
THIRD READING

Bill No: AB 881
Author: Petrie-Norris (D), et al.
Amended: 7/22/25 in Senate
Vote: 21

SENATE GOVERNMENTAL ORG. COMMITTEE: 14-0, 6/10/25
AYES: Padilla, Valladares, Ashby, Blakespear, Cervantes, Dahle, Hurtado, Jones,
Ochoa Bogh, Richardson, Rubio, Smallwood-Cuevas, Wahab, Weber Pierson
NO VOTE RECORDED: Archuleta

SENATE ENVIRONMENTAL QUALITY COMMITTEE: 8-0, 7/16/25
AYES: Blakespear, Valladares, Dahle, Gonzalez, Hurtado, Menjivar, Padilla,
Pérez

ASSEMBLY FLOOR: 72-0, 5/19/25 - See last page for vote

SUBJECT: Public resources: transportation of carbon dioxide

SOURCE: California State Pipe Trades Council
Sacramento Municipal Utility District

DIGEST: This bill requires the State Fire Marshall (SFM) to adopt regulations to regulate the transportation of (CO₂) in a pipeline, including certain specified safety standards that, at a minimum, are as protective as the draft regulations proposed by the federal Pipeline and Hazardous Materials Safety Administration (PHMSA).

ANALYSIS:

Existing law:

- 1) Provides, under the Elder Act, that the SFM exercises safety regulatory jurisdiction over intrastate pipelines used for the transportation of hazardous or

highly volatile liquid substances. The Elder Act imposes various requirements in relation to the regulation of these intrastate pipelines. A person who willfully and knowingly violates the Act or a regulation adopted pursuant to the Elder Act is, upon conviction, subject to a fine, imprisonment, or both a fine and imprisonment, as provided.

- 2) Defines “pipeline” for the purposes of the Elder Act, as every intrastate pipeline used for the transportation of hazardous liquid substances or highly volatile liquid substance; and does not include an interstate pipeline subject to federal regulations, a pipeline that transports hazardous substances in a gaseous state, and other specified exclusions. (Government Code § 51010.5)
- 3) Requires the SFM to adopt hazardous liquid pipeline safety regulations in compliance with the federal law relating to hazardous liquid pipeline safety, including, but not limited to, compliance orders, penalties, and inspections and maintenance provisions. (Government Code § 51011)
- 4) Prohibits the use of pipelines to transport CO₂ to or from CO₂ capture, removal, or sequestration projects until the federal PHMSA has concluded a specified rulemaking regarding minimum federal safety standards for transportation of CO₂ by pipeline and the project operator demonstrates that the pipelines meet those standards.
- 5) Governs, under the Administrative Procedures Act (APA), the procedure for the adoption, amendment, or repeal of regulations by state agencies and for the review of those regulatory actions by the Office of Administrative Law (OAL).
- 6) Grants, pursuant to federal law, the United States Secretary of Transportation the regulatory and enforcement authority over gas and hazardous liquid pipelines, including CO₂ pipelines. (49 United States Code § 60102)
- 7) Prohibits, pursuant to federal law, the United States Secretary of Transportation from prescribing or enforcing safety standards and practices for an intrastate pipeline or intrastate pipeline facility to the extent that the safety standards and practices are regulated by a state authority, except as provided. (49 United States Code § 60105)
- 8) Requires, through the California Environmental Quality Act (CEQA), the lead agency, as defined, to prepare, or cause to be prepared, and certify the completion of an environmental impact report (EIR) on a project that it

proposes to carry out or approve that may have a significant effect on the environment or to adopt a negative declaration if it finds that the project will not have that effect.

This bill:

