the AOR. They must demonstrate that the confining zone is free of and faults or fracture that may interfere with containment of the injected carbon dioxide stream or reservoir fluids (LAC 43:XVII.3615.A.2). Additionally, the computational

modeling completed as part of the AOR boundary delineation is required to account for any potential migration through faults and fractures (LAC 43:XVII.3615.B.3.a.iii).

While not strictly relevant to the Class VI primacy application, LDNR would like to address the assertion that a Princeton University study has found Louisiana to be unsuitable for geologic storage. The 2020 interim report of Princeton's "Net-Zero America" does not claim that Louisiana is unsuitable for geologic storage of carbon dioxide. Section "Pillar 4: CO2 capture, transport, usage, and geologic storage" provides an overview of "practicable storage capacities" as well as pipeline networks and estimated costs. The section does not include any claims regarding site suitability.

Section "Pillar 2: Clean electricity – Clean firm electricity sources" includes environmental and cultural suitability mapping with regards to modern siting constraints for thermal power plants. However, this section does not include any analysis of siting for geologic storage or make any claims regarding site suitability for the same.

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of LOC. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct.

The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

Comment V LDNR Response:

Analysis of the physical and chemical characteristics of the proposed carbon dioxide stream must be included for an application to be considered complete. These analyses would be subject to public access at the time of public notice for the application. Testing and monitoring requirements will be mandatory for every project, regardless of carbon dioxide stream source. Analyses, proposed testing and monitoring plans, and monitoring data submitted by the owner or operator will be reviewed by qualified technical staff.

Section 4.2 of the "Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors" indicates that a demonstration of access to contractor support is acceptable as part of agency organizational structure during the primacy application process. Any technical work by contractor would be completed under the supervision and review of a qualified technical staff member.

Regarding staff education and experience, documentation such as personal resumes and work histories are not required components of the primacy package. However, these qualifications and staff competency are demonstrated in several ways:

- Annual reviews conducted by EPA demonstrate LOC Injection and Mining Division's (IMD) successful administration of the UIC program;
- Staffers must meet minimum qualifications in education and professional experience to work in the UIC program, including a baccalaureate degree with a major in engineering, geology, geosciences, earth and environmental science, or geophysics with at least one year of professional experience for entry level technical positions;
- Staff performing engineering duties are required to either be or to work under a licensed professional engineer (P.E.) in good standing with the Louisiana Professional Engineering and Land Surveying Board; and

- Staff performing geologic duties are required to either be or to work under a licensed professional geoscientist (P.G.) in good standing with the Louisiana Board of Professional Geoscientists.

Comment VI LDNR Response:

The comment references several audits of LDNR programs conducted by the Louisiana Legislative Auditor (LLA). None of the referenced audits refer to or evaluate the regulation, enforcement, or financial services related to injection wells. They offer no assessment of IMD's effectiveness in implementing the UIC program. As such, they are not relevant to LDNR's application for Class VI primacy.

LDNR agrees that effective regulation of the UIC program is important in preventing operators from abandoning their wells. With regards to existing UIC primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. While orphan injection wells are not the primary focus of these evaluations, the EPA reviews key metrics and actions that reflect IMD's ability to effectively regulate injection wells and operators.

This review determines "consistency with the program submission, SDWA (Safe Drinking Water Act) applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Owners or operators will be required to maintain qualifying instruments of financial responsibility that are sufficient to cover the costs of corrective action, injection well plugging, post-injection site care and site closures, and emergency and remedial response (LAC 43.XVII.3609.C.4.a.i).

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the Program Description

Regarding the reference to the Bayou Corne sinkhole and associated monitoring requirements for salt cavern wells, these injection wells are regulated under LAC 43:XVII Chapter 3 – Hydrocarbon Storage Wells in Salt Dome Cavities and LAC 43:XVII Chapter 33 – Class III (Solution Mining) Injection Wells. The regulatory requirements for these wells were updated after the occurrence of the Bayou Corne sinkhole and are not relevant to the LDNR's application for Class VI primacy.

Additionally, owners or operators of Class VI wells will be required to continue monitoring after injection activities cease as part of the post-injection site care and closure plan (LAC 43:XVII.3633.A.1). As noted above, operators will be required to hold financial security that is sufficient to costs of corrective action, injection well plugging, post-injection site care and site closures, and emergency and remedial response. Exemptions will not be granted.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Cynthia Schmidt
59275 Pine Bay Lane
Lacombe, LA 70445

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Schmidt:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity

– that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Dr. Peter Digre
Dr. Glenn Butt
Climate Reality Project New Orleans
peterdigre@gmail.com

RE: Class VI USEPA Primacy Application Comment

Dear Dr. Digre and Dr. Butt:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment 1-2 LDNR Response:

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

Comment 3 LDNR Response:

Please see the revised program description for updated details on environmental justice (EJ) requirements for Class VI projects.

