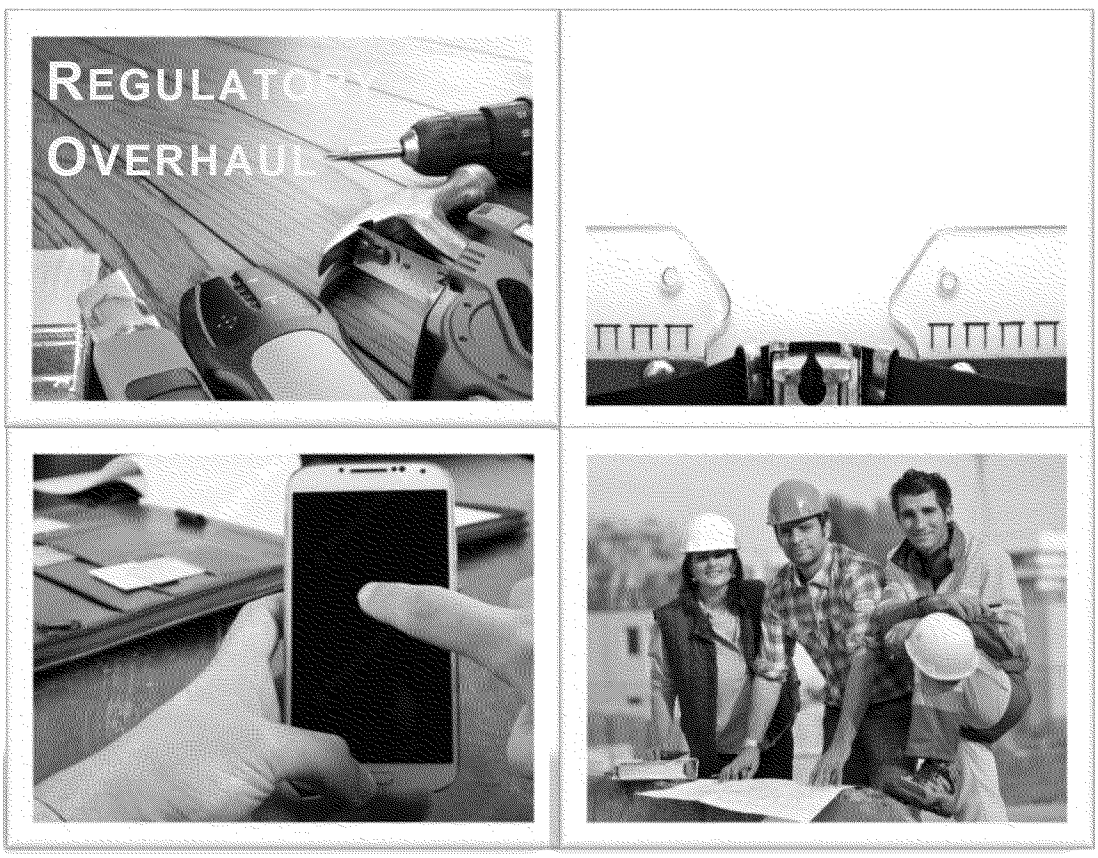
California Department of Conservation
Division of Oil, Gas, and Geothermal Resources

RENEWAL PLAN FOR OIL AND GAS REGULATION

CHANGING PAST PRACTICES TO USHER IN A NEW ERA OF OIL AND GAS REGULATION

October 2015



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INTRODUCTION

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) was established in 1915 as a regulator of oil and gas industry practices. 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. Primary examples include well spacing requirements and authority to limit production rates. However, those regulations and the focus of the Division evolved and came to include the protection of public health, safety, and the environment.

California oil and gas operators produce approximately 600,000 barrels of oil each day. About 35 percent of the oil used in California comes from California oil and gas reservoirs. These resources are produced through more than 80,000 active oil and gas wells owned and operated by more than 450 operators and service companies. Most of the production comes from the San Joaquin Valley, but operators also produce oil and gas from coastal areas like the Los Angeles Basin, Ventura, Santa Barbara, and around Santa Maria. The Division oversees that production from 6 field offices with a present staff of over 275.

