



California  
Department of Conservation

**Geologic Energy Management Division**

# **UNDERGROUND INJECTION CONTROL PROGRAM REPORT**

**PERMITTING & PROGRAMASSESSMENT**

**Reporting Period: April 1, 2019 to March 31, 2020**

Prepared Pursuant to Senate Bill 1493 (Ch. 742, Stats. of 2018)

**August 2021**

*Gavin Newsom, Governor, State of California*  
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*Uduak-Joe Ntuk, State Oil & Gas Supervisor*

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## MESSAGE FROM THE STATE OIL AND GAS SUPERVISOR

Dear California State Legislators,

Beginning in late 2019, the California Geologic Energy Management (CalGEM) Division has implemented major policy and programmatic changes, including a renewed mission that prioritizes protecting public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal industries, while working to help California achieve its climate change and clean energy goals. To that end, CalGEM has put in place the strongest Well Stimulation (hydraulic fracturing) regulatory regime in the country; the state has completed a top to bottom audit of the Underground Injection Control and Well Stimulation programs and CalGEM has instituted major changes in response; and CalGEM has also implemented a moratorium on high pressure



cyclic steam injection until the researchers at Lawrence Livermore National Laboratory can determine whether the practice can be done safely. Significantly, CalGEM is developing a major new health and safety rule to protect vulnerable communities from the impacts of oil and gas extraction.

It's my pleasure to present the California Geologic Energy Management (CalGEM) Division's annual Underground Injection Control (UIC) legislative report. This is the second annual report submitted in response to the legislative report requirements of [Senate Bill 1493 \(SB 1493\) \(Ch. 742, Statutes of 2018\)](#) regarding activities of the UIC Program.

Last year's report reflected a 6-month period of October 1, 2018 to March 31, 2019. This truncated initial report period was set intentionally to allow continuity from the final Senate Bill 83(Ch. 24, Statutes of 2015) requirements that reported UIC activities from April 1 to September 30, 2018. This second report is the first to cover the prescribed 12-month period from April 1, 2019 to March 31, 2020. In addition, this report reflects data collected during the new UIC regulations that took effect April 1, 2019.

As a result of new requirements and enhanced tracking utilizing CalGEM's new data management software, there are some differences from the previous report's data. A couple of notable changes include a significant decrease in mechanical integrity (MI) violations from 86 last year to only 3 this year. This is at least in part a result of how the new UIC regulations shifted CalGEM's framework for MI compliance and enforcement to better focus on and incentivize operational safety over testing outcomes per se. Under these new regulations, if an MI test on a well indicates there may be an MI



problem, the operator is required to stop injection and not resume until CalGEM agrees the problem has been addressed. The mere fact that the MI test indicated a potential problem is not considered a “violation,” however, so long as the operator has been testing and operating the well appropriately and acts promptly to stop injection until CalGEM gives approval to resume. Previously, the mere fact that a MI test indicated a potential MI problem would be counted as a “violation,” somewhat misaligning the “violation” data relative to operational risks and potentially creating a perverse disincentive for operators to perform MI tests. In contrast, significant increases can be seen for violations related to Operation & Maintenance and Monitoring & Reporting. These may be attributed to increased field surveillance as more staff were hired and enhancements made to our data management system. Enhanced oversight also resulted in increased enforcement actions from 90 to 266 during this reporting period.

Significant progress is being made on UIC Project by Project Reviews. With more allocated staffing resources, ongoing reviews increased from 187 last year to 344 as of March 31, 2020. CalGEM, along with the State Water Resources Control Board (State Water Board) and regional water boards (collectively Water Boards), focused on improving the UIC project review processes. The average monthly number of pending projects under review by the Water Boards declined from 19 to 7 as their average review time improved from 115 to 74 days. This significant improvement occurred after several enhancements were made to the UIC Project Checklist as part of the 2018 Revised Memorandum of Agreement (MOA) between CalGEM and the Water Boards. Improvement was also noted in the Water Boards’ average review time for aquifer exemptions from 14 to about 12 months.

As outlined in [Assembly Bill 1057 \(Limon, Ch. 771, Statutes of 2019\)](#), Governor Newsom took initiatives to “strengthen oversight of oil and gas extraction” and ensure that state regulations protect public health, safety and the environment. Among them is the independent audit of the permitting processes for Well Stimulation Treatment (WST) and UIC by the California Department of Finance (DOF), Office of Audits and Evaluations. The audit is focused on the permit process, compliance with state regulations and policies and on strengthening operational processes and procedures. In parallel with the audit, CalGEM engaged experts from the Lawrence Livermore National Laboratory (LLNL) to conduct a third-party scientific review of pending WST permit and UIC project applications.

This scientific review, which assesses the methodology and completeness of each proposed application, will ensure that the state’s technical standards for public health, safety and environmental protection are met prior to approval of the project. To ensure the proposed projects comply with California law, the experts at the LLNL are tasked with assessing CalGEM’s project review process and evaluating the completeness of operators’ application materials and CalGEM’s engineering and geologic analyses. Both the DOF audit and the LLNL review are currently ongoing at the time of this report with completion planned in 2020.



