
THIRD READING

Bill No: SB 454
Author: Allen (D)
Amended: 6/2/15
Vote: 21

SENATE NATURAL RES. & WATER COMMITTEE: 7-1, 4/28/15
AYES: Pavley, Allen, Hertzberg, Hueso, Jackson, Monning, Wolk
NOES: Stone
NO VOTE RECORDED: Vidak

SENATE ENVIRONMENTAL QUALITY COMMITTEE: 5-2, 4/29/15
AYES: Wieckowski, Hill, Jackson, Leno, Pavley
NOES: Gaines, Bates

SENATE APPROPRIATIONS COMMITTEE: 5-2, 5/28/15
AYES: Lara, Beall, Hill, Leyva, Mendoza
NOES: Bates, Nielsen

SENATE FLOOR: 18-17, 6/4/15 (FAIL)
(ROLL CALL NOT AVAILABLE)

SUBJECT: Water quality: oil and gas: exempted aquifer

SOURCE: Author

DIGEST: This bill prohibits the Division of Oil, Gas, and Geothermal Resources from submitting a proposal for an aquifer exemption to the US Environmental Protection Agency under the Underground Injection Control program unless the Division and the State Water Resources Control Board both make specified findings.

ANALYSIS:

Existing law:

- 1) Provides the state's oil and gas regulator is the Division of Oil, Gas and Geothermal Resources (division), located in the Department of Conservation.
- 2) Provides the State Water Resources Control Board (board) has statutory responsibility to protect the waters of the state and to preserve all present and anticipated beneficial uses of those waters under the state's Porter-Cologne Water Quality Act (Water Code (WAT) §§13000 *et seq.*) and other law.
- 3) Provides for the federal Safe Drinking Water Act (SDWA) enacted in 1974, to protect public health by regulating the nation's public drinking water and its sources. The US Environmental Protection Agency (US EPA) developed the Underground Injection Control (UIC) Program following passage of the SDWA in order to protect aquifers that were or could become sources of drinking water from contamination.
- 4) Specifies if primacy is sought from the US EPA to operate a UIC program, the division is the state entity that may seek primacy for oil and gas ("Class II") wells (WAT §13263.5). Class II injection wells primarily consist of oil and gas waste disposal wells and injection wells used for "enhanced oil recovery" operations. If certain criteria are met (described below) and procedures are followed, SDWA protection of an aquifer may be lifted so a Class II injection well can inject into it. These are "exempt aquifers."

This bill requires the division and the board to concur on aquifer exemptions submitted to the US EPA for approval, and does not allow non-hydrocarbon bearing aquifers with total dissolved solids (TDS) concentrations less than 3,000 milligrams per liter to be proposed for exemption. Specifically, this bill requires the division and the board to concur on aquifer exemption proposals as follows:

- 1) For hydrocarbon-bearing aquifers:
 - a) the intended injection zone must be hydrogeologically isolated from other zones containing waters that may have a beneficial use, and

- b) the board must find either that the water in the injection zone has no potential beneficial use or, if it does, that the injection will not impact that use.
- 2) For non-hydrocarbon-bearing aquifers:
- a) the intended injection zone must be hydrogeologically isolated from other zones containing water that may have a beneficial use,
 - b) the aquifer is not a source of drinking water,
 - c) the aquifer cannot and will not become a source of drinking water due to proximity to a mining area, economic or technological impracticality, mineral concentration or geothermal energy production capability,
 - d) the TDS concentration in the aquifer must exceed 3,000 milligrams per liter, and
 - e) the board determines that the injection would not contaminate a source of water that does or may have a future beneficial use, or, if the water is already contaminated, that the injection would not further impair its limited or potentially limited beneficial use.

Background

In 1981, the division applied to the US EPA to become the primary enforcing agency for the Class II UIC program in California. As part of the application, the division asked to exempt certain aquifers from protection under the SDWA. These “exempt aquifers” were not or could not become sources of drinking water, as defined (see 40 Code of Federal Regulations (CFR) §146.4, described below). Most of these aquifers were either hydrocarbon-producing, co-located with an existing oil and gas field, or were already being used for oil and gas wastewater injection.