As the Division approached its 100th year, the need for thorough assessment of its performance and capacity became apparent. The call for that review came in many forms. In 2010, the Division requested an independent U.S. Environmental Protection Agency audit, and in 2011 that audit identified shortcomings in the Underground Injection Control (UIC) Program. Growing public concern about the practice of hydraulic fracturing raised questions about the Division's data collection and transparency. State lawmakers began to express concern that the Division's regulations and practices were inadequate to address modern industry activities. In 2012, as a part of the FY12-13 budget development process, the Department of Conservation described the changes needed to improve the policies, practices, and regulations administered by the Division to match society's current expectations.

All of these developments have helped to shape this Renewal Plan for the Division. The Plan will guide Division reforms over the next two years and accelerate the progress under way since 2012. It will serve as a means of measuring progress toward the goal of an effective regulatory program that ensures the protection of public health and the environment in the oil fields of California.

The Renewal Plan features four themes, each with multiple objectives:

- Regulatory Overhaul
- New Regulations for New Realities
- Modernized Data Management
- Ensuring a High-Quality Workforce

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SUMMARY OF RENEWAL PLAN SCHEDULE

OBJECTIVE 1: REGULATORY OVERHAUL

Activity	Start	Finish	Status
Action 1.1 – Review Injection Projects			
Injection Project Reviews (all districts)	10/15/15	April '17	
Revisions to PALs, if needed (all districts)	Varies	Oct. '18	
Action 1.2 – Aquifer Exemption Review			
Obtain Exemption or Shut-In Injection Wells in Non-Exempt Aquifers	June '14	Feb. '17	IP
Action 1.3 – Review / Revise Existing Regulatory Standards			
Phase 1 Rulemakings	July '15	Dec. '16	IP
Phase 2 Rulemakings	Fall '16	Early '18	

Key: ☐ = Complete IP = In Progress

OBJECTIVE 2: NEW REGULATIONS FOR NEW REALITIES

Activity	Start	Finish	Status
Action 2.1 – Adopt New Rules for Well Stimulation (WST)			
Adopt Interim WST Regulations	12/13/13	1/1/14	☐
Adopt Permanent WST Regulations	11/15/13	7/1/15	☐
Action 2.2 – Adopt New Rules for Cyclic Steaming			
Cyclic Steam Rulemaking	July '15	Dec. '16	IP
Action 2.3 -- Develop Capacity to Anticipate Regulatory Needs			
Establish Emerging Technologies and Regulations Unit	July '14	Feb. '16	IP

Key: ☐ = Complete IP = In Progress

OBJECTIVE 3: MODERNIZE DATA MANAGEMENT

Activity	Start	Finish	Status
Action 3.1 – Improve Well Information Management System and Business Processes	July '15	Middle '18 *	IP
Action 3.2 – Improve Transparency of Division Data			
Interim Well Stimulation Treatment Notice System Implemented	Oct. '13	March '14	☐
Well Finder Application Launched	Oct. '13	Jan. '14	☐
SB4-Compliant Post-WST Chemical Disclosure Site On-Line	Oct. '13	1/1/16	IP
SB1281 Reporting On-line	Oct '14	8/12/15	☐
Action 3.3 – Develop e-Permitting Functionality	July '15	Late '18 *	IP

Key: ☐ = Complete IP = In Progress

** = Dates are rough estimates/targets for IT development project*

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SUMMARY OF RENEWAL PLAN SCHEDULE (CONT.)

OBJECTIVE 4: ENSURE HIGH-QUALITY WORKFORCE

Activity	Start	Finish	Status
Action 4.1 – Obtain Adequate Staffing			
FY10-11 -> FY12-13 BCPs			☐
FY14-15 -> FY15-16 BCPs		Spring '16	IP
Action 4.2 – Improve Recruitment and Outreach			
Develop on-line exam functionality for technical job classes	Fall '14	Spring '15	☐
Improve recruitment beyond traditional efforts	Spring '14	Ongoing	IP
Review/revise classifications to recognize work experience	July '15	Jan '16	IP
Action 4.3 – Reorganize Division			
Administrative reorganization under existing authority	Sept. '15	Sept. '16	IP
Review statutory organizational requirements for necessity	Sept. '15	Nov. '15	IP
Action 4.4 – Implement Comprehensive and Continuous Training			
Hire Technical Training Coordinator	Sept. 15	Dec. '15	IP
Improve Training Plan	July '15	Fall '15	IP
Establish safety video library and mandatory training	Sept. '15	May '16	IP
Action 4.5 -- Develop Best Practices for Staff / Managers			
Internal assessment of current policies and procedures	Mar. '15	June '16	
Development of Best Practice Standards	Fall '15	July '16	IP
Implementation of Best Practice Standards	July '16	Ongoing	

