

Geologic Storage of Carbon Dioxide – Law & Procedure



State Mineral & Energy Board

May 11, 2021

LDNR Involvement in CO2 GS

- Louisiana Department of Natural Resources
 - Office of Conservation
 - Injection & Mining Division – UIC Programs – Class VI Wells
 - Pipeline Division – Pipelines (including CO2)
 - Office of Mineral Resources – State Mineral & Energy Board – mineral rights & storage rights for Geologic Storage of CO2 on state lands & waterbottoms
 - Office of Coastal Management – State & Local Coastal Resources Management Act includes consistency determinations for federal permits and projects
 - State Energy Office – state energy policy and outreach

Property Rights Necessary for Geologic Storage of CO₂

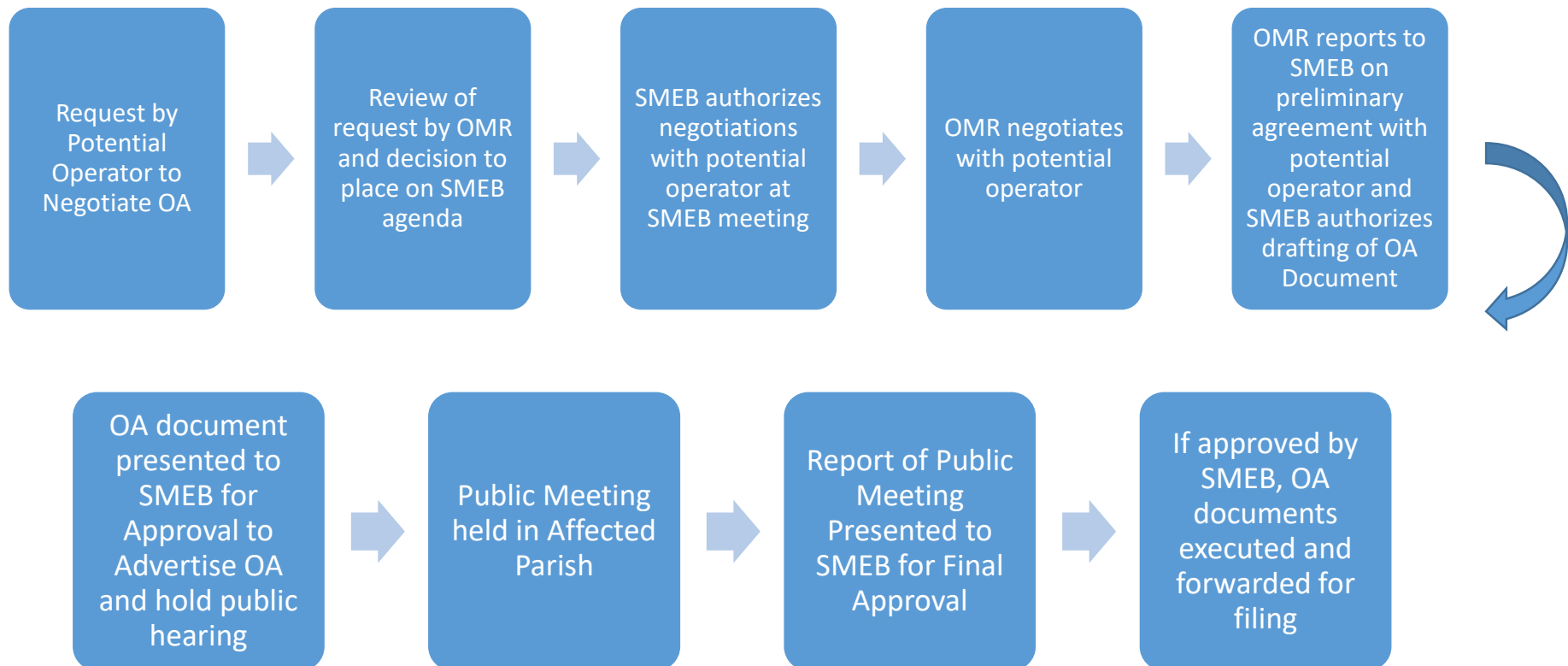
- Surface ownership: “pore-space” rights and rights necessary for related surface activities
 - Other property interest rights necessary or useful
- Ensuring necessary rights for “long-term” storage
- State & Public Property Rights in Louisiana
 - State Mineral & Energy Board (SMEB)
 - Mineral and Storage Rights
 - Pipelines and surface equipment directly associated with CO₂ Geologic Storage Facility
 - Geophysical Survey Authorization
 - State “agencies” retain authority to grant storage rights on property held in their name
 - Agreement with LDWF
 - State Land Office – ROWs for CO₂ pipelines for transport