For more information about the Underground Injection Control program, please visit: [https://www.conservation.ca.gov/calgem/general\\_information/Pages/UndergroundInjectionControl\(UIC\).aspx](https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl(UIC).aspx)

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Uduak-Joe Ntuk is the 17th California State Oil and Gas Supervisor responsible for managing the California Geologic Energy Management (CalGEM) Division. He was appointed by Governor Newsom in October 2019. Ntuk directs a statewide regulatory, technical, and field operations organization designed to emphasize the safe development of oil and natural gas conservation, which includes: protecting public health and safety, environmental quality, and the reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state. He also serves as a Governor's representative to the Interstate Oil and Gas Compact Commission and as a governing board member of the Baldwin Hills Conservancy.



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## ABOUT THE CALIFORNIA GEOLOGIC ENERGY MANAGEMENT DIVISION

The California Geologic Energy Management Division (CalGEM) prioritizes the protection of public health, safety, and the environment in its oversight of the oil, natural gas, and geothermal operations in California. To do that, CalGEM uses science and sound engineering practices to regulate the drilling, operation, and permanent closure of energy resource wells. CalGEM also regulates certain pipelines and facilities associated with production and injection. These regulatory duties include witnessing tests, inspections, and operations.

When CalGEM was established in 1915 (then known as the Division of Oil and Gas), the initial focus of regulation was the protection of oil and gas resources in the State from production practices that could harm the ultimate level of hydrocarbon recovery. Early CalGEM regulations included well spacing requirements and authority to limit production rates. However, those regulations and the focus of CalGEM have evolved and come to include the protection of public health, safety, and the environment.

CalGEM has grown significantly since it was established in 1915 and has taken major steps to ensure it will be able to handle challenges in a manner consistent with public expectations for a modern, efficient, collaborative, and science-driven regulatory agency.

In 2019, the mission of CalGEM changed to include protecting public health and safety, environmental quality, and the reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state.

### CalGEM Districts

CALGEM operates out of four districts to best serve the needs of the State: Northern, Coastal, Inland, and Southern. Each district has its own offices where staff are available to assist the public and stakeholders. For more information about CALGEM, visit our website at <https://www.conservation.ca.gov/calgem>.



## EXECUTIVE SUMMARY

This second annual report includes the required information from April 1, 2019 to March 31, 2020. The first report submitted to the Legislature included information covering only a 6-month period (October 1, 2018 to March 31, 2019). [Senate Bill 1493 \(Ch. 742, Statutes of 2018\)](#) extended the reporting requirement of [Senate Bill 83 \(Ch. 24, Statutes of 2015\)](#), hence the initial report was so timed for continuity. It also allowed synchronization with the US EPA 7520 report which is the source of data required in sections 3114(a)(8), (9) and (10) of the Public Resources Code. Moving forward, the reporting cycle will be on a 12-month period until the final report is submitted on July 30, 2024.

The following are key facts from this report:

- A total of 9 new and expansion project applications were approved during this reporting period. Three of these included recently approved aquifer exemptions (AE).
- Beginning from receipt of application to approval and issuance of the Project Approval Letter (PAL), CalGEM's average project review time was 432 days. Approval of UIC projects requiring AEs took an average of 1,549 days, or about 37 more months.
- Beginning from the date Districts deemed UIC project applications complete, the average time to approval was 388 days. Detailed technical review would not commence until application packages were deemed complete. Average review time of UIC projects for the State Water Board was 74 days.
- During the reporting period, the monthly average number of pending project applications was 62. Fifty-five of these had been pending for over one year as of March 31, 2020.
- CalGEM sent 2 AE applications to the US EPA - South Belridge (Western Area) and Lynch Canyon (Lanigan). US EPA approved South Belridge on March 13, 2020. The approval process took about 37 months to complete. CalGEM and State Water Board review times were 33 and 12 months, respectively.
- Fifteen other AE proposals are pending as of March 31, 2020.
- A total of 266 enforcement actions were taken to address and bring into compliance 455 violations. An enforcement action may cover multiple violations.
- There were 80 well shut-ins during this period. Well shut-ins on record include voluntary relinquishment of injection permits and shut-in notifications from operators as wells automatically lost injection approval under circumstances prescribed in the updated UIC regulations.
- CalGEM had approximately 90 staff working full-time on UIC tasks during the reporting period. There were approximately 8 full-time UIC vacancies.
- The Water Boards had 24 staff working on UIC related tasks during the reporting





period. They had 2 vacancies during the reporting period.

- The number of projects CalGEM initiated for compliance review with applicable statutes and regulations increased to 344 from 187 last year. One has passed State Water Board review and is awaiting completion of LLNL third-party review.
- As of March 31, 2020, there were 424 projects that had not been reviewed for compliance with applicable statutes and regulations within the last 2 years.