In 1982, the US EPA signed a Memorandum of Agreement (MOA) with the Department of Conservation establishing the division’s primacy for the UIC

program and, among other things, providing certain aquifers with exempt status. Under this MOA, the US EPA must approve any additional requests for aquifer exemption status, no injection is allowed into an aquifer without first obtaining exempt status (if needed), and, by mutual agreement between the division and the US EPA, the exempt status for an aquifer may be withdrawn at any time.

In the primacy agreement, the division pledged to work closely with the board. A 1988 MOA between the division and the board still in effect today requires the division to share information with the appropriate regional water quality control board about proposed UIC applications and provides an opportunity for it to comment. Additionally, the division agreed not to issue final approvals until regional board concerns are satisfied.

The criteria for aquifer exemption for Class II wells (40 CFR §146.4) are as follows:

- a) the aquifer is not a source of drinking water,
- b) the aquifer cannot and will not become a source of drinking water because it is economically and technologically infeasible, as defined; located over a mining area; mineral- or hydrocarbon-bearing in commercial quantities or mineral, hydrocarbon or geothermal energy producing, and
- c) the total dissolved salts (TDS) concentration is between 3,000 and 10,000 milligrams per liter. (TDS may be approximately considered as total dissolved salts.)

In 2011, a US EPA audit of the division's implementation of the UIC program found numerous significant problems. Although not a public part of the review, documents released recently show that questions arose during this time period about aquifer exemptions.

In the last year there have been a series of revelations showing, at best, lax management of the UIC program by the division, particularly with respect to aquifer exemptions. Division staff disregarded the division's own agreements, guidelines and regulations and regularly approved Class II wells that injected into aquifers that required an exemption or where the aquifer's water quality was unknown without obtaining an aquifer exemption. Some of these "non-exempt aquifers" contain or may contain good quality water. It was further revealed that two primacy agreements were in existence – one excluding 11 good water quality aquifers from exemption and the other approving their exemption.

As of today, 23 injection wells have now been shut-down due to contamination concerns stemming from the injection location, and over 2,500 injection wells continue to inject into non-exempt or “questionably” exempt aquifers. About 2,000 of these wells are injection wells used for enhanced oil recovery operations in existing oil and gas fields. The remaining 500 are waste disposal wells. In mid-May, the division and board revealed that an additional 3,600 injection wells appeared to also be improperly permitted with respect to aquifer exemptions, although the aquifers in this instance are likely to all be hydrocarbon-bearing. The board and the division are working closely together to review these injection wells. To date, no contamination of water used for domestic or irrigation purposes has been found, although the review continues. Oil and gas injection wells that pose the highest risk to wells supplying possible drinking or irrigation water are being reviewed first.

After a series of letter exchanges between the board, the division and the US EPA, a schedule for bringing all non-compliant injection wells into compliance has been established. Exempt aquifer status will either be obtained for a well’s injection zone by a date certain in the future, or the well will be shut down. This compliance schedule is in division emergency regulations approved in April and the process has started for a regular regulatory rulemaking too. The deadline for all wells is February 15, 2017 with two intermediate dates (October 15, 2015 and December 31, 2016) for higher priority wells.

Comments

Concurrence between the division and the board is appropriate for aquifer exemptions. As noted above, the board has jurisdiction over water quality, although the division has primacy for Class II UIC. In the 1988 MOA, the board clearly retains authority over water quality and at least one of the three post-primacy aquifer exemption petitions by the division to the US EPA reflected board input. The added weight of statutory concurrence may help to ensure continuing cooperation.