CO2 Storage Rights on State Property - Authority

- Lease – La. R.S. 30:148.2(A)(2)
 - “A. ... the State Mineral and Energy Board may **lease** lands, bodies of any lakes, bays or coves, sea, arms of the sea, or other navigable waters and beds thereof belonging to the state or the title to which is in the public:
 - * * *
 - (2) For the purpose of injection, storage, transportation, shipment, and withdrawal of ... **carbon dioxide** in any underground reservoir lying beneath such lands or water bodies, and beds thereof, and for other purposes necessary or incidental thereto, including drilling of any wells for injection, storage, or withdrawal of such product stored in such underground reservoir and the construction of houses for employees, warehouses, pipelines, separation and dehydration facilities, compressor stations, pump stations, loading stations, wharves, and docks.”
- Lease – La. R.S. 30:148.9
 - “A. **Any lease** for the underground storage of oil, natural gas, liquid hydrocarbons, or **carbon dioxide** granted pursuant to the provisions of this Subpart **shall be granted conditionally and shall not be final until** the following conditions are met:
 - (1) Lessee shall **request a public hearing with the commissioner of conservation within sixty days after the conditional award** of such lease.
 - (2) After the public hearing is held, the lessee shall obtain **an order from the commissioner of conservation finding that the proposed project is in the public interest.**
- Operating Agreement – La. R.S. 30:209(4)(e)
 - “... the State Mineral and Energy Board may: (4)(e) Upon a **two-thirds vote** of the members of the State Mineral and Energy Board and **after a public hearing conducted in the affected parish ...**, enter into **operating agreements** whereby the state receives a share of revenues from the storage of ... carbon dioxide, in whole or in part, as may be agreed upon by the parties and assumes all or a portion of the risk of the cost of the activity in those situations **where the board determines it is in the best interest of the state** either in equity or in the promotion of conservation to do so, such as but not limited to the following illustrations: (iv) Establishing a hydrocarbon or **carbon dioxide storage facility** in an underground reservoir. 4