## INTRODUCTION

### Objective & Scope of Report

This annual report on the CalGEM Underground Injection Control (UIC) Program from April 1, 2019, to March 31, 2020, is required by Senate Bill (SB) 1493 (Committee on Natural Resources and Water, Ch. 742, Statutes of 2018), as codified in Public Resources Code section 3114.

SB 1493 extended the reporting requirements outlined in SB 83 (Committee on Budget and Fiscal Review, Ch. 24, Statutes of 2015), changed the reporting frequency from semi-annual to annual, and added eight new data points in addition to those required by SB 83.

This second SB 1493 report is synchronized with the United States Environmental Protection Agency (US EPA) 7520 reporting cycle which is the source of data and information for Public Resources Code section 3114(a)(8), (9) and (10).

### Report Requirements

Public Resources Code section 3114(a) requires CalGEM to provide, in consultation with the State Water Resources Control Board (State Water Board), the following information about the UIC Program:

1. The number and location of underground injection control project approvals issued by the Department of Conservation (DOC), including projects that were approved but subsequently lapsed without having commenced injection.
2. The monthly average number of pending project applications.
3. The average length of time to obtain an underground injection control project approval from date of receipt of complete application to the date of issuance.
4. The average amount of time to review an underground injection control project proposal by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each proposed underground injection control project.
5. The number of project proposals pending for over one year.
6. A list of pending aquifer exemptions, if any, and their status in the review process.
7. The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each aquifer



- exemption proposal.
8. The number and description of underground injection control related violations identified.
  9. The number of enforcement actions taken by DOC.
  10. The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.
  11. The number, classification, and location of staff with work related to underground injection control.
  12. The number of staff vacancies for positions associated with underground injection control.
  13. Any state or federal legislation, administrative, or rulemaking changes to the program.
  14. The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.
  15. The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.
  16. Summary of significant milestones in the compliance schedule agreed to with the US EPA, as indicated in the March 9, 2015, letter to CalGEM and the State Water Board from the US EPA, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption
  17. Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.



## Contact Information

For more information about the UIC Program visit the program webpage:

[https://www.conservation.ca.gov/calgem/general\\_information/Pages/UndergroundInjectionControl\(UIC\).aspx](https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl(UIC).aspx)

For questions regarding the content of this report, contact the DOC Public Affairs Office at [pao@conservation.ca.gov](mailto:pao@conservation.ca.gov).



## UNDERGROUND INJECTION CONTROL PROGRAM

### 1. UIC Projects

#### 1.1 UIC Project Approvals

Public Resources Code section 3114(a)(1): The number and location of underground injection control project approvals issued by the department, including projects that were approved but subsequently lapsed without having commenced injection.

During the reporting period, CalGEM approved nine UIC project applications. Six were new UIC projects and the other three were expansions of existing projects. No newly approved project application lapsed without having commenced injection.

<b>LOCATION/PROJECT COUNTY or CITY</b>	<b># OF UIC PROJECTS APPROVED</b>
Southern District Office	0
Coastal District Office Monterey (1)	1
Inland District Office Coalinga (1) Fresno (1) Kern (6)	8
Northern District Office	0
<b>TOTAL</b>	<b>9</b>

The six new projects underwent a normal review process because their injections zones were located entirely within non-USDW (Underground Source of Drinking Water) areas. Three of the remaining 9 projects had proposed injection zones located at least partially within areas that required new aquifer exemptions prior to approval.

#### 1.2 Pending UIC Project Applications

Public Resources Code section 3114(a)(2): The monthly average number of pending project applications.

Pending applications are defined as those that are in the review process and have not yet received a PAL. On average, 62 UIC project applications were pending every month during the reporting period. Of these 62 applications, on average, 7 were pending with the State Water Board and regional water boards (collectively Water Boards) every month during the reporting period. Due to the separate agency



review periods, there may be a difference between the number of pending applications at CalGEM and the Water Boards.

Beginning November 2019, UIC project applications were sent to Lawrence Livermore National Laboratory (LLNL) for an independent scientific review prior to the final approval and issuance of the PAL. Two UIC project proposals were submitted to LLNL during the reporting period but were not approved as of March 31, 2020. These projects were not considered in determining the average length of time to obtain project approval (Section 1.3) and the average review times by agencies (Section 1.4). The impact of the additional LLNL review and approval periods will be reflected in the next report.

### **1.3 UIC Project Approval Timeline**

Public Resources Code section 3114(a)(3): The average length of time to obtain an underground injection control project approval from date of receipt of complete application to the date of issuance.

Beginning from the date a UIC project application is deemed complete, an average of 338 days was needed to obtain approval during this reporting period.

UIC project applications received undergo cursory reviews to ensure the dataset is complete and meets the regulatory requirements. Districts will not start detailed technical reviews until the package is verified complete. Project applications requiring AEs are not deemed complete until receipt of AE approval by US EPA Record of Decision is verified.

### **1.4 UIC Project Application Review**

Public Resources Code section 3114(a)(4): The average amount of time to review an underground injection control project proposal by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each proposed underground injection control project.