Comment 4 LDNR Response:

Regarding the concerns as to the permitting of pipelines, interstate pipelines are regulated at the federal level by the pipeline and Hazardous Materials Safety Administration (PHMSA). Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of IMD. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before the OC issues a permit-to-construct. The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Blake Baudier
Climate Reality Project
6123 Dauphine Street
New Orleans, LA 70117

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Baudier:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

The Environmental Protect Agency's (EPA) determination of the Injection and Mining Division's (IMD) ability to effectively manage the existing Underground Injection Control (UIC) program is evaluated in a number of ways. With regards to existing primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. This review determines "consistency with the program submission, Safe Drinking Water Act (SDWA) applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing

levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the program description.

It is the mandate of the UIC program to protect the USDW. It is also the duty of Louisiana Department of Natural Resources (LDNR) to protect the health, safety, and welfare of the people pursuant to the Louisiana constitution. The regulations intended to protect the USDW also serve towards that purpose. In addition to the requirements detailed in LAC 43:XVII. Chapter 36, the Commissioner of Conservation has the authority to impose additional application requirements ensure that the project will be protective of the USDW as well as the health, safety, and welfare of the public (LAC 43:XVII.603.H).

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of LOC. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct.

The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
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RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Nikki R. Reisch
Center for International Environmental Law
1101 15th St NW, Suite 1100
Washington, DC 20005

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Reisch:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

Comment 1 LDNR Response:

Though coastal permitting is outside the scope of the Office of Conservation's (LOC) permitting authority, all construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies. Applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct for any injection well. Also, the issuance of a Coastal Use Permit by Louisiana Department of natural Resources (LDNR) Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

Regarding the concerns as to the permitting of pipelines, interstate pipelines are regulated at the federal level by the pipeline and Hazardous Materials Safety Administration (PHMSA). Intrastate pipelines are regulated on the state level by LOC Pipeline Division. Regulation of pipelines is outside the scope of IMD's authority for regulation of underground injection projects.

Concerns regarding the competition between Class VI projects and existing infrastructure are accounted for by the siting criteria laid out in LAC 43:XVII.3615 and the review of existing projects as required by the "SOS Decision Questions." The five question responses include weighing of siting, environmental effects, and a cost benefit analysis and are required in the application as a result of Save Ourselves, Inc., et al vs. the Louisiana Environmental Control Commission, et a1.

The remarks concerning the adequacy of LDNR's financial and personnel resources are addressed in detail below.

Comment 2.a LDNR Response:

The OC Engineering – Regulatory Division implements the Louisiana Oilfield Site Restoration Program which regulates orphan wells. Injection wells are regulated as part of the UIC program implemented by LOC IMD. The UIC program is funded separately from Louisiana Oilfield Site Restoration. After start up, funding for the Class VI program will be primarily sourced from the Carbon Dioxide Geologic Storage Trust Fund. As such, there will be no direct competition for funding between the respective programs regulating injection wells and orphan wells.

As noted in the revised primacy application, the Louisiana Legislature passed HB 572 in the 2021 Regular Session, allowing LOC to charge the applicant a permit fee not to exceed the cost of permit review. This one-time fee along with annual regulatory fees, application fees, grants, and compliance fines will be deposited in the Louisiana Carbon Dioxide Geologic Storage Trust Fund (GSF). The GSF will be the primary source for Class VI programmatic funding.

The Environmental Protection Agency's (EPA) determination of IMD's ability to effectively manage the existing UIC program is evaluated in a number of ways. With regards to existing primacy, Section V.J of the *Memorandum of Agreement Addendum 1* describes how the EPA conducts an evaluation of IMD's implementation of the UIC program at least annually. This review determines "consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies." To this end, IMD is assessed on a number of performance factors including:

- satisfaction of EPA reporting requirements;
- completion of proposed compliance activities;
- financial reporting;
- successful responses to regulatory and technical issues;
- implementation of effective quality management and assurance systems; and
- working to maintain the levels of technical knowledge and staffing required for implementation of a highly technical program like UIC.

Based on IMD's performance, EPA has never recommended that LDNR's existing primacy for Class I, II, III, and V injection wells under SWDA Section 1422 be altered or revoked.

Section 4.2 of the *Underground Injection Control (UIC) Program Class VI Primacy Manual for State Directors* provides a detailed breakdown of the EPA's expectations for documentation of IMD's capability to administer Class VI injection wells. EPA will make the final determination on IMD's ability to undertake the program based on the information provided in the primacy application. This includes the increases in funding, staffing levels, and ability to contract technical subject matter experts on an as needed basis as detailed in the program description.

Comment 2.b LDNR Response:

Please see the revised program description for updated details on environmental justice (EJ). EPA's EJSCREEN will not be used as the principal tool for evaluating EJ communities within the area of review (AOR). As a potential screening tool for pre-decisional use, EJSCREEN can be used as a starting point to conducting further analysis. However, EJSCREEN will not be the definitive tool for a screening-level analysis. Peer-reviewed literature, stakeholder input, and other available forms of data may be used to evaluate the need for the applicant to conduct a more in-depth EJ analysis.