Key: ☐ = Complete IP = In Progress

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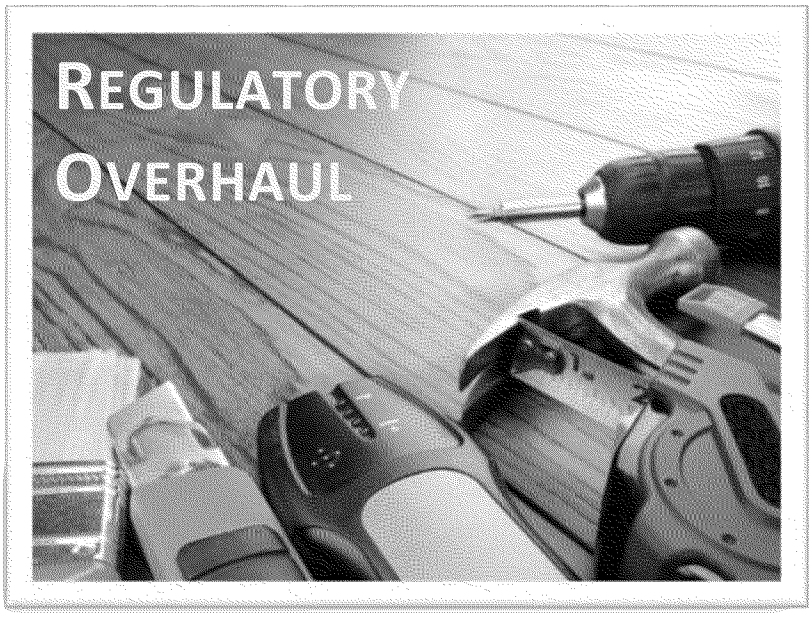
OBJECTIVE 1:



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OBJECTIVE 1: REGULATORY OVERHAUL

The Division's existing regulations—and how they are applied—are under review. Some regulations have been in effect without change for decades. Some fail to take into account advances in drilling technology and our understanding of environmental and public health protection. The Division enforced some regulations inconsistently and, in some cases, incorrectly—such as permitting injection wells into areas not previously approved for injection. To correct the Division's past practices on underground injection control, oilfield operators will either: (1) receive authorization to continue to inject into formations because the formation fluids were already unsuitable for drinking or agricultural use; or (2) operators will be ordered to cease injection into those formations.

Action Item 1.1: Review Injection Projects

Under the Underground Injection Control (UIC) Program, oil and gas operators apply to conduct "projects," which usually comprise multiple wells drilled as a part of an overall system to extract oil and gas. Some wells in a "project" inject water, steam, or other gas into a hydrocarbon formation. That injection moves oil and gas toward production wells that are also part of the "project" and that bring the oil to the surface. A project may also include disposal wells. Thousands of projects have been approved since 1983, the year the U.S. EPA recognized the Division's UIC Program as being suitable to meet the requirements of the federal Safe Drinking Water Act for injection of fluids associated with oil and gas production.

The Division will conduct a review of every project it has approved. This review will examine all active injection projects in the state to determine if project files contain all required documentation and that the project reflects appropriate protection of groundwater sources. Mechanical integrity tests will be confirmed. If additional conditions or reporting requirements are identified as necessary during the review, new Project Approval Letters (PAL)—which describe Division requirements of individual operators on each project—will be required.