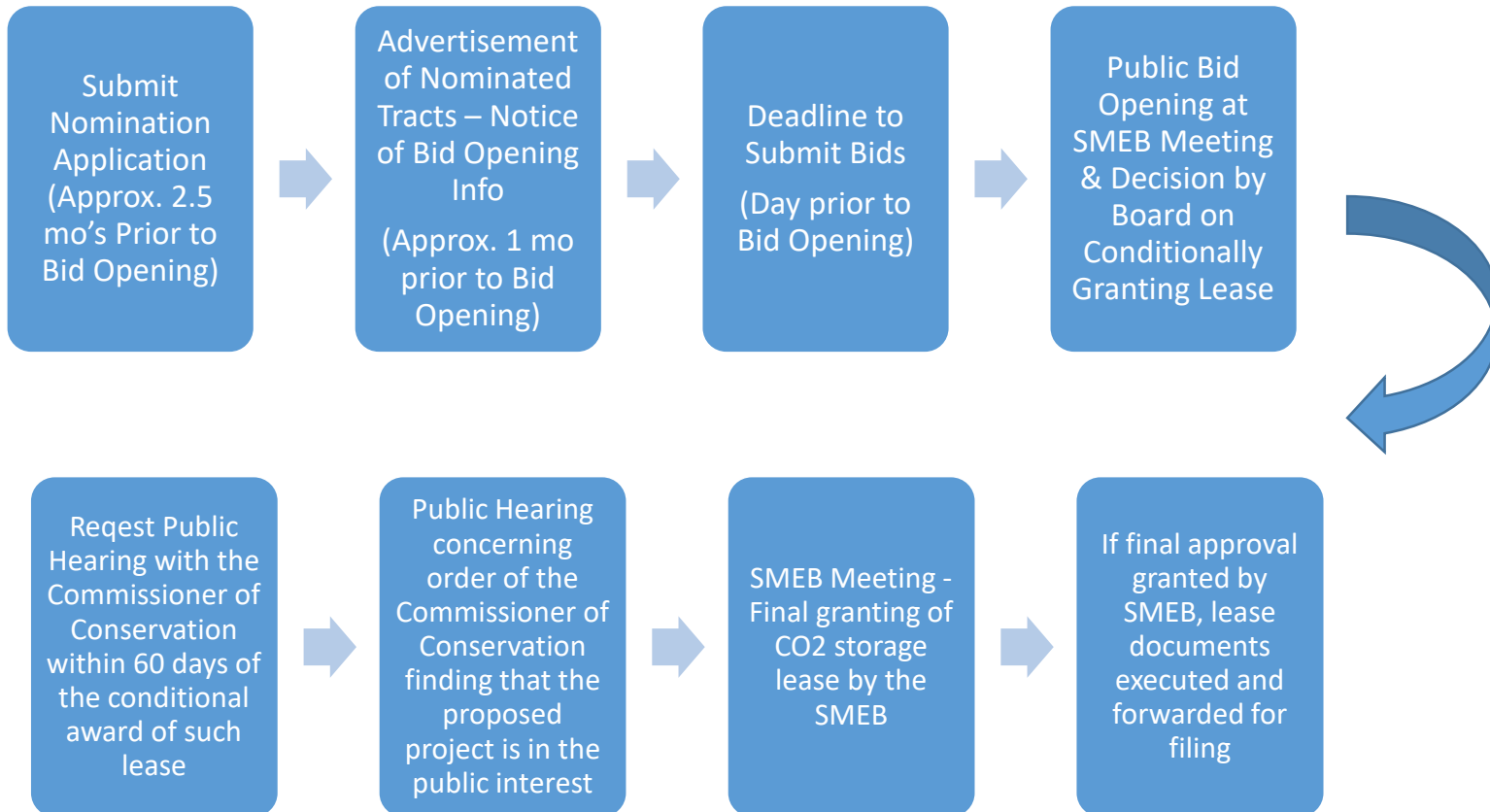
CO2 Storage Rights on State Property – Operating Agreement Process

- Operating Agreement – Negotiation with selected potential operator – unique agreements allowed each time.