While not strictly relevant to the Class VI primacy application, LDNR would like to address the reference to the "June 30 meeting of the Louisiana Climate Task Force's Ad Hoc Committee on Carbon Capture and Storage." The meeting in question was conducted by the LDNR Ad Hoc Committee on CCS, and is not affiliated with the Louisiana Climate Task Force. Recordings of these meetings are publicly available through LDNR.

An enhanced public outreach period may be required for a Class VI application based on the results of the EJ assessment. However, LOC LOC has not identified any legal basis to deny an application based on the results of an EJ assessment.

Comment 3 LDNR Response:

LDNR concurs that the adequacy of Louisiana's regulatory framework cannot be isolated from the assessment of the Class VI primacy application. According to the EPA's *UIC Program Class VI Primacy Manual*, a state applying for Class VI primacy must demonstrate that it has, "Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells)."

The stringency of Louisiana's regulations is demonstrated in primacy application regulatory crosswalk. The crosswalk is a line-by-line comparison between Parts 124, 144, and 146 under Title 40 of the Code of Federal Regulation and the relevant Class VI Louisiana regulations and statutes. The crosswalk includes notes from EPA reviewers detailed the assessment of comparative stringency between the state and federal rules. The EPA completed its legal review of the crosswalk in October 2021 and gave consent for LDNR to proceed with rule promulgation.

These regulations and statutes included the provisions related to expropriation rights; Class II EOR wells; public disclosure and participation; siting characterization; monitoring requirements; and liability transfer. However, LDNR would to specifically address several of these concerns in detail. Regarding specific concerns around public disclosure and accessibility, any member of the public can request to be included on the UIC mailing list (LAC 43:XVII.3611.E.3.a.iv). The address and contact info for IMD are publicly available on the IMD website.

Some siting concerns are addressed above. LDNR would also like to address the assertion that Louisiana regulations "only touches on the geologic considerations of siting injection wells." The provisions in LAC 43:XVII.3607.C as well as LAC 43:XVII.3615 lay out the minimum requirements for a detailed geologic characterization for a Class VI project. These are not minor tasks. They require highly technical assessments of the structural geology, stratigraphy, hydrogeology, geomechanics, geophysics, lithology, mineralogy, and reservoir characteristics of the area of review (AOR).

Per LAC 43:XVII.603.H, the Commissioner of Conservation has the ability to impose additional application requirements ensure that the project will be protective of the underground source of drinking water (USDW) as well as the health, safety, and welfare of the public. Additionally, new details regarding technical reviews have been included in the revised program description:

> Technical review may incorporate information from sources such as: the most up-to-date science and findings available from peer reviewed public literature; data and information presented at symposiums or conferences; procedures or recommended practices from the USEPA, qualified national laboratories, or published standards; and the most up-to-date versions of EPA-published guidance documents.

> Technical review of the permit application will determine if applicants will need to provide additional evaluation data or monitoring plans beyond that required in 29-N-6. Evaluation data that is not required in the regulations but may be required prior to permit approval could include evaluation methods such as magnetic drone surveys to quantify any mis-located or unpermitted wells, geophysical data to support geologic interpretation, groundwater information to support hydrogeological interpretation, or other methods deemed necessary by the Commissioner. Additional monitoring plans may also be required by the Commissioner to monitor microseismicity, groundwater, reservoir pressures or plume extent, or any other plans deemed necessary based on a site-specific technical evaluation.

La R.S. 30:1109 states that the commissioner shall issue a certificate of completion ten years, or any other timeframe established by rule, after injection activities have ceased. LAC 43.XVII.3633.A.2.a establishes this timeframe as at least 50 years, or an approved alternative timeframe, and states that the owner or operator must continue to conduct monitoring according to the post-injection site care (PISC) and closure plan for the duration of that time. Before the site is approved for closure at the end of the PISC phase, the owner or operator must submit to the commissioner for approval, a demonstration that no additional monitoring is needed to ensure that the geologic sequestration project does not pose a threat to the USDW. The PISC phase with owner or operator monitoring will continue if such a demonstration cannot be made or is not approved (LAC 43.XVII.3633.A.2.d).

During the PISC phase, the operator will still hold liability for the geologic sequestration project and must continue to maintain financial responsibility sufficient to cover costs of site closure and well plugging (LAC 43.XVII.3609.C.4.a.i). After the conclusion of the PISC phase and issuance of the certificate of completion, the funds in the GSF for that site will be held in perpetuity. These funds may be used for the actions detailed at La R.S. 30:1110.E.

