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

WFUE43070

WWF

worldwildlife.org

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

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.

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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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
Director, Climate & Energy Program
Center for International Environmental Law
1101 15th St NW, Ste 1100
Washington, DC 20005 USA

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
peterdigre@gmail.com
310-346-4361

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

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

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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

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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).

[4] J. Birkholzer et al, Understanding Groundwater Quality Changes Case of CO2 Intrusion by Numerical Modeling, Earth and Environmental Sciences, https://eesa.lbl.gov/projects/potential-impacts-of-co2-leakage-on-groundwater-quality/

[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*.

   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/0001A490.pdf* (hereinafter "LLA 2018 Report").

   Pursuant to the Louisiana Administrative Code, the Office of Conservation 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. **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.*

   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 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

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.

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.

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

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).

935 Gravier St, STE 700
New Orleans, LA 70112

6 July 2021

Office of Conservation, Injection & Mining Division
617 N 3rd St, 8th Floor
Baton Rouge, LA 70802

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.

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**			

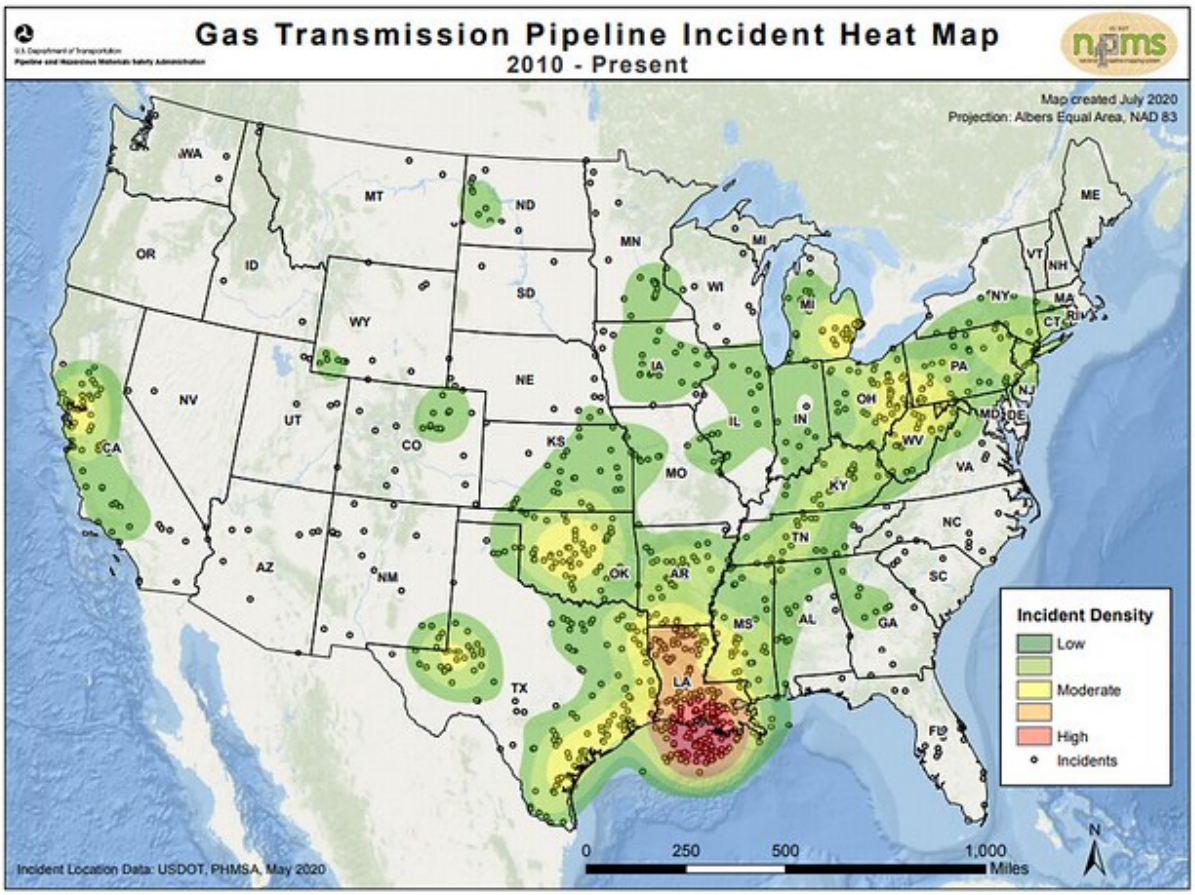


Figure 1. Pipeline and Hazardous Materials Safety Administration, Office of Pipeline Safety. Gas Transmission Pipeline Incident Heat Map with Incident Points 2010 - Present . Map created July 2020
https://www.npms.phmsa.dot.gov/Documents/NPMS_HeatMap_GTIncidents_wPoints.pdf

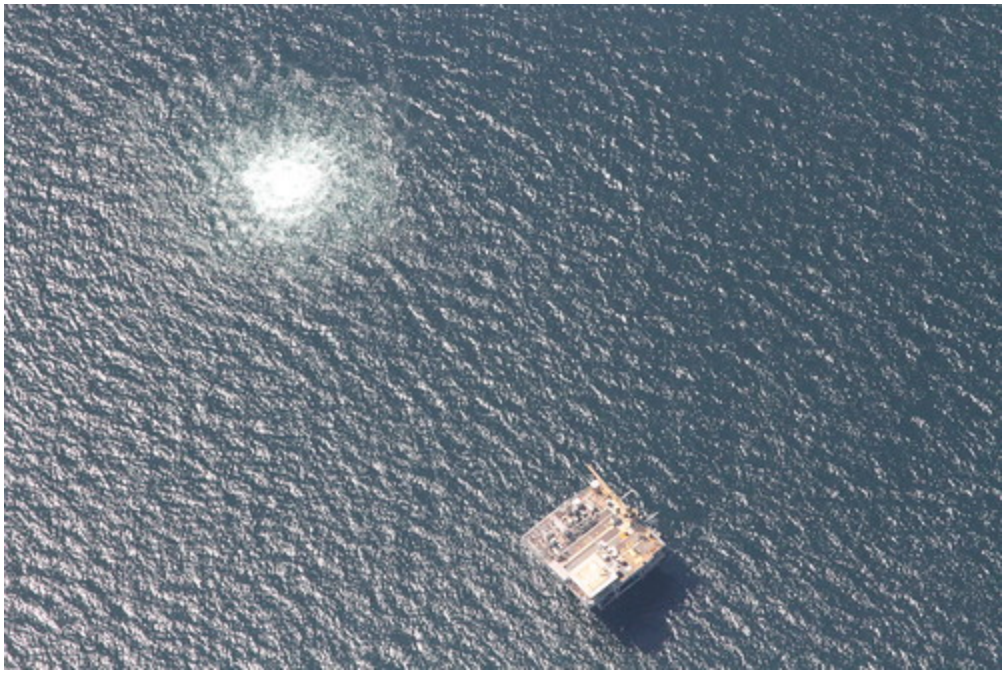


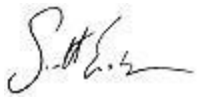
Figure 2 NRC report 119 3205 Energy XXI GOM LLC platform 20147 pipeline release into West Delta 30

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
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935 Gravier Suite 700 New Orleans, LA 70122
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(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.

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

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

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

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

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

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

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

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
7900 PATRICIA ST APT 33041
Chalmette LA 70043

NEW ORLEANS LA 700
1 JUL 2021 PM 2 L

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 Prazici

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

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.

Sincerely,

Andy Kowalczyk