During the reporting period, the CalGEM average review time for UIC project proposals not requiring AEs was 432 days. The average review time for proposals needing AEs was 1,549 days. The duration included about 37 more months spent obtaining AE approval. CalGEM review time begins the day the application is submitted and concludes when the project approval letter is issued. This includes, among other things, the cursory completeness check, interagency communications, as well as time spent obtaining additional data/information necessary to deem the application complete.



During the reporting period, the Water Boards' average review time was 74 days. The Water Boards' review begins when an application is received from CalGEM. The Water Boards' review concludes when either a No Objection, Objection, or No Intent to Comment letter is sent to CalGEM. This time includes interagency communications and staff review. CalGEM and the Water Boards' review periods may overlap or take place simultaneously.

### **1.5 Pending UIC Project Applications**

Public Resources Code section 3114(a)(5): The number of project proposals pending for over one year.

As of March 31, 2020, there were 55 UIC project proposals that had been pending for over one year. Twenty-eight of those 55 proposals were still under CalGEM review which, when completed, will be submitted to the Water Boards.

## **2. Aquifer Exemptions**

### **2.1 Pending Aquifer Exemptions**

Public Resources Code section 3114(a)(6): A list of pending aquifer exemptions, if any, and their status in the review process.

There were 15 pending AE applications. The status of these applications, as of March 31, 2020, is provided below. As of this writing, Inland District was waiting for operators to submit the official application packages for Kern Bluff and Blackwells Corner oilfields.

#### **AQUIFER EXEMPTION STATUS AS OF MARCH 31, 2020**

Lynch Canyon (Lanigan)	AE package submitted to EPA on 2/26/2020. CalGEM and State Water Board finalizing responses/answers to EPA questions.
Sespe	CalGEM had finalized AE package. However, submission to US EPA was put on hold pending further consideration.
Coalinga/Jacalitos	CalGEM finalizing aquifer exemption package for submission to US EPA. State Water Board final concurrence received on 2/26/2020.
Cat Canyon	CalGEM and State Water Board finalizing responses to comments received during and after public hearing held on 6/5/2019.



Holser	Preparations underway for Public Hearing. State Water Board preliminary concurrence received on 12/7/2018.
Oxnard	Preparations underway for Public Hearing. State Water Board preliminary concurrence received on 12/7/2018.
Lompoc	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Midway-Sunset II (Tulare)	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Kern River	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Casmalia	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Deer Creek	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Round Mountain (South Area)	Under review by CalGEM and the State Water Board. District and operator working on revisions based on State Water Board comments.
Northeast Edison	Proposal still in early stage of review by CalGEM. District waiting for operator responses on feedback and additional requirements sent on 5/20/2019.
Lost Hills (Phase 2)	Proposal still in early stage of review by CalGEM. District waiting for operator to submit revised and updated application package.
Mt.Poso (Dorsey Area)	Proposal still in early stage of review by CalGEM. Preparing AE package for submission to the State Water Board.





## **2.2 Aquifer Exemption Review**

Public Resources Code section 3114(a)(7): The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by CalGEM and the average combined review time by the State Water Board and regional water quality control boards for each aquifer exemption proposal.

During the reporting period, CalGEM and the State Water Board completed reviews and submitted to US EPA two AE proposals. US EPA approved South Belridge (Western Area) on March 13, 2020 and, as of March 31, 2020, was still reviewing the Lynch Canyon, Lanigan Sands AE proposal. On average, the aquifer exemption review and approval process took approximately 37 months to complete.

The CalGEM average review time was approximately 33 months. CalGEM review time begins the day the application package is received and concludes the day it is submitted to the US EPA. This time includes the exchange of information through interagency communications, the public comment period, and time spent obtaining additional or missing data and information from operators. CalGEM and the Water Boards' review periods may overlap or take place simultaneously.

The Water Boards average review time was approximately 12 months. The Water Boards review time begins the day a complete aquifer exemption proposal is received from CalGEM and concludes when a preliminary decision letter is issued by the State Water Board.

## **3. Enforcement**

### **3.1 UIC Permit Violations**

Public Resources Code section 3114(a)(8): The number and description of underground injection violations identified.

During the reporting period, CalGEM identified 455 violations. Effective April 1, 2019, overdue, failure to conduct, or failed mechanical integrity tests were no longer reported as violations but resulted in automatic loss of approval to inject. In such cases, operators were responsible for the immediate cessation of injection into affected wells and notifying CalGEM thereof.



**PERMIT VIOLATIONS IDENTIFIED**

Unauthorized Injection/ Mechanical Integrity Operations and Maintenance	3
Plugging and Abandonment	258
Monitoring and Reporting Violations	2
Other Violations	177
<b>TOTAL</b>	<b>455</b>

**3.2 Enforcement Actions**

Public Resources Code section 3114(a)(9): The number of enforcement actions taken by DOC.

During the reporting period, 266 UIC-related enforcement actions were undertaken by CalGEM.