- 1) Requires, on or before April 1, 2026, the SFM to develop regulations to regulate the transportation of CO₂ in a pipeline that are, at a minimum, as protective as standards proposed by the draft federal regulations set forth in the Notice of Proposed Rulemaking publicly issued by the federal Pipeline and Hazardous Materials Administration on January 10, 2025, pursuant to rulemaking (RIN 2137-AF60) regarding the minimum federal safety standards for transportation of carbon dioxide by pipeline (Parts 190 to 1999, inclusive, of Title 49 of the Code of Federal Regulations).
- 2) Provides that regulations developed pursuant to this bill, or any amendment to those regulations, shall be adopted in accordance with the emergency rulemaking process in the APA.
- 3) Prohibits an operator from constructing a pipeline transporting CO₂ in a location where one or more sensitive receptors, as defined, are located within the emergency planning zone of the pipeline, which is defined as an area within two miles of either side of the pipeline, except as provided.
- 4) Requires an operator to submit to the SFM an emergency planning zone inventory and map, as provided, and would require the SFM to review, at least one every three years, the inventory and map for completeness and accuracy.
- 5) Requires the operator, at least once every three years, to provide to local governments providing emergency response services to sensitive receptors within an emergency planning zone the inventory and map determined by the SFM to be complete and accurate.
- 6) Prohibits a pipeline from being approved to transport CO₂ if the pipeline is originally constructed to transport any other liquid or gas and prohibits the construction of those pipelines using previously used pipe or components.
- 7) Authorizes the SFM, for a pipeline transporting CO₂, to order a pipeline shutdown for violations of the provisions of this bill or if continued pipeline operations present an immediate danger to health, welfare, or the environment.

- 8) Requires, in the event of a pipeline rupture, the pipeline to remain nonoperational until an investigation into the pipeline rupture is completed and the origin and cause of the pipeline rupture is determined.
- 9) Lifts the moratorium on intrastate pipelines used for CO₂ transport for CO₂ capture, removals, or sequestration projects only after the SFM has adopted regulations pursuant to this bill and the pipeline operator demonstrates that the pipeline meets the standards and regulations adopted by the SFM.
- 10) Provides that the provisions of this bill do not apply to carbon captured at a permitted facility and transported within that facility or property.
- 11) Requires, for a project that includes the construction of a pipeline transporting CO₂ subject to requirements in CEQA, the lead agency to prepare an EIR, or equivalent documentation, as defined, and to certify or adopt those documents for the project.
- 12) Requires the lead agency, at least 30 days before the certification of the EIR to notify the SFM of the project.

Background

Author Statement. According to the author's office, "recognizing its importance – billions of dollars are being invested in carbon capture by industry, the private sector, and governments. In 2022, the Department of Energy (DoE) committed \$3.7 billion to finance projects to remove planet-warming carbon from the atmosphere to meet the nation's goal of net-zero greenhouse gas emissions by 2050. On January 10, 2025, the Biden Administration released draft federal regulations that would have lifted the SB 905 moratorium. Unfortunately, there was not enough time to formalize these regulations by adding them to the federal registry. Under the current administration, federal pipeline safety regulations will – at best – be delayed, or – at worst – non-existent and dangerous. California must act to establish robust pipeline safety regulations. By picking up where the Biden Administration left off, we can accelerate the safe deployment of carbon pipelines in California, leverage billions of dollars in federal support to meet our climate goals, and create thousands of high-road green jobs."

Carbon Capture and Storage. Carbon Capture and Storage (CCS) and carbon removal is a process of separating CO₂ from a point source and putting it into long-

term storage, usually by injecting CO₂ into a geological reservoir. This process is generally considered by experts to be a CO₂ reduction strategy, not a CO₂ removal strategy, since it is only reducing CO₂ from anthropogenic sources that would have otherwise entered the atmosphere, rather than removing what was already there. As of January 2025, there are approximately 13 of these projects in various stages of development in California, especially in the central valley.

Transportation is a key component of CCS and carbon removal projects because the location at which CO₂ is captured may be some distance from the point at which it will be geologically sequestered. Transportation can occur by marine tankers, trucks, rail, or pipelines. Experts generally agree that the most efficient way to transport CO₂, as well as the safest way for the volume of CO₂ they move is through pipelines. In many ways, pipelines are also the most cost-effective way to move CO₂.

CO₂ can be transported as a gas, liquid, or supercritical form. At standard temperature and pressure, CO₂ behaves as a gas, when it is cooled and highly compressed, CO₂ becomes a liquid. When both the temperature and pressure are increased above the standard temperature and pressure, CO₂ exists in a supercritical state, in this state CO₂ has some properties of a gas and some properties of liquid.

Transportation of CO₂ by Pipelines. The federal PHMSA develops and enforces the transportation of hazardous materials via pipelines to ensure the same, reliable and environmentally sound operation of the nation's pipeline transportation system. The PHMSA maintains regulatory jurisdiction over interstate pipelines, which encompasses pipelines that travel between state and in federal waters. In the Areas of CCS and carbon removal projects, PHMSA has no regulatory jurisdiction over interstate or intrastate pipelines transporting CO₂ as a liquid. Federal statute provides PHMSA with regulatory authority over interstate and intrastate pipelines transporting CO₂ as a gas or supercritical state. While PHMSA has released proposed regulations at the end of the Biden Administration, those regulations have been "withdrawn" by the Trump Administration.

