
SENATE COMMITTEE ON ENVIRONMENTAL QUALITY

Senator Allen, Chair

2023 - 2024 Regular

Bill No: SB 438
Author: Caballero
Version: 3/30/2023
Urgency: No
Consultant: Evan Goldberg
Hearing Date: April 19, 2023
Fiscal: Yes

SUBJECT: Carbon sequestration: Carbon Capture, Removal, Utilization, and Storage (CCRUS) Program: incidental and unintentional residual oil production.

DIGEST: This is a technical cleanup measure to SB 905 (Caballero, Chapter 359, Statutes of 2022) to clarify the accidental production of oil does not violate the ban on enhanced oil recovery on CCRUS projects.

ANALYSIS:

Existing law:

- 1) Prohibits a well operator from injecting a concentrated carbon dioxide fluid produced by a carbon dioxide capture, removal, or sequestration project into a Class II injection well for purposes of enhanced oil recovery, including recovering oil from another well. (Public Resources Code (PRC) §3130)
- 2) Defines a “Class II well” as one that mirrors the definition in Section 144.6 of Title 40 of the Code of Federal Regulations. (PRC §3130)
- 3) Defines an “Exempted aquifer” as one that mirrors the definition in Section 144.3 of Title 40 of the Code of Federal Regulations. (PRC §3130)
- 4) Defines “Beneficial use” as mirroring the definition set forth in subdivision (f) of Section 13050 of the Water Code. (PRC §3130)
- 5) Defines an “Underground Injection Control Program” as a program covering Class II wells for which the division has received primacy from the United States Environmental Protection Agency pursuant to Section 1425 of the federal Safe Drinking Water Act (42 U.S.C. Sec. 300h-4). (PRC §3130)

This bill:

- 1) Defines a “Class VI well” as one that has the same meaning as set forth in Section 144.6(f) of Title 40 of the Code of Federal Regulations.

- 2) States the incidental and unintentional production of residual oil brought to the surface or produced at the surface from a Class VI well from the injection of a concentrated carbon dioxide fluid into a Class VI well that had been deemed emptied of oil before the injection does not violate the ban on oil production from these wells.
- 3) Prohibits the production of carbon dioxide by a carbon capture, removal, or sequestration project.
- 4) Requires any oil inadvertently produced from a Class VI well to be reported to the California Air Resources Board (CARB) and the United States Environmental Protection Agency, Region 9 (US EPA), within 60 days of its occurrence.

Background

- 1) *Stay Classy*. This bill talks about both Class II and Class VI wells. Class II wells are used only to inject fluids associated with oil and natural gas production. Class II fluids are primarily brines (salt water) that are brought to the surface while producing oil and gas. Approximately 180,000 Class II wells are in operation in the United States and an estimated 2 billion gallons of fluids are injected in the United States every day.

Class VI wells are used to inject carbon dioxide (CO₂) into deep rock formations. This long-term underground storage is called geologic sequestration (GS), referring to the technologies used to reduce CO₂ emissions to the atmosphere and mitigate climate change.

- 2) *CC Rider ... I Mean, CCRUS ...* Last year's SB 905 (Caballero) required CARB to create a Carbon Capture, Removal, Utilization, and Storage (CCRUS) Program and adopt regulations for a model unified permit program to build and run CCRUS projects. The goal is to develop and implement a regulatory framework that would permit the use of CCRUS technologies in California. The bill required CARB to create a program that would evaluate the safety and efficacy of carbon capture and removal technologies, maximize workforce benefits, and protect frontline communities by minimizing impacts to health, safety and the environment from these projects.
- 3) *Enhanced Oil Recovery*. Crude oil development and production in U.S. oil reservoirs generally fall into one of three phases. The "primary" phase is what we generally think of as pumping oil, when the natural pressure of the reservoir

or gravity drive oil into the wellbore, combined with artificial lift techniques (such as pumps) which bring the oil to the surface.

The “secondary” phase is when water or gas is injected to displace oil and drive it to a production wellbore where it can be pumped out.

The “tertiary,” or enhanced oil recovery phase, generally relies on using steam injections (thermal recovery), gas injections, or chemical injections to lower an oil’s viscosity and improve its flow rate, making it easier to pump.

- 4) *Oops! ... I Did It Again.* SB 905 also prohibited using captured carbon for enhanced oil recovery. However, sometimes, unintended residual oil is inadvertently developed (or, expressed) during sequestration. The goal of this bill is to ensure this accidentally developed/expressed oil is not considered enhanced oil recovery (which is banned under current law) when there is no production well equipment present at the project site and the well had been deemed emptied of oil before the injection.