General LDNR Response

As mandated by the EPA, an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Class VI primacy application as described above and are beyond the regulatory scope of the UIC program as implemented by LOC IMD.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity

– that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Ben Gordon
benhgordon@yahoo.com

RE: Class VI USEPA Primacy Application Comment

Dear Mr. Gordon:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Ann Maier
1808 Tennessee Street
New Orleans, LA 70117

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Maier:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

Neither the EPA neither LOC have waived requirements for the applicant to analyze the physical and chemical characteristics of the carbon dioxide stream. Several provisions within LAC 43:XVII. Chapter 36 address this concern:

- §3607.C.2.f.iii – carbon dioxide stream information as part of proposed operating data;
- §3617.A.2.a.v – corrosiveness of the carbon dioxide stream;

- §3619.A.3.c – required to assess the compatibility of the proposed stream with injection zone fluids, minerals in the injection and confining zones, and wellbore construction materials; and
- §3625.A.1 – required to prepare, maintain, and comply with an approved testing and monitoring plan that includes analysis of the carbon dioxide stream with sufficient frequency to yield data representative of the chemical and physical characteristics.

These testing and monitoring requirements will be mandatory for every project, regardless of carbon dioxide stream source. Analyses, proposed testing and monitoring plans, and monitoring data submitted by the owner or operator will be reviewed by qualified technical staff.

Potential risks to the aquifer are extensively evaluated as part of the application process. These provisions are intended to ensure against the movement of fluid containing any contaminant into the underground source of drinking water (USDW) (LAC 43:XVII.3603.D). The application process requires thorough technical evaluations to identify, avoid, and mitigate potential risks to the USDW. These evaluations include but are not limited to: detailed site characterization; delineation of the area of review (AOR) or the region surrounding the proposed well where the USDW may be endangered by injection activity; identification of potential geological or artificial conduits within the AOR; demonstrating proper well construction to ensure that injected fluids are safely contained within the permitted injection zone.

Construction projects in coastal zones and wetlands are subject to permitting from the requisite state and federal agencies and are outside the scope of review of LOC. However, applicants are required to submit a list of the permits they have received for their proposed injection project. Qualified technical staff will verify that all required state and federal permits for site construction have been applied for before LOC issues a permit-to-construct.

The issuance of a Coastal Use Permit by LDNR Office of Coastal Management serves as a determination of consistency with Louisiana's Coastal Zone Management Program.

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

JOHN BEL EDWARDS
GOVERNOR

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

September 17, 2021

Angelle Bradford
Sierra Club, Delta Chapter
Bradford.751@osu.edu

Kaitlyn Joshua
Earthworks
kjoshua@earthworksaction.org

RE: Class VI USEPA Primacy Application Comment

Dear Ms. Bradford and Ms. Joshua:

Thank you for providing comments on the Class VI USEPA Primacy Application. Please see our responses below.

As mandated by the Environmental Protection Agency (EPA), an application for Class VI primacy must demonstrate the following:

1. The legal authority to implement all required permit requirements found in 40 CFR 145.11 (including the requirements found in 40 CFR 124);
2. The necessary procedures, pursuant to 40 CFR 145.12, for the state's compliance evaluation program;
3. The necessary administrative, civil and criminal enforcement penalty remedies pursuant to 40 CFR 145.13;
4. Regulations that are at least as stringent as those promulgated by EPA (e.g., permitting, inspection, operation, monitoring and recordkeeping requirements; inspection and compliance monitoring requirements found in 40 CFR 145.12; and reporting and recordkeeping requirements found in 40 CFR 144.54 and 146.91 for Class VI wells); and
5. Statewide jurisdiction over underground injection projects.

Comments pertaining to climate and energy policy are not relevant to the substance of the Office of Conservation's (LOC) Class VI primacy application as described above and are beyond the regulatory scope of the Underground Injection Control program as implemented by the LOC Injection and Mining Division (IMD).

As a general note, multiple commenters have stated or implied that LOC should not pursue primacy over Class VI geologic sequestration of carbon dioxide or that it should simply not be allowed in Louisiana. As civil

servants, we are answerable to the citizens of this state and we take your comments and concerns seriously. However, it should be noted that carbon dioxide sequestration using such wells is a legal activity within both state and federal legal frameworks, and the LOC does not have the authority to unilaterally disallow the activity – that would be a matter for state or federal legislators – it can only provide and enforce regulations to make such activities as protective as possible for human health and the environment.

In the 2009 Regular Legislative Session of the Louisiana Legislature, the Louisiana Geologic Sequestration of Carbon Dioxide Act (Act 517), found at RS 30:1101-1111, was passed and subsequently signed into law by the governor. In the 2021 Regular Legislative Session, the legislature passed Act 326, which was subsequently signed into law by Governor Edwards. Act 326 provided for changes to the original Geologic Sequestration of Carbon Dioxide Act to facilitate the application to the EPA for primacy as well as facilitate future permitting and regulation of sequestration activities. In addition, if the state were not to seek primacy, this would not stop permitting of such sequestration operations. It would merely mean that the process would be handled by the EPA under its existing rules for permitting such activities – which are less restrictive for operators than those proposed by LOC.

Yours very truly,

Richard P. Ieyoub
Commissioner of Conservation



Stephen H. Lee, Director
Injection and Mining Division

MEMORANDUM OF AGREEMENT ADDENDUM 3
Between
The State of Louisiana
And
The United States Environmental Protection Agency Region 6
For the Class VI UIC Program

I. General

The Memorandum of Agreement between the state of Louisiana and EPA Region 6, dated March 17, 1982, of Underground Injection Control (UIC) Program Memorandum of Agreement (program MOA), and amended by Addendum 1 and Addendum 2 on November 3, 1989, is supplemented by this Addendum 3. All terms defined in the program MOA shall have the same meanings for purposes of this Addendum 3.