In California, the SFM maintains regulatory jurisdiction over hazardous liquid intrastate pipelines. The SFM regulates the safety of nearly 6,000 miles of intrastate hazardous liquid transportation pipelines through a PHMSA certified compliance and enforcement program. With this certification, the SFM may adopt additional safety standards for intrastate pipeline facilities provided such standards are compatible with federal regulation. Those safety standards may be more restrictive or stringent than federal regulation. The California Public Utilities

Commission (CPUC), as part of their jurisdiction, ensures that intrastate natural gas and liquid petroleum gas pipeline systems are designed, constructed, operated, and maintained according to safety standards set by the CPUC and the PHMSA. CPUC's existing authority does not extend to intrastate CO₂ gas pipelines.

There is currently, no intrastate CO₂ pipeline in California. When such pipelines are developed, the SFM will exercise jurisdiction over intrastate CO₂ pipelines through the existing federal pipeline safety state program agreement. This agreement delegate's authority for the SMF to regulate intrastate pipelines that carry CO₂ compressed to a supercritical state and composed of at least 90% CO₂. Pipelines transporting less than 90% CO₂, including CO₂ in a liquid or gas form, would likely fall outside the scope of existing regulations, leaving regulation of pipelines transporting CO₂ composed of less than 90% CO₂ or in a liquid gas form to local jurisdictions and those states who choose to adopt regulation.

At this time, significant regulatory uncertainty exists regarding the design, operation, siting, and maintenance of intrastate CO₂ pipelines, regardless of the state that CO₂ is transported. The SFM is currently limited to applying only federal safety standards to CO₂ pipelines; transport of supercritical CO₂ that is composed of at least 90% CO₂. Establishing separate standards in California that are in addition to federal regulation is only possible if changes are made in state law.

Draft of Federal Regulations. On January 10, 2025, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued a Notice of Proposed Rulemaking under RIN 2138-AF60, aiming to enhance the minimum federal safety standards for the transportation of CO₂ by pipeline, as outlined in parts 190 to 199 of Title 49 of the Code of Federal Regulations. Ten days later, according to various reports, a federal pipeline safety official not authorized to speak publicly said the proposed rules were "withdrawn" in accordance with a January 20, 2025, executive order by President Trump that freezes all pending regulations and initiatives pending a review process by newly appointed agency leaders. Federal CO₂ transport through pipelines rules were put further in doubt with a February 19 executive order aimed at rooting out all regulations that are costly to "private parties" and impede economic development.

The previously proposed federal regulations sought to address the anticipated expansion of CO₂ pipeline infrastructure driven by increased CCS initiatives. According to the U.S. Department of Energy, the current network of approximately 5,000 miles of CO₂ pipelines is projected to expand significantly to support these

initiatives. The Notice of Proposed Rulemaking introduced several key provisions including:

- 1) *Comprehensive Safety Requirements*. For the first time, PHMSA proposed specific regulations for pipelines transporting CO₂ in gaseous and liquid states, complementing existing standards for supercritical CO₂ pipelines. These proposed regulations would have encompass design, installation, operation, maintenance, and reporting protocols.
- 2) *Conversion Standards*. Operators seeking to repurpose existing pipelines for CO₂ transport would have been required to adhere to stringent guidelines, including conducting spike hydrostatic pressure tests and performing in-line inspections within specified timeframes to ensure structural integrity.
- 3) *Emergency Preparedness*. The proposal would have mandated enhanced training for emergency responders, provision of CO₂ detection equipment, and improved public communication strategies during emergencies to bolster safety measures.
- 4) *Vapor Dispersion Analysis*. Operators would have been required to perform detailed analyses to predict the spread of CO₂ in the event of a pipeline failure, thereby aiding in risk assessment and mitigation planning.

SB 905 (Caballero, Chapter 359, Statutes of 2022). In 2022, SB 905 (Caballero, Chapter 359, Statutes of 2022) was signed by Governor Newsom. Among other things, the bill prohibits the use of intrastate pipelines to transport CO₂ until the PHMSA completes its rulemaking process. SB 905 required the California Natural Resources Agency (CNRA) to “provide a proposal to the Legislature to establish a state framework and standards for the design, operation, siting, and maintenance of intrastate pipelines carrying CO₂ fluids of varying composition and phase to minimize the risk posed to public and environmental health and safety.”