Timeline:

Activity	Start	Finish	Status
Injection Project Reviews	10/15/15		
Districts 3 (Orcutt) and 6 (Sacramento)		May '16	
Districts 2 (Ventura) and 5 (Coalinga)		July '16	
District 1 (Cypress)		Aug. '16	
District 4 (Bakersfield)		April '17	
Revisions to PALs (if needed)			
Districts 3 (Orcutt) and 6 (Sacramento)		April '17	
Districts 2 (Ventura) and 5 (Coalinga)		Oct. '17	
District 1 (Cypress)		Feb. '18	
District 4 (Bakersfield)		Oct. '18	

Key: □ = Complete IP = In Progress

Note: Reviews to be conducted at the Division's District Office level. Schedule for completion varies by district because of the varied number of projects in each district and available staffing.

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Action Item 1.2: Aquifer Exemption Review

In 1983, the U.S. EPA found that the Division's UIC Program meets federal Safe Drinking Water Act provisions related to injection of Class II fluids into the ground and delegated to the Division primary responsibility, or "primacy," in the regulation of Class II injection. Class II fluids are those associated with the production of oil and gas, most commonly salty water that comes to the surface with the oil and gas from the underground oil reservoir. Certain underground formations were identified by the Division and U.S. EPA as appropriate to receive injection of Class II fluids. These are called "exempt aquifers" because they are formations/aquifers that contain water that meets the standard for protection under the Safe Drinking Water Act, but some other characteristic makes the water in that formation unsuitable for drinking (i.e., it contains oil or some other naturally-occurring chemical like arsenic or boron). However, over the 30-year history of the UIC Program, the Division has permitted injection into some formations that were not approved to receive such injection.

The Division identified this problem to the U.S. EPA in mid- 2014. Since then, the Division, U.S. EPA and the State Water Resources Control Board have developed a plan to address wells injecting into non-exempt aquifers. The wells injecting into non-exempt aquifers have been identified, categorized by type (water disposal or enhanced oil recovery), and prioritized by the relative risk the wells pose to existing water supply wells. Some wells were found to pose an immediate threat and, as a result, the Division either ordered shut or obtained permit relinquishment for 23 of the 5,625 wells reviewed. As the review continues, the Division may order further wells immediately shut down to protect groundwater, though it is important to note that most of the remaining wells are injecting into known oil-bearing formations. For the other wells injecting into non-exempted formations, two paths exist. Either sufficient evidence must be presented by operators that the formation should be exempted by the U.S. EPA under the Safe Drinking Water Act, or the Division will order the operators to cease injection through those wells.

Timeline:

Activity	Start	Finish	Status
Obtain Exemption or Shut-In Injection Wells in Non-Exempt Aquifers	June '14		IP
WD Wells into sub-3000 mg/L TDS aquifers		10/15/15	☐
WD or EOR Wells into Historically Treated As Exempt Aquifers		12/31/16	IP
WD Wells into Non-Oil-Containing Aquifers With Water 3,000-10,000 mg/L TDS		2/15/17	
EOR Wells into Oil-Containing, sub-10,000 mg/L TDS Aquifers		2/15/17	

Key: ☐ = Complete IP = In Progress

- Shut-In Orders can and have been issued prior to the target completion dates above
- WD = Water Disposal well and is generally not into an oil-bearing formation.
- EOR = Enhanced Oil Recovery Injection for these projects is implicitly into a hydrocarbon bearing zone, the water within which could only be fit for beneficial use following extensive and expensive purification.

Action Item 1.3: Review / Revise Existing Regulatory Standards

All regulations administered by the Division are being reviewed and evaluated. In some cases, regulations that previously left broad latitude for interpretation will be made more specific. In other cases, new regulations are needed to address new technologies and to facilitate best practices. Some practices that were once too expensive for operators are now, thanks to improved technology, financially feasible and need to be regulated.

The Division will consider revision to existing regulations in two phases. In the first phase, the Division intends to address the following:

- Clarification of standards for zonal isolation of injection projects
- Clarification of the quality of water to be protected when constructing wells
- Update of well construction standards
- Clarification of the process and standards for setting maximum allowable pressures for injection operations.