The bill’s potential impact on the resolution of the non-compliant wells. This bill would impact the resolution of the non-compliant wells if the division would otherwise ask the US EPA for an aquifer exemption for certain non-hydrocarbon-bearing aquifers with low saline concentrations (less than 3,000 milligrams per liter TDS) on or after January 1, 2016. Approximately 140 active wastewater disposal wells inject into aquifers with TDS concentrations of less than 3,000

milligrams per liter. The 11 aquifers of uncertain exemption also all have TDS concentrations of less than 3,000 milligrams per liter.

There are pending budget actions on the UIC program. The division and the board have asked for increased ongoing funding and personnel to address the UIC program, aquifer exemptions and other related activities.

Related Legislation

SB 248 (Pavley, 2015) reforms the division's well history reporting and the regulations governing its UIC program. *(This bill is on the Senate floor).*

SB 545 (Jackson, 2015) revises and updates division's authority and permitting practices, and reforms the handling of confidential wells *(This bill was held on the Senate Appropriations Committee Suspense file).*

AB 356 (Williams, 2015) provides for reform of the UIC program with an emphasis on the role of the Water Boards and require groundwater monitoring in the vicinity of UIC wells. *(This bill is on the Assembly floor).*

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

According to the Senate Appropriations Committee:

- Ongoing costs of \$560,000 from the Oil, Gas, and Geothermal Administrative Fund (special) to the board to consider aquifer exemptions, and
- Unknown potential revenues losses to the Oil, Gas, and Geothermal Administrative Fund (special) for decreased oil production.

SUPPORT: (Verified 6/1/15)

Association of Irrigated Residents
Ballona Network
California League of Conservation Voters
Center for Race, Poverty and the Environment
Center for Environmental Health
Citizens for Responsible Oil and Gas
Clean Water Action
Coastal Environmental Rights Foundation
Earthworks

Environment California
Environmental Action Center of West Marin
Environmental Defense Center
Environmental Working Group
Foothill Conservancy
Fresnans Against Fracking
League of Women Voters
Los Padres ForestWatch
Natural Resources Defense Council
Planning and Conservation League
San Diego350
Sierra Club California
Southern Monterey County Rural Coalition
The Wildlands Conservancy
Wholly H2O

OPPOSITION: (Verified 6/1/15)

African American Farmers of California
Anne DeMartini, Trustee, Yosemite Community College District
Associated Builders & Contractors of California
Buddy Mendes, Supervisor, Fresno County Board of Supervisors
California Asian Pacific Chamber of Commerce
California Chamber of Commerce
California Cotton Ginners Association
California Cotton Growers Association
California Independent Petroleum Association
California Women for Agriculture
Camarillo Chamber of Commerce
Cerritos Regional Chamber of Commerce
Chambers of Commerce Alliance of Ventura & Santa Barbara Counties
Clint Olivier, Councilmember, City of Fresno
Coastal Energy Alliance
Craig Pedersen, Supervisor, Kings County Board of Supervisors
Dick Monteith, Supervisor, Stanislaus County Board of Supervisors
Doug Verboon, Supervisor, Kings County Board of Supervisors
El Monte/South El Monte Chamber of Commerce
Frank Hotchkiss, Councilmember, City of Santa Barbara
Fresno Area Hispanic Foundation/Downtown Business Hub
Fresno County Farm Bureau
Greater Bakersfield Chamber of Commerce