This Addendum is entered into by the state of Louisiana and signed by Richard P. Ieyoub, Commissioner of Conservation and Thomas F. Harris, Secretary for the Louisiana Department of Natural Resources (hereafter, "the state" or "LDNR") with the United States Environmental Protection Agency, Region 6, and signed by Dr. Earthea Nance, Regional Administrator (hereafter, "EPA" or "Regional Administrator"). This Addendum shall become effective when approved by the Regional Administrator.

A. Lead Agency Responsibilities

The LDNR is the lead agency to coordinate the implementation of the Class VI UIC program as authorized by Section 1422 of the Safe Drinking Water Act (SDWA). The LDNR also is the lead agency overseeing Class I, III, IV and V injection wells under Section 1422 and Class II injection wells under Section 1425. LDNR coordinates the state program to facilitate communication between the EPA and any other state agencies having program responsibilities for other injection well classes. These responsibilities shall include, but not be limited to, the submission of grant applications, reporting and monitoring results, and annual report requirements. The LDNR is responsible for and has authority over all Class VI injection wells.

B. Review and Modifications

This Addendum shall be reviewed annually as part of the annual program grant and State/EPA Agreement ("SEA") process. The annual program grant and the SEA shall be consistent with this Addendum and may not override this Addendum.

This Addendum may be modified upon the initiative of the state or EPA. Modifications must be in writing and must be signed by LDNR and the Regional Administrator. Modifications become effective when signed by both parties. Modifications may be made by revision prior to the effective date of this Addendum or subsequently by addenda attached to this Addendum and consecutively numbered, signed, and dated.

C. Conformance with Laws and Regulations

The Louisiana Injection and Mining Division (IMD), a division within LDNR, shall administer the Class VI UIC program consistent with the state's submission for program approval, the program MOA, this Addendum, the Safe Drinking Water Act (SDWA), current federal policies

and regulations, promulgated minimum requirements, priorities established as part of the annually approved state UIC grant, state and federal law, and any separate working agreements which shall be entered into with the Regional Administrator as necessary for the full administration of the Class VI UIC program.

D. Responsibilities of Parties

The parties agree to maintain a high level of cooperation and coordination between the LDNR and EPA staffs to assure successful and efficient administration of the Class VI UIC program. In this partnership, the Regional Administrator will provide to LDNR necessary technical and policy assistance on program matters.

The Regional Administrator is responsible for keeping LDNR apprised, in a timely manner, of the meaning and content of the federal guidelines, technical standards, regulations, policy decisions, directives, and any other factors which affect the Class VI UIC program.

LDNR will carry out the Class VI UIC Program as outlined in the Class VI primacy application and subsequent modifications.

It will be the policy of EPA and LDNR to minimize paperwork and interagency decision-making procedures and to make the best use of available manpower and funds so as to prevent duplication of effort and unnecessary delays to the extent allowable by law.

The strategies and priorities for issuance, compliance, monitoring and enforcement of Class VI permits, and implementation of technical requirements shall be established in the state's Program Description, the annual SEA, or in subsequent working agreements. If requested by either party, meetings will be scheduled at reasonable intervals between the state and EPA to review specific operating procedures, resolve problems, or discuss mutual concerns involving the administration of the Class VI UIC program.

E. Sharing of Information

The LDNR shall promptly inform EPA of any proposed, pending, or enacted modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions, which might affect the state program and the state's authority to administer the Class VI UIC program. The LDNR shall promptly inform EPA of any resource allocation changes (for example, personnel budget, equipment, etc.) which might affect the state's ability to administer the program.

Any information obtained or used by the state under its Class VI UIC program shall be available to EPA upon request without restriction. If the information has been submitted to the state under a claim of confidentiality, the state must submit that claim to EPA when providing EPA such information. Any information obtained from a state and subject to a claim of confidentiality will be treated in accordance with 40 CFR Part 2 and 40 CFR § 144.5. If EPA obtains information from the state that is not claimed to be confidential, EPA may make that information available to the public without further notice.

EPA shall furnish the state the information in its files not submitted under a claim of confidentiality which the state needs to implement its approved Class VI UIC program. EPA shall furnish to LDNR information submitted to EPA under a claim of confidentiality which the state needs to implement its approved program subject to conditions in 40 CFR Part 2. As required by 40 CFR 2.209(f), EPA will require permittees and applicants to provide express consent for

disclosure to LDNR upon submission of confidential business information. Permittees and applicants may request confidentiality of any submittals or information provided to LDNR pursuant to LAC 43:XVII.3603.I. If permittees or applicants do not request confidentiality of information at the time of submittal to LDNR, the information shall be available to the public pursuant to La. R.S. 44:1 et seq.