**ENFORCEMENT ACTIONS TAKEN**

Notice of Violations Issued	179
Consent Agreement	1
Administrative Orders	6
Well Shut-Ins	80
Other Enforcement Actions	0
<b>TOTAL</b>	<b>266</b>

**3.3 Shut-In Orders or Requests to Relinquish Permits**

Public Resources Code section 3114(a)(10): The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.

During the reporting period, 43 requests to relinquish injection well permits were received from operators and filed in WellSTAR following CalGEM's determination that an adequate demonstration in support of an exemption had not been made. As of March 31, 2020, no injection had been occurring into these wells. Forty-one had been converted to producers and the remaining 2 injectors had been shut since March 2018.

The other 37 well shut-ins were either temporary to allow tests/surveys and other well works, or permanent shut-ins in preparation for abandonment.



## 4. Administration

### 4.1 UIC Program Staffing

Public Resources Code section 3114(a)(11): The number, classification, and location of staff with work related to underground injection control.

The methodology in reporting staff and vacancies with work related to UIC has been re-evaluated and updated from the previous report in order to relay a more accurate number for DOC staff. All staff with duties related to UIC partial or full time were identified and calculated into whole FTE (Full Time Equivalent) positions.

#### DEPARTMENT OF CONSERVATION

LOCATION	JOB CLASSIFICATION	# of POSITIONS (FTE*)	# of VACANCIES (FTE*)	
Sacramento (HQ)	Supervising Oil & Gas Engineer	1 (0.40)	0 (0)	
	Senior Oil & Gas Engineer	1 (1.00)	1 (1.00)	
	Associate Oil & Gas Engineer	5 (5.00)	0 (0)	
	Research Data Specialist 1	1 (0.20)	0 (0)	
	Research Data Specialist 2	1 (0.15)	0 (0)	
	Research Data Analyst 2	1 (0.05)	0 (0)	
	Research Data Supervisor 1	1 (0.05)	0 (0)	
	Research Data Supervisor 2	1 (0.05)	0 (0)	
	Research Data Analyst 1 (Data Mgt., Research & Special Projects)	1 (0.10)	0 (0)	
	Engineering Geologist (Data Mgt., Research & Special Projects)	1 (0.30)	0 (0)	
	Associate Environmental Planner (CEQA)	1 (1.00)	0 (0)	
	Attorney (Legal)	2 (1.00)	0 (0)	
	Staff Services Analyst (Program Support Unit)	1 (0.40)	0 (0)	
	<b>HQ TOTAL</b>		<b>18 (9.70)</b>	<b>1 (1.00)</b>
	Sacramento (Northern District)	Supervising Oil & Gas Engineer	1 (0.10)	0 (0)
Senior Oil & Gas Engineer		3 (0.30)	0 (0)	
Associate Oil & Gas Engineer		4 (0.66)	0 (0)	
Engineering Geologist		5 (0.10)	0 (0)	
<b>DISTRICT TOTAL</b>		<b>13 (1.16)</b>	<b>0 (0)</b>	
Long Beach (Southern District)	Supervising Oil & Gas Engineer	4 (1.36)	0 (0)	
	Senior Oil & Gas Engr. (Supervisor)	6 (2.07)	1 (0.35)	
	Senior Oil & Gas Engr. (Specialist)	4 (0.50)	0 (0)	



	Associate Oil & Gas Engineer	20 (10.09)	0 (0)
	Engineering Geologist	16 (5.73)	0 (0)
	Energy & Mineral Resources Engr.	2 (0.48)	0 (0)
	Staff Services Manager I	1 (0.05)	0 (0)
	Office Technician	6 (2.28)	1 (0.38)
	Seasonal Clerk	5 (3.15)	0 (0)
	Associate Governmental Program Analyst	2 (0.20)	1 (0.10)
	<b>DISTRICT TOTAL</b>	<b>66 (25.91)</b>	<b>3 (0.83)</b>
Ventura & Orcutt (Coastal District)	Supervising Oil & Gas Engineer	1 (0.50)	0 (0)
	Senior Oil & Gas Engr. (Supervisor)	3 (1.05)	1 (0.35)
	Associate Oil & Gas Engineer	8 (4.15)	0 (0)
	Energy & Mineral Resources Engr.	2 (0.80)	0 (0)
	Engineering Geologist	15 (8.73)	0 (0)
	Office Assistant (Typist)	2 (0.75)	0 (0)
	Office Technician (Typist)	2 (0.48)	0 (0)
	Staff Services Analyst	1 (0.10)	0 (0)
	<b>DISTRICT TOTAL</b>	<b>34 (16.56)</b>	<b>1 (0.35)</b>
Bakersfield (Inland District)	Supervising Oil & Gas Engineer	2 (0.80)	0 (0)
	Senior Oil & Gas Engr. (Supervisor)	11 (6.20)	0 (0)
	Senior Oil & Gas Engr. (Specialist)	1 (0.60)	1 (0.6)
	Associate Oil & Gas Engineer	25 (6.29)	7 (3.00)
	Engineering Geologist	27 (9.59)	6 (1.00)
	Energy & Mineral Resources Engr.	1 (0.90)	1 (1.00)
	Staff Services Manager I	1 (0.13)	0 (0)
	Staff Services Manager II	1 (0.05)	0 (0)
	Staff Services Analyst	2 (0.97)	0 (0)
	Oil & Gas Technician II	1 (0.05)	0 (0)
	Office Technician (Typist)	2 (0.30)	0 (0)
	Office Assistant (Typist)	1 (0.20)	0 (0)
	Seasonal Clerk	1 (0.20)	0 (0)
	<b>DISTRICT TOTAL</b>	<b>76 (36.28)</b>	<b>15 (5.6)</b>
	<b>TOTAL – ALL DISTRICTS &amp; HQ</b>	<b>207 (89.61)</b>	<b>20 (7.78)</b>