Hayward Chamber of Commerce
Humboldt Taxpayer's League
Huntington Beach Chamber of Commerce
Independent Oil Producers' Agency
Inland Empire Economic Partnership
International Faith Based Coalition
Jim DeMartini, Supervisor, Stanislaus County Board of Supervisors
José Flores, Councilmember, City of Clovis
Justin Mendes, Councilmember, City of Hanford
Kern County Black Chamber of Commerce
Kern County Firefighters IAFF Local 1301
Kern County Hispanic Chamber of Commerce
Kern County Taxpayers Association
Kern Economic Development Corporation
Kings County Farm Bureau
Latino Community Roundtable of Stanislaus County
Lee Brand, Councilmember, City of Fresno
Louie Arrollo, former Mayor, City of Ceres
Luis Chavez, Trustee, Fresno Unified School District
Mike Spence, Councilmember, City of West Covina
Mike Welsh, School Board Member, Ceres Unified School District
Monterey County Farm Bureau
National Association of Royalty Owners
National Association of Royalty Owners – California
National Federation of Independent Business
National Hmong American Farmers
Nickel Family, LLC
Nisei Farmers League
Oxnard Chamber of Commerce
Pete Vander Poel, Supervisor, Tulare County Board of Supervisors
Peter Adam, Supervisor, Santa Barbara County Board of Supervisors
Peter Foy, Supervisor, Ventura County Board of Supervisors
Porterville Chamber of Commerce
Richard Valle, Supervisor, Kings County Board of Supervisors
Rick Farinelli, Supervisor, Madera County Board of Supervisors
Robert Silva, Mayor, City of Mendota
Rudy Mendoza, Mayor, City of Woodlake
Russ Curry, Mayor, City of Hanford
Sacramento Asian Pacific Chamber of Commerce
Sal Quintero, Councilmember, City of Fresno

San Diego East County Chamber of Commerce
San Diego Tax Fighters
San Joaquin Farm Bureau
Santa Barbara County Taxpayers Association
Santa Barbara Technology and Industry Association
Santa Fe Springs Chamber of Commerce
Santa Maria Valley Chamber of Commerce & Visitor and Convention Bureau
Steve Brandau, Councilmember, City of Fresno
Steve Nascimento, Councilmember, City of Turlock
Steve Worthley, Supervisor, Tulare County Board of Supervisors
Sylvia V. Chávez, Mayor, City of Huron
Taft Chamber of Commerce and Visitors Bureau
Terry Withrow, Supervisor, Stanislaus County Board of Supervisors
The Chamber of Commerce of the Santa Barbara Region
Tulare County Farm Bureau
Valley Industry & Commerce Association
Western Agricultural Processors Association
Western States Petroleum Association
Western United Dairymen
Four individuals

ARGUMENTS IN SUPPORT: According to the author, the division “has allowed more than 2,500 waste water disposal and injections wells to be drilled into aquifers that have not been exempted from the Safe Drinking Water Act and therefore should have been protected. The fluids being injected into these aquifers contain a toxic cocktail of chemicals, many of which are known to cause cancer and other human health problems, including benzene, arsenic and radioactive material.”

“It is clear that going forward, given California’s long-term water challenges, the state will need to access deeper aquifers and adopt technology necessary to clean aquifers currently considered polluted. Given the current water crisis, it is irresponsible and shortsighted to not protect these aquifers.”

“SB 454 puts specific criteria in place to guide [the division] in determining which of California’s protected aquifers should be eligible for consideration for an exemption. The criteria require [the division] to work jointly with the [board].”

ARGUMENTS IN OPPOSITION: According to the California Independent Petroleum Association (CIPA), “SB 454 would re-define critical components of

the UIC program and the aquifer exemption definition and application process. These proposed modifications to the UIC program would compromise California's oil production without providing any additional environmental and groundwater protections beyond those provided by the enhancements to the UIC program proposed to US EPA by the [board] and the [division].”

“SB 454 instead alters the aquifer exemption process so as to exclude certain aquifers that would otherwise be exempt under the long-standing federal criterion (sic) [...] For example, SB 454 would prohibit all injection into non-hydrocarbon-bearing zones where the total dissolved solids content of the water in the aquifer is less than 3,000 milligrams per liter.” CIPA notes that aquifers with these low salt concentrations may be considered for exemption if it is economically or technologically impractical for them to be used as drinking water.

CIPA further states that “injection wells have been an integral part of California's oil and gas operations for over 50 years” and roughly 70% of California's oil production depends upon enhanced oil recovery using injections wells. “Without sufficient injection well options, oil wells cannot produce and oil production in California will be adversely affected.”

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