F. Duty to Revise Program

As stated in 40 CFR 145.32(e), within 270 days of any amendment to any regulation promulgated at 40 CFR 124, 144, 145 or 146 revising or adding any requirement respecting state UIC programs, the state shall submit notice to EPA showing that the state program meets the revised or added requirements.

G. Duration of MOA

This Addendum will remain in effect until such time as state primacy enforcement responsibility is returned to EPA by the state, or withdrawn by EPA, according to the provisions of 40 CFR Part 145.33, and 145.34.

H. General Provisions

Nothing in this Addendum is intended to affect any Class VI UIC or program requirement, including any standards or prohibitions established by state or local law, as long as the state or local requirements are no less stringent than or are equally protective as: (1) any set forth in the Class VI UIC regulations; or (2) other requirements or prohibitions established under SDWA or applicable regulations.

Nothing in this Addendum shall be construed to limit the authority of EPA to take action pursuant to Sections 1421, 1422, 1423, 1424, 1425, 1431 or other sections of SDWA.

This Addendum does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this agreement, against LDNR or EPA, their officers or employees, or any other person. This Addendum does not direct or apply to any person outside of LDNR and EPA.

II. Permitting

A. General

The state is responsible for expeditiously drafting, circulating, issuing, reissuing, and terminating Class VI permits as detailed in the approved Class VI UIC Program Description, and pursuant to State and federal laws, rules, and regulations. The Director shall review and issue permits under the authority of Louisiana's Class VI Injection Wells Rule LAC 43:XVII.Chapter 6. Permits issued by LDNR shall be in compliance with applicable federal and state requirements.

All Class VI permits shall meet the public participation requirements at 40 CFR 25 and 124, interstate coordination requirements at 40 CFR 146.82(b), and permitting procedures at 40 CFR 124 for Class VI wells.

B. Class VI Injection Depth Waivers

Class VI injection depth waivers will not be permitted by LDNR

C. Post-Injection Site Care and Site Closure

LDNR will not issue a certificate of completion pursuant to LA R.S. 30:1109 until the owner or operator submits a site closure report pursuant to 40 CFR 146.93(f) and LAC 43:XVII.3633.A.6 and otherwise fully complies with the site closure requirements in 40 CFR 146.93 and LAC 43:XVII.3633.A. The state and EPA agree to coordinate prior to approving any site closure to ensure doing so is consistent with the requirements of the federal Safe Drinking Water Act.

Pursuant to 40 CFR 145.1(g) nothing in this Addendum precludes the state from adopting or enforcing requirements which are more stringent or more extensive than those required under federal regulations, and if the state program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the federally approved program.

D. Transfer of Responsibility from EPA

The Regional Administrator shall transfer to the state any pending permits, applications, and any other information relevant to Class VI UIC program operation not already in the possession of the state Director when a state assumes primacy for the Class VI UIC program.

E. Coordination with EPA

EPA and the state may coordinate when appropriate the processing of permits for facilities or activities that require permits from both EPA and the state under different programs.

F. Consolidation of Permit Issuance

The state and EPA may agree on provisions for joint processing of permits for facilities or activities which require permits from both EPA and the state under different programs. The state and EPA may consolidate draft permits, fact sheets, public comment periods and any public hearings on those permits which are jointly processed. The commissioner shall not, however, proceed with joint processing of permits if this would result in unreasonable delay in the issuance of one or more permits.

G. Compliance Schedule and Reports

The state agrees to establish compliance schedules in permits where appropriate and to require periodic reporting on compliance with compliance schedules and other permit conditions.

H. Environmental Justice

The state agrees to examine the potential risks of a proposed Class VI well within its jurisdiction to identify and address any particular impacts on minority and low-income populations.

The state will work within its legal authority to support communities through a variety of approaches, including:

Implementing an Inclusive Public Participation Process. The state will fully incorporate robust and ongoing opportunities for public participation, especially for lower-income people, communities of color and those experiencing a disproportionate burden of pollution

and environmental hazards, as described in the Program Description. For example, the state will provide notice of proposed Class VI wells and tailor public participation to specific community needs and interests. Tailored public participation activities may include scheduling public meetings at times convenient for residents with appropriate translation services where needed, enabling face-to-face or written feedback on permit applications early in the review process, convening local stakeholders and community groups for safety planning, or supporting the development of community benefits agreements.

Considering Environmental Justice & Civil Rights Impacts on Communities. As described in the Program Description, the state will include environmental justice as a core element in implementing their Class VI programs. For example, in their review of permit applications, the state will evaluate whether the siting of a Class VI project at the proposed location will create any new risks or exacerbate any existing impacts on lower-income people and communities of color. Such evaluations will consider the presence of existing environmental hazards, cumulative impacts, potential exposure pathways, and susceptible sub-populations, as well as the likely distribution of any environmental and public health benefits from the proposed Class VI project in affected communities. EPA's EJScreen will be employed to identify environmental and social stressors in specific communities, as described in the Program Description. EPA encourages the use of other tools to calculate impacts to communities, including but not limited to the most up-to-date versions of EPA-published EJ guidance documents.