NOTES: Figures shown outside parenthesis are the number of staff per job classification contributing partial times performing UIC-related tasks and the current CALGEM organizational chart vacancies.

\* FTE – Full-time Equivalent figures inside parenthesis were based on estimated percent of time staff spent performing UIC-related tasks during the reporting period.

#### STATE AND REGIONAL WATER BOARDS

LOCATION	JOB CLASSIFICATION	POSITIONS	VACANCIES
State Water	Senior Engineering Geologist	1	0



Board (Sacramento)	Engineering Geologist/Water Resources Control Engineer	8	1
	Attorney	1	0
	<b>State Water Board TOTAL</b>	<b>10</b>	<b>1</b>
Central Valley	Senior Engineering Geologist	1	0
Regional Water Board (Fresno)	Engineering Geologist/Water Resources Control Engineer	6	1
	<b>Regional Board TOTAL</b>	<b>7</b>	<b>1</b>
Central Coast Regional Water Board	Senior Water Resources Control Engineer	1	0
	Engineering Geologist	3	0
(San Luis Obispo)	<b>Regional Board TOTAL</b>	<b>4</b>	<b>0</b>
Los Angeles Regional Water Board	Engineering Geologist/Water Resources Control Engineer	2	0
	<b>Regional Board TOTAL</b>	<b>2</b>	<b>0</b>
Santa Ana Regional Water Board	Engineering Geologist	1	0
	<b>Regional Board TOTAL</b>	<b>1</b>	<b>0</b>
	<b>TOTAL – State and Regional Boards</b>	<b>24</b>	<b>2</b>

NOTE: Figures for the Water Boards above are dedicated full-time to UIC.



## **4.2 UIC Program Vacancies**

Public Resources Code section 3114(a)(12): The number of staff vacancies for positions associated with underground injection control.

See tables above in section 4.1 UIC Program Staffing.

## **5. Statutes & Regulations**

### **5.1 Statutory or Regulatory Changes to the UIC Program**

Public Resources Code section 3114(a)(13): Any state or federal legislation, administrative, or rulemaking changes to the program.

#### ***5.1.1 Federal Legislation***

Nothing to report.

#### ***5.1.2 State Legislation***

AB 1057 (Limon, Chapter 771, Statutes of 2019) specified that the purposes of provisions relating to oil and gas conservation include protecting public health and safety and environmental quality. See Public Resources Code section 3011.

Effective January 1, 2020, the Department of Conservation's Division of Oil, Gas and Geothermal Resources was renamed the Geologic Energy Management Division, or CalGEM, in accordance with AB 1057. See Public Resources Code section 607.

### **5.2 CalGEM UIC Projects Reviewed in Each District**

Public Resources Code section 3114(a)(14): The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.

As of March 31, 2020, CalGEM has initiated reviews on 344 active UIC projects. Under the 2018 Revised MOA, CalGEM forwards completed UIC project reviews to the Water Boards. To implement most effectively the updated UIC regulations that took effect April 1, 2019, CalGEM will also consult with the Water Boards on new and expansion of existing UIC project proposals and review existing UIC projects periodically, at least once every 3 years [[California Code of Regulations, title 14, section 1724.6 \(a\) and \(d\)](#)].



<b>DISTRICT</b>	<b>Completed</b>	<b>Ongoing</b>
Southern	0	74
Coastal	0	71
Inland	1	189
Northern	0	9
<b>TOTAL</b>	<b>1</b>	<b>343</b>

**Summary of Findings and Steps to Address Deficiencies:**

- Preliminary review of more than 260 projects had been completed. Findings and steps to address deficiencies included:
  - Missing pressure data and updated Zone of Endangering Influence (ZEI). Operators were requested to submit new ZEI calculations.
  - Fracture gradient and Maximum Allowable Surface Injection Pressure (MASIP) needed re-evaluation. Operators were required to conduct step-rate tests and submit results to determine MASIP.
  - Determination/evaluation for Base of Freshwater (BFW) and USDW required. Operators were required to submit documentation i.e., electrical logs to confirm presence/absence of BFW/USDW.
  - Operators failing to respond to data requests were issued notices of violation.
- More than 60 projects have been reviewed and identified for corresponding status update in the database to rescinded, suspended or terminated.
- One project-by-project review was completed by CalGEM and the Water Boards and is awaiting completion of third-party review by LLNL. The project was found current and compliant with updated regulations.