Comments

- 1) *Purpose of Bill.* According to the author, “On September 16th, 2022, Governor Newsom signed into law SB 905, as part of the historic climate package, establishing breakthrough policy for Carbon Capture Removal, Utilization, and Storage (CCRUS) application. Since then, there have been several provisions brought to my attention that require clarification in order to avoid hindrance of current projects, and unintentional penalties.

“Senate Bill 438 builds upon SB 905 (2022) in an effort to clarify intent and ensure proper implementation. Specifically, the bill ensures that residual oil that is inadvertently and unintentionally expressed is not penalized. SB 438 is consistent with last year’s efforts and will allow California to continue its work in carbon emission reduction as intended.”

- 2) *Cleanup On Aisle “E” For Environment.* This measure is a technical cleanup measure to last session’s SB 905 (Caballero). It clarifies that residual oil that’s inadvertently developed (or, expressed) during sequestration at a Class VI well is not considered enhanced oil recovery when there is no production well equipment present at the project site and the well had been deemed emptied of oil before the injection..

Should any such oil be materialize, the operator must report the event to CARB and the US EPA within 60 days.

DOUBLE REFERRAL:

This bill was heard by the Senate Natural Resources & Water Committee on March 28, 2023, where it was approved on a 9-0 vote.

Related/Prior Legislation

SB 905 (Caballero/Skinner, Chapter 359, Statutes of 2022) directed the establishment of a Carbon Capture, Removal, Utilization, and Storage Program at CARB, among numerous other provisions.

SB 1314 (Limón, Chapter 336, Statutes of 2022) prohibited the use of CO2 from carbon capture projects for enhanced oil recovery operations to produce oil and gas.

AB 1279 (Muratsuchi, Chapter 337, Statutes of 2022) enacted the California Climate Crisis Act and declares state policy to achieve net zero GHG emissions no later than 2045, and to achieve and maintain net negative GHG emissions thereafter.

SB 27 (Skinner, Chapter 237, Statutes of 2021) requires CARB to add carbon sequestration targets to the state's climate change scoping plan, among other things.

SOURCE: Author

SUPPORT:

California Carbon Solutions Coalition
California State Association of Electrical Workers
California State Pipe Trades Council
Calpine Corporation
Coalition of California Utility Employees
Sempra Energy and Its Affiliates: San Diego Gas & Electric Company and
Southern California Gas Company

OPPOSITION:

Asian Pacific Environmental Network (APEN)
Center for Biological Diversity
Center on Race, Poverty & the Environment
Central California Asthma Collaborative
Central California Environmental Justice Network

Central Valley Air Quality Coalition
Indigenous Environmental Network
Leadership Counsel for Justice & Accountability
Little Manila Rising
Physicians for Social Responsibility-Los Angeles (PSR-LA)
S.F. Bay Physicians for Social Responsibility
Silicon Valley Youth Climate Action
Sunflower Alliance

ARGUMENTS IN SUPPORT: The California State Pipe Trades Council, California State Association of Electrical Workers and Coalition of California Utility Employees write in support of the bill:

“The California Air Resources Board Scoping Plan Update, as well as Stanford University, Lawrence Livermore, UC, and the International Panel on Climate Change have cited carbon capture as critical to reach our carbon reduction goals, including California’s legislative requirement of carbon neutrality by 2045.

“In addition to being an important carbon reduction tool, carbon capture presents high wage work opportunities for members of our organizations as we transition away from traditional fossil fuels jobs over time. California has the skilled and trained workforce to deploy carbon capture across a variety of industries to help the state meet its climate goals, and we want to ensure that the statutory framework for CCUS is interpreted as intended through SB 905.”

ARGUMENTS IN OPPOSITION: The Center for Race, Poverty & The Environment and 11 other groups sent a joint letter opposing the bill, writing:

“... Senator Caballero seeks to adjust frontline communities’ greatest protection from SB 905, the prohibition on the use of captured carbon for enhanced oil recovery, by stating that unintentional oil extraction at carbon storage wells is ‘not considered enhanced oil recovery.’ The existing code already prohibits an operator from injecting carbon dioxide ‘for purposes of enhanced oil recovery.’ Thus, unintentional oil production is already allowed. As such, it is unclear what the effect of this change would be. At best, this change is just like Section 1, uplusage to reassure skittish investors in order to drive an increase in the swarm of incoming CCUS projects. At worst, redefining unintentionally produced oil as not enhanced oil recovery may have broader impacts and allow oil and gas operators under contract to perform carbon storage to skirt the prohibition altogether under the guise of ‘incidental’ recovery.”