Enforcing Class VI Regulatory Protections. The Safe Drinking Water Act UIC program Class VI regulations include strong protections for communities to prevent contamination of underground drinking water sources. These regulatory protections include a variety of measures, including proper site characterization and strict construction, operating, and monitoring requirements to ensure well and formation integrity, proper plugging of wells, and long-term project management and post-injection site care to ensure leakage prevention. The state will properly implement and enforce these requirements to protect communities from potential harms associated with injection wells. The state will post regular reports of enforcement activities in a manner accessible to the public.

Incorporating Other Mitigation Measures. The state will proactively work within its legal authority to prevent and/or reduce any adverse impacts to underground sources of drinking water from well construction and operational activities. While the UIC program is designed to protect underground sources of drinking water, there are a range of mitigation measures that the state may incorporate to ensure Class VI projects do not increase environmental impacts and public health risks in already overburdened communities. Measures designed to protect residential areas could include carbon dioxide monitoring and release notification networks, and installation of enhanced pollution controls. Additionally, the state could encourage the adoption of other measures to offset impacts by improving other environmental amenities for the communities identified within the delineated area and providing resources for clean-up of previously degraded public areas.

III. Compliance Monitoring

A. General

The state shall operate a timely and effective compliance monitoring system to track compliance with permit conditions and program requirements. For purposes of this Addendum the terms "compliance monitoring" or "compliance evaluation" shall refer to all efforts associated with determining compliance with Class VI UIC program requirements.

B. Compliance Schedule

The state agrees to maintain procedures to receive, evaluate, retain and investigate all notices and reports that are required by permit compliance schedules and program regulations. These procedures shall also include the necessary elements to investigate the failure of persons required to submit such notices and reports. The state shall initiate appropriate compliance actions when required information is not received or when the reports are not submitted.

C. Review of Compliance Reports

The state shall conduct a timely and substantive review of all such reports to determine compliance status. The state shall operate a tracking system to determine if: (1) the reports required by program regulations are submitted; (2) the submitted reports are complete and accurate; and (3) the permit conditions and program requirements are met. The reports and notices shall be evaluated for compliance status in accordance with the state compliance program and the program requirements.

D. Inspection and Surveillance

The LDNR agrees to have inspection and surveillance procedures to determine compliance or noncompliance with the applicable requirements of the Class VI UIC program. Surveys or other methods of surveillance shall be utilized to identify persons who have not complied with permit applications and program requirements. Any compilations, index, or inventory obtained for such facilities or activities shall be made available to the Regional Administrator and the public upon request.

The LDNR shall conduct periodic inspections of the facilities and activities subject to regulatory requirements. These compliance monitoring inspections shall be performed to assess compliance with all Class VI UIC program requirements and include selecting and evaluating a facility's monitoring and reporting program. These inspections shall be conducted to determine compliance or noncompliance with issued permits, to verify the accuracy of information submitted by operators in reporting forms and monitoring data, and to verify the adequacy of sampling, monitoring, and other methods to provide the information.

E. Information from the Public

The LDNR shall provide the opportunity for the public to submit information on violations and shall have procedures for receiving, investigating, and ensuring proper consideration of the information and reporting back to the public how information was used.

F. Authority to Enter

The LDNR (and other state designees) engaged in compliance monitoring and evaluation shall have the authority to enter any site or premises subject to regulation or to review and copy the records of relevant program operations where such records are kept.

G. Admissibility

Any investigatory inspections shall be conducted, and samples and other information collected in a manner to provide evidence admissible in an enforcement proceeding or in court.

IV. Enforcement

A. General

The state is responsible for taking timely and appropriate enforcement action against persons in violation of Class VI program requirements, permit conditions, compliance schedules, technical and other Class VI program requirements. This includes violations detected by state or federal inspections.

EPA shall be notified of any enforcement actions taken by the state. Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action. Such a determination shall result in EPA filing an action to enforce the state's rules consistent with Section 1423 of the SDWA.

Failure by the state to initiate appropriate enforcement action against a substantive violation may be the basis for EPA's determination that the state has failed to take timely enforcement action.

B. Enforcement Mechanisms

The state shall have the mechanism to restrain immediately and effectively any person engaging in any unauthorized activity or operation, which is endangering or causing damage to public health or the environment as applicable to the program requirements. LDNR shall also have the means to sue in courts of competent jurisdiction to prohibit any threatened or continuing violation of any UIC program requirement. Additionally, LDNR shall have the mechanism to access or sue to recover in court civil penalties and criminal remedies as established in La. R.S. 30:1106, La. R.S. 30:18, and 40 CFR 145.13.

C. EPA Enforcement

Nothing in this Addendum shall affect EPA's authority or responsibility to take enforcement actions under Sections 1423 and 1431 of SDWA.

When the state has a fully approved Class VI UIC program, EPA will not take enforcement actions without providing prior notice to the state and otherwise complying with sections 1423 and 1431 of SDWA.