**5.3 UIC Projects Not Yet Reviewed for Compliance**

Public Resources Code section 3114(a)(15): The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.

During the reporting period, there were 424 UIC projects that had not been reviewed for compliance with applicable statutes and regulations within the prior two years. These projects are operating under previously approved permits and will be reviewed according to a prioritization established by CalGEM.

**5.4 UIC Summary of Significant Milestones**

Public Resources Code section 3114(a)(16): Summary of significant milestones in the compliance schedule agreed to with the US EPA, as indicated in the March 9, 2015 letter to CalGEM and the State Water Board from the US EPA, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption applications.



### **5.4.1 Aquifer Exemptions**

CALGEM and the State Water Board continue to provide the US EPA and the California Legislature regular updates on the progress of the aquifer exemption process.

As of March 31, 2020, there are 15 aquifer exemption applications undergoing CalGEM and/or State Water Board reviews (see subsection 2.1 Pending Aquifer Exemptions).

### **5.4.2 Updated UIC Regulations**

See subsection 5.1.3 UIC Regulatory Changes.

### **5.4.3 Evaluations of Injection Wells**

In 2014, CalGEM (then DOGGR) and the State Water Board used a risk-based approach to evaluate if any potential immediate threats existed to groundwater with a current beneficial use (such as irrigation or drinking water). Using this approach, CalGEM compiled a list of wells potentially injecting into non-exempt aquifers and developed a proposed schedule for the US EPA on aquifer exemption proposals. State Water Board staff reviewed the list of wells to evaluate if they had the potential to be an immediate threat to nearby water supply wells. As a result of this review, the Water Boards issued 71 California Water Code section 13267 orders (information orders) for additional information to the operators of 256 UIC wells. Operators were required to submit water quality information for injected fluids and injection zones, to identify the location of all water supply wells within one mile of the UIC well(s), and to provide information to demonstrate that the beneficial uses of groundwater within a one-mile radius of the UIC wells are protected. Previous SB 1493 reporting by CalGEM has provided a summary of information submitted by operators, and actions taken by the Water Boards relating to the information orders issued in 2014 and 2015. During the current reporting period (April 1, 2019 through March 31, 2020), no additional information was submitted to the Water Boards and no additional action was taken relating to the 2014/2015 information orders.

During the current reporting period, additional UIC wells were identified that may pose a potential threat to a nearby water supply:

- The Los Angeles Regional Water Quality Control Board (LA Regional Board) was notified by CalGEM about a failed MI test on a UIC well in the Ventura Oil Field. While just outside of the reporting period, on April 1, 2020, the operator and CalGEM reported back to LA Regional Board staff that the leak was identified at a depth of 3,204 feet below ground surface (bgs). The base of the underground sources of drinking water (USDW) was determined to be 970 feet bgs. CalGEM and LA Regional Board staff co-reviewed additional data submitted by the operator. On April 2, 2020, LA





Regional Board staff emailed CalGEM Coastal that the threat to overlying USDW was very low and did not require further action. LA Regional Board staff did not have any objections to proceeding with the proposed remediation of the well.

- The Central Coast Regional Water Quality Control Board is working with CalGEM and an oilfield operator to investigate 11 UIC wells located in the Cat Canyon Oilfield that failed MI testing.

## **5.5 UIC Review Panel**

Public Resources Code section 3114(a)(17): Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.

Pursuant to Senate Bill 83 (Committee on Budget and Fiscal Review, Ch. 24, Statutes of 2015), the Secretary of the Natural Resources Agency and the Secretary for Environmental Protection appointed an independent review panel to evaluate the regulatory performance of the administration of the UIC Program and make recommendations on how to improve its effectiveness by evaluating resource needs, statutory or regulatory changes, as well as program organization.

Following the requirements of the legislation, the Panel is comprised of a diverse group of individuals with expertise and scientific background in geology, toxics, oil and gas development, public health, and the environment, as well as representatives from agricultural and environmental justice perspectives.

Additionally, the Panel is required to seek input from a broad range of stakeholders with a diverse range of interests affected by state policies and the general public.

The Panel has the following tasks:

- Observe, comment on, and review a Peer Review conducted by the Groundwater Protection Council (GWPC), a nonprofit organization whose members consist of state groundwater and UIC regulatory agencies.
- Seek input on the findings of the Peer Review from a broad range of stakeholders and the public.
- Issue an independent final evaluation and recommendations to improve the regulatory program.

The Panel's discussions and process are being facilitated by the Lawrence Berkeley National Laboratory.

The Panel plans to build on the findings of the GWPC to help provide the statutorily mandated recommendations. The panel had anticipated that the GWPC would present their Peer Review of the UIC program to the Panel at an October 2019 meeting, but the Peer Review had yet to be released in the time period covered by this Report. The Panel met in a public forum in Long Beach in January and has



subsequently convened working group meetings to begin to develop draft recommendations which are projected to be finalized and released in the fall of 2020.