The proposal was released in March 2023, and included various recommendations “aimed at informing additional legislation that would be necessary to create a robust regulatory framework governing CO₂ pipelines so as to protect public, health, safety, and the environment. These recommendations are made with the recognition that CCS and carbon removal projects, and CO₂ transport, represent a new set of technologies and infrastructure and accordingly, poses, new risks and potential adverse impact to human health, safety, and the environment should a pipeline failure occur.”

One of the recommendations included providing the SFM with clear regulatory authority over pipeline transportation of CO₂ in liquid, gas, and supercritical state

to protect public safety. As part of this recommendation the CNRA stated that “clear authority to draft safety-related regulations governing intrastate CO₂ pipelines will avoid ambiguity about which state agency is charged with regulating liquid, gas, and supercritical CO₂ pipelines. It will also ensure a well-defined and understood regulatory process that includes robust public process and allows time to incorporate emerging information from new research and development studies. Additionally the CNRA recommended the SFM with clear administrative and enforcement authority to order intrastate CO₂ pipeline shutdown immediately when safety regulations are violated.”

Prior/Related Legislation

SB 614 (Stern, 2025) adds CO₂ to the substances included in the Elder Act and requires the SFM to adopt regulations governing the safe transportation of CO₂ by April 1, 2026, as specified, and lifts the statewide moratorium on pipelines transporting CO₂ to or from a carbon capture, removal, or sequestration project. (Pending Referral in the Assembly Appropriations Committee)

AB 2623 (Arambula, 2024) would have expanded the regulation of intrastate pipelines under the Act to intrastate pipelines used for the transportation of CO₂. Additionally, the bill would have required the SFM to adopt safety-related regulations governing intrastate pipelines transporting CO₂, as provided. (Never heard in the Assembly Utilities and Energy Committee)

SB 905 (Caballero, Chapter 359, Statutes of 2022) requires the California Air Resources Board to establish a Carbon Capture, Removal, Utilization, and Storage Program and adopt regulations for a model unified permit program for the construction and operation of CCRUS projects. In addition, the bill prohibits the use of intrastate pipelines to transport of CO₂ until the PHMSA completes its rulemaking. Furthermore, the bill requires the California Natural Resources Agency to “provide a proposal to the Legislature to establish a state framework and standards for the design, operation, siting, and maintenance of intrastate pipelines carrying CO₂ fluids of varying composition and phase to minimize the risk posed to public and environmental health and safety.

AB 1676 (Luz Rivas, 2022) would have added CO₂, compressed to a supercritical state, to the substances included in the Elder California Pipeline Safety Act, giving the SFM exclusive jurisdiction to regulate intrastate pipeline transportation of CO₂ under the existing provisions of the Elder Act, which currently applies to

petroleum and other hazardous liquids. (Never Heard in the Assembly Natural Resources Committee)

SB 295 (Jackson, Chapter 607, statutes of 2015) requires the SFM, to annually inspect all intrastate pipelines and operators of intrastate pipelines under the jurisdiction of the SFM and requires the SFM to adopt regulations implementing these provisions.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: Yes

SUPPORT: (Verified 8/18/25)

California State Pipe Trades Council (Co-source)
Sacramento Municipal Utility District (Co-source)
Bloom Energy
California Carbon Solutions Coalition
California Council for Environmental and Economic Balance
California & Nevada State Association of Electrical Workers
California Municipal Utilities Association
Calpine Corporation
Clean Air Task Force
Clean Energy Systems
Coalition of California Utility Employees
District Council 16, Painters and Allied Trades
District Council 36, Painters and Allied Trades
IBEW Local 1245
Independent Energy Producers Association
National Cement of California
Net-Zero California
Pacific Gas and Electric Company
United Association Local 342
United Association Local 250

OPPOSITION: (Verified 8/18/25)

Asian Pacific Environmental Network
Biofuelwatch
California Environmental Justice Alliance
CA Youth vs. Big Oil
Central California Environmental Justice Network
Center for Biological Diversity
Center on Race, Poverty, & the Environment