D. Assessment of Fines

The state shall agree to assess civil penalties in amounts appropriate to the violation as required in La. R.S. 30:1106, La. R.S. 30:18, and 40 CFR145.13(c).

V. EPA Oversight

A. General

EPA shall oversee the state's administration of the Class VI UIC program on a continuing basis to assure that such administration is consistent with this Addendum, the program MOA, the state UIC grant application, and all applicable requirements embodied in current regulations, policies, and federal law.

In addition to the specific oversight activities listed in this section, EPA may from time-to-time request specific information including permits and the accompanying environmental justice reviews, and the state shall submit and provide access to files necessary for evaluating the state's administration of the Class VI UIC program.

B. Immediate Reporting on Noncompliance

The LDNR shall immediately notify the Regional Administrator by telephone, or otherwise, of any major, imminent hazard to public health resulting from the endangerment of a USDW of the state by Class VI injection well activities.

C. Program Reports

Federal requirement 40 CFR § 146.9 1(e) requires that regardless of whether a State has primacy enforcement responsibility, owners or operators must submit all required reports, submittals, and notifications under Subpart H of part 146 to EPA in an electronic format approved by EPA. Additional State regulations require the owner or operator to submit reports, submittals, and notifications to LDNR. In order to assure both the State, as the primacy authority, and EPA, as the oversight authority, have consistent data throughout program implementation, LDNR agrees to submit to EPA or allow EPA viewing access to all Class VI reports, submittals, and notifications submitted to the State. LDNR will assist EPA in owner or operator compliance with 40 CFR § 146.9 1(e) by submitting to EPA or allowing EPA viewing access to all required reports, submittals, and notifications under Subpart H of part 146 through the Department's database in an electronic format approved by EPA.

D. Quarterly Program Reports

The LDNR shall submit to the Regional Administrator quarterly non-compliance reports as specified in 40 CFR § 144.8(a).

Quarterly reports will be submitted in accordance with the following schedule (or as otherwise specified in LDNR's FY UIC workplan):

- October, November, December – due January 30
- January, February, March – due April 30
- April, May, June – due July 30
- July, August, September – due October 30

E. Annual Program Reports

LDNR shall submit an annual program report as specified by 40 CFR § 144.8 to the Regional Administrator sixty (60) days after the end of the federal fiscal year. The report is for the period of October 1 through September 30 (federal fiscal year) and will consist of the following:

i. A well inventory consisting of the facility name and ID, location, well type, and well status.

ii. A written summary of the major program activities completed and in progress during the fiscal year as identified in the work plan.

LDNR will provide the EPA any information or data necessary to assist in the development of the State/EPA SEA process.

F. Major Facilities

Major facilities will include: all Class VI Facilities.

G. Aquifer Exemptions

Other than EPA approved aquifer exemption expansions that meet the criteria for exempted aquifers, new aquifer exemptions shall not be issued for Class VI injection well activities. Even if an aquifer has not been specifically identified by LDNR, it is an underground source of drinking water if it meets the definition at 40 CFR § 144.3.

H. Mechanical Integrity

LDNR may allow the use of a test to demonstrate mechanical integrity other than those listed in the Class VI UIC Program description. Any alternative mechanical integrity test must receive written approval from the EPA Administrator prior to implementation and be consistent with the requirements of 40 CFR § 146.89(e).

I. Inspection and Surveillance by EPA

The Regional Administrator may select facilities and activities within the state for EPA inspection.

EPA may conduct such inspections jointly with the state. The LDNR shall give the Regional Administrator adequate notice to participate in any compliance evaluation inspection scheduled by the state.

The Regional Administrator may also choose to conduct inspections independently of the state's schedule. In such cases, EPA shall notify the state at least seven (7) days before any inspection that EPA determines to be necessary to allow coordination of scheduling and allow joint inspection. However, if an emergency exists, or for some reason it is impossible to give advance notification, the Regional Administrator may waive advance notification to inspect a facility. In keeping with Section 1445(b)(2) of SDWA, the state understands not to inform the person whose property is to be entered during the pending inspection.

J. Annual Performance Evaluation

EPA shall conduct, at least annually, performance evaluations of the state program using program reports and other requested information to determine state program consistency with the program submission, SDWA applicable regulations, and applicable guidance and policies. The review will not only include a review of financial expenditures but reviews on progress towards program implementation, changes in the Program Description, and efforts towards progress on program elements.

EPA shall submit a summary of the evaluation findings to the state outlining the deficiencies in program performance and recommendations for improving state operations. The report also might provide guidance for the development of an upcoming grant application. The state shall have 15 working days from the date of receipt to concur with or comment on the findings and recommendations.

VI. Signatures

IN WITNESS WHEREOF, the parties have executed this Addendum.

Louisiana Department of Natural Resources

_____ _____

Richard P. Ieyoub — Date
Commissioner of Conservation, Department of Natural Resources

_____ _____

Thomas F. Harris — Date
Secretary, Department of Natural Resources

United States Environmental Protection Agency, Region 6

_____ _____

Earthea Nance, PhD, PE — Date
Regional Administrator, R6