## APPENDIX A – REFERENCES & DATA SOURCES

### CalGEM

- CalGEM Statutes and Regulations (January 2020):  
<https://www.conservation.ca.gov/index/Documents/CALGEM-SR-1%20Web%20Copy.pdf>
- CalGEM's Aquifer Exemption Status Report, an internal Excel workbook used by staff to monitor progress of the aquifer exemption application process. The file is shared with the Water Boards and the US EPA.
- US EPA 7520 Mid-Year Reports (EPA Forms 7520-2A and 7520-2B) from UIC Federal Reporting System, which solicits information under the authority of the Safe Drinking Water Act. CALGEM submits the reports to the US EPA twice in a federal fiscal year – initial report covering activities from Oct 1 to March 31 (mid-year) then a second one covering Oct 1 to September 30 (full-year).
- US EPA Letter to CALGEM (referred to by previous name, DOGGR, in letter) and the State Water Board dated March 9, 2015 cited in requirement (16) of Section 3114 of the Public Resources Code:  
<https://www.epa.gov/sites/production/files/2015-07/documents/cswrcb-uic-dswa-compliance-ltr-2015-03-09.pdf>
- 2018 Revised Memorandum of Agreement between CalGEM (referred to by previous name, DOGGR) and the State Water Board:  
[https://www.conservation.ca.gov/calgem/for\\_operators/Documents/MOU-MOA/2018.07.31\\_Revised\\_MOA\\_with\\_the\\_State\\_Water\\_Board.pdf](https://www.conservation.ca.gov/calgem/for_operators/Documents/MOU-MOA/2018.07.31_Revised_MOA_with_the_State_Water_Board.pdf)
- Well Statewide Tracking and Reporting System (WellSTAR), an electronic database used to maintain, monitor, and track well information:  
[https://www.conservation.ca.gov/calgem/for\\_operators/Pages/WellSTAR.aspx](https://www.conservation.ca.gov/calgem/for_operators/Pages/WellSTAR.aspx)

### WATER BOARDS

- Bi-weekly UIC Project Review Status Reports:  
[https://geotracker.waterboards.ca.gov/uic\\_project\\_tracking\\_report](https://geotracker.waterboards.ca.gov/uic_project_tracking_report)
- GeoTracker, a public database used to maintain, monitor, and track UIC well information:  
<https://geotracker.waterboards.ca.gov/>
- State Water Board Oil and Gas Unit's Aquifer Exemption Status, an internal Excel workbook specifically used to track the progress of aquifer exemption application reviews, interagency communication, and decision milestones.



## APPENDIX B – PUBLIC RESOURCES CODE § 3114

**§ 3114.** (a) By July 30, 2019, and annually thereafter, the Department of Conservation, in consultation with the State Water Resources Control Board, shall report to the fiscal and relevant policy committees of the Legislature on the Underground Injection Control Program. The report shall include, but is not limited to, all of the following about activities in the previous 12 months:

(1) The number and location of underground injection control project approvals issued by the department, including projects that were approved but subsequently lapsed without having commenced injection.

(2) The monthly average number of pending project applications.

(3) The average length of time to obtain an underground injection control project approval from date of receipt of complete application to the date of issuance.

(4) The average amount of time to review an underground injection control project proposal by the division and the average combined review time by the State Water Resources Control Board and regional water quality control boards for each proposed underground injection control project.

(5) The number of project proposals pending for over one year.

(6) A list of pending aquifer exemptions, if any, and their status in the review process.

(7) The average length of time to process an aquifer exemption and the average amount of time to review a proposed aquifer exemption by the division and the average combined review time by the State Water Resources Control Board and regional water quality control boards for each aquifer exemption proposal.

(8) The number and description of underground injection control related violations identified.

(9) The number of enforcement actions taken by the department.

(10) The number of shut-in orders or requests to relinquish permits and the status of those orders or requests.

(11) The number, classification, and location of staff with work related to underground injection control.

(12) The number of staff vacancies for positions associated with underground injection control.

(13) Any state or federal legislation, administrative, or rulemaking changes to the program.

(14) The number of underground injection control projects reviewed for compliance with statutes and regulations in each district and a summary of findings from project reviews completed during the reporting period, including any steps taken to address identified deficiencies.

(15) The number of underground injection control projects that have not been reviewed for compliance with applicable statutes and regulations within the prior two years.



(16) Summary of significant milestones in their compliance schedule agreed to with the United States Environmental Protection Agency, as indicated in the March 9, 2015, letter to the division and the state board from the United States Environmental Protection Agency, including, but not limited to, regulatory updates, evaluations of injection wells, and aquifer exemption applications.

(17) Summary of activities undertaken by the underground injection control review panel established pursuant to Section 46 of Chapter 24 of the Statutes of 2015.

(b) This section shall become inoperative on October 1, 2024, and as of January 1, 2025, is repealed.

*(Amended by Stats. 2019, Ch. 771. Section inoperative October 1, 2024.*

*Repealed as of January 1, 2025, by its own provisions.)*



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