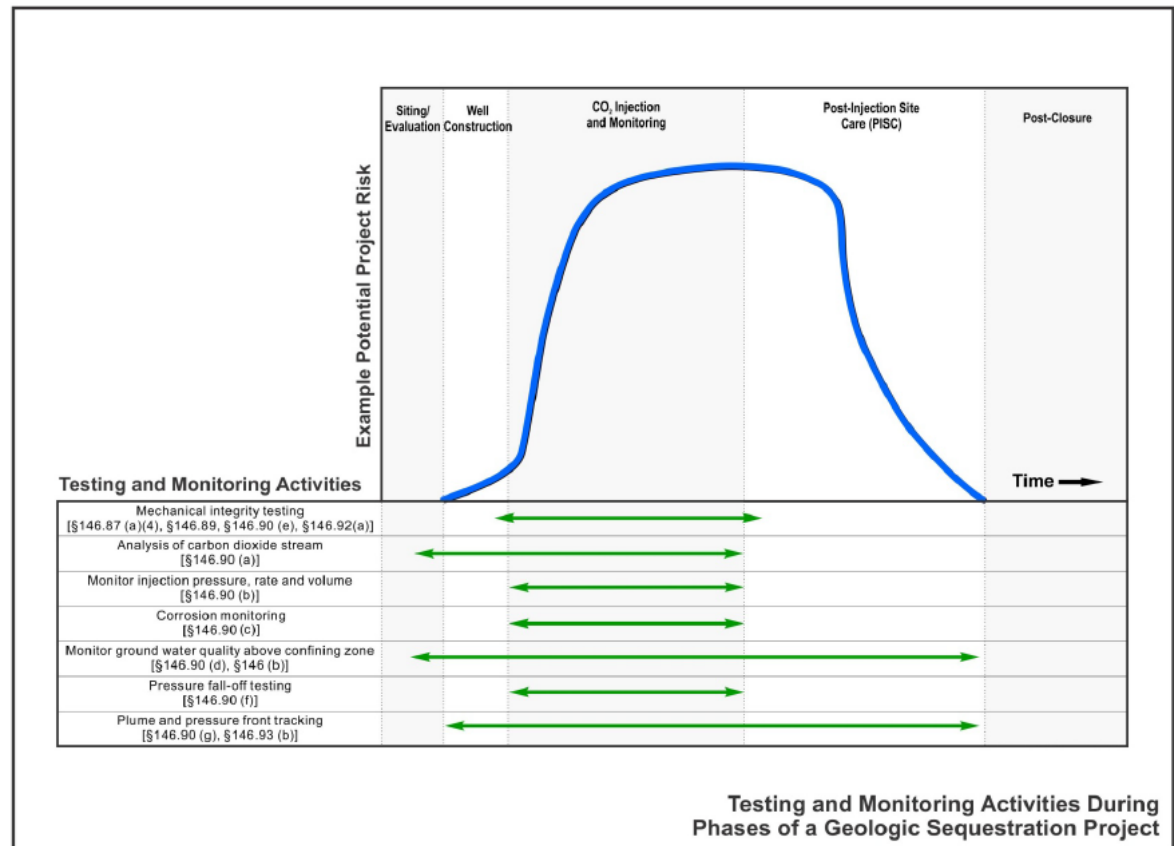
CO2 Storage Rights on State Property – Lease Process

- Lease – Public Bid Process – utilizes standardized lease conditions/terms. Not yet developed.



Permitting Class VI Wells in Louisiana

- Protection of underground sources of drinking water from contamination
- Permit will be technically complex.
- Computational model of CO2 plume is the foundation of the permit.
- Permit review time likely 1-2 years
- Continuous monitoring of CO2 plume through project and after completion of injection
- Closure of CO2 Storage Facility required with plugging of wells and site restoration



Reservoir Management

- La. R.S. 30:1104 – Commissioner of Conservation authorized to approve CO₂ Geologic Storage
 - Reservoir depleted of oil, gas or condensate capable of being produced in paying quantities; OR
 - Approval of $\frac{3}{4}$ of all interest owners when reservoir contains oil, gas, or condensate capable of being produced in paying quantities AND
 - Use of reservoir for geologic storage will not contaminate other formations, fresh water or mineral deposits AND will not endanger lives or cause a hazardous condition to property
- Require drilling, casing, and plugging of wells to be done in order to prevent the escape of CO₂
- Adopt necessary rules as may pertain to the drilling into or through the storage reservoir

Post-injection Transfer of Ownership

- Louisiana Geologic Sequestration of CO2 Act transfers ownership of remaining project including the CO2 to the State upon issuance by the Commissioner of Conservation of a certificate of Completion of Injection Operations – La. R.S. 30:1109(A)
 - Operator may apply for certificate at least 10-years after cessation of injection into storage facility or such other time provided by rule by the Commissioner of Conservation
 - Operator must show that the reservoir is reasonably expected to retain mechanical integrity and the carbon dioxide will reasonably remain emplaced