Climate Equity Policy Center
Climate Hawks Vote
Climate Health Now Action Fund
Climate Reality San Francisco Bay Area Chapter
Consumer Watchdog
El Pueblo Para el Aire y Agua Limpia de Kettleman City
Elders Climate Action
Elders Climate Action – NorCal Chapter
Extinction Rebellion San Francisco Bay Area
Food & Water Watch
Food Empowerment Project
Fossil Free California
Good Neighbor Steering Committee
Greenpeace USA
Interfaith Climate Action Network of Contra Costa County
Labor Rise Climate Jobs Action Group
Leadership Counsel Action
Oil and Gas Action Network
Oil Change International
Physicians for Social Responsibility – Los Angeles
Planning and Conservation League
Progressive Democrats of Benicia
Protect Monterey County
San Francisco Bay Physicians for Social Responsibility
San Francisco Baykeeper
SanDiego350
Santa Cruz Climate Action Network
Science and Environmental Health Network
Social Eco Education
Solano County Democratic Central Committee
Sierra Club California
State Building and Construction Trades Council
Sunflower Alliance
Unidos Network Inc.
West Berkeley Alliance for Clean Air and Safe Jobs
350 Bay Area Action
350 Contra Costa Action
350 Humboldt
350 Santa Barbara
1000 Grandmothers for Future Generations – Bay area

ARGUMENTS IN SUPPORT: According to the California State Pipe Trades Council, “by ensuring the safe transport of CO₂, AB 881 will provide necessary regulatory certainty for industries investing in carbon capture and sequestration projects while creating high-quality jobs for skilled laborers, including members of the California State Pipe Trades Council. Additionally, this bill addresses safety concerns. The 2020 carbon pipeline rupture in Satartia, Mississippi, which led to the hospitalization of 45 individuals due to a CO₂ leak, underscores the necessity of rigorous safety standards.”

According to the Sacramento Municipal Utility District (SMUD), “SMUD has a goal to reach zero carbon emissions in our power supply by 2030, within the guardrails of affordability and reliability. This is the most ambitious goal of any large utility in the United States. We believe proven clean technologies like hydro, solar, wind, biomass, short-duration storage and others already in our power supply will get us up to 90% of the way there. To reach the remaining 10%, while still maintaining reliable, affordable service for our customers, we need emerging technologies such as carbon capture and storage to close this gap. To this end, SMUD is partnering with Calpine Corporation to retrofit its 550-megawatt Sutter natural gas plant in Yuba City, California, to a carbon capture and storage facility. SMUD will be the off-taker of the energy produced at this facility. AB 881 will ensure that carbon capture and storage projects can proceed in a manner that is protective of public health and safety while also preserving existing jobs and creating new jobs.”

ARGUMENTS IN OPPOSITION: According to opponents of the bill, “both the federal government and California need to fill the dangerous regulatory gaps for CO₂ pipelines before CSS projects are allowed to proceed. Our groups fully support California regulating above and beyond what PHSMA sets as the federal floor. But ending California’s existing partial moratorium before PHSMA’s regulations are complete risks preemption and prevents the state and its residents from benefitting from the nationwide attention and expert input that the federal rulemaking will generate. Ending the moratorium prematurely will also accelerate the poor investment and false climate solutions that is CCS.”

ASSEMBLY FLOOR: 72-0, 5/19/25

AYES: Aguiar-Curry, Ahrens, Alanis, Alvarez, Arambula, Ávila Farías, Bains, Bauer-Kahan, Bennett, Berman, Boerner, Bonta, Bryan, Calderon, Caloza, Carrillo, Castillo, Chen, Davies, DeMaio, Elhawary, Ellis, Fong, Gabriel, Gallagher, Garcia, Gipson, Mark González, Hadwick, Haney, Harabedian, Hoover, Irwin, Jackson, Kalra, Krell, Lackey, Lee, Lowenthal, Macedo, McKinnor, Muratsuchi, Nguyen, Ortega, Pacheco, Patel, Patterson, Pellerin,

Petrie-Norris, Quirk-Silva, Ramos, Ransom, Celeste Rodriguez, Michelle Rodriguez, Rogers, Blanca Rubio, Sanchez, Schiavo, Schultz, Sharp-Collins, Solache, Soria, Stefani, Ta, Tangipa, Valencia, Wallis, Ward, Wicks, Wilson, Zbur, Rivas

NO VOTE RECORDED: Addis, Connolly, Dixon, Flora, Jeff Gonzalez, Hart, Papan

Prepared by: Felipe Lopez / G.O. / (916) 651-1530
8/20/25 23:22:49

**** **END** ****