In the second phase, the Division will address these following issues:

- Codification of ongoing UIC project review requirements
- Establishment of standards for securing idle wells
- Revision of idle well testing requirements

Timeline:

Activity	Start	Finish	Status
Phase 1 Rulemakings (*incl. informal and formal*)	July '15		
Identify interested parties and soliciting concerns and/or suggestions		Oct. '15	IP
Draft proposed regulations and conduct pre-regulatory consultations		Nov. '15	
Begin formal rulemaking processes		Jan. '16	
Conclude rulemaking		Dec. '16	
Phase 2 Rulemakings (*incl. informal and formal*)	Fall '16		
Identify interested parties and soliciting concerns and/or suggestions		Early '17	
Draft proposed regulations and conduct pre-regulatory consultations		Early '17	
Begin formal rulemaking processes		Early '17	
Conclude rulemaking		Early '18	

Key: □ = Complete IP = In Progress

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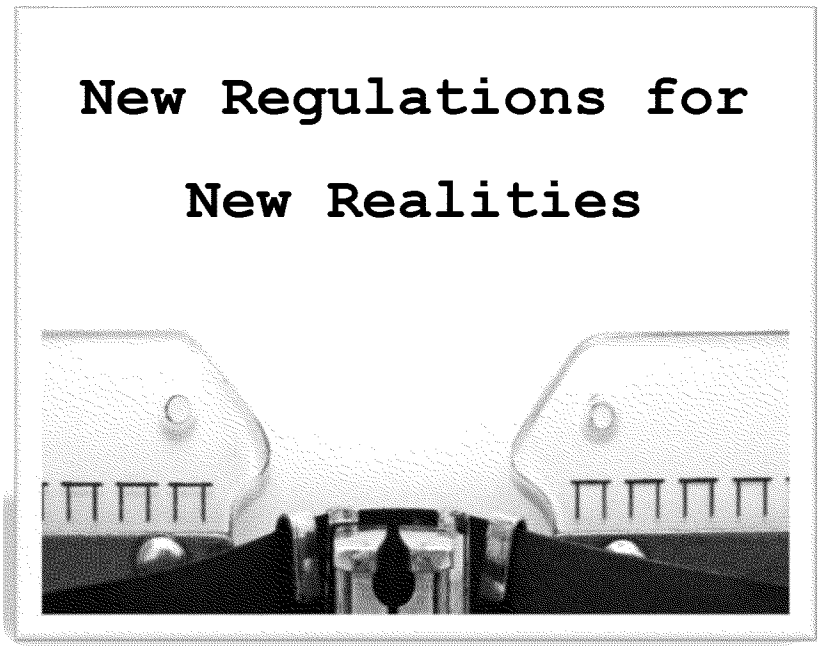
OBJECTIVE 2:



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OBJECTIVE 2: NEW REGULATIONS FOR NEW REALITIES

Until 2013, the Division regulated the oil and gas industry under a statutory and regulatory construct that had changed little in the preceding four or five decades—while industry practice evolved steadily over those years. In some cases, the Division simply continued to apply existing general rules to practices that warranted specific rules. In other cases, existing rules loosely fit the evolving practice, and new regulations should have been developed to regulate those practices. The Division lacked the staff, skills, and processes to monitor evolving industry production practices and thus did not adequately anticipate or adapt to changing industry operations.

Action Item 2.1: Adopt New Rules for Well Stimulation (WST)

Prior to 2010, hydraulic fracturing and other forms of formation stimulation (often called "well stimulation") were considered "downhole" maintenance practices that did not require specialized regulation. To prevent damage to groundwater, the Division relied upon existing rules governing well integrity and provisions against fluid migration out of intended zones. In 2012, the Legislature gave clear direction to the Department of Conservation (Department) to begin rulemaking for hydraulic fracturing and the Department began such a process. In December 2012, Senate Bill 4 (Pavley) was introduced to require permitting for hydraulic fracturing and other forms of "well stimulation." Senate Bill 4 set aggressive deadlines for Department implementation of regulations.

The Department launched a rulemaking process for SB 4 almost as soon as it was signed into law in September 2013. The Department also drafted Emergency Interim Regulations that took effect the same date as SB 4—January 1, 2014. Those Interim Regulations were extended twice by the Department and once by the Legislature until July 1, 2015. Along with the adoption of Interim Regulations, the Division initiated and completed a lengthier, formal rulemaking process by the statutory deadline of January 1, 2015. Those formal regulations went into effect on July 1, 2015, the day after the expiration of the Interim Regulations, and they are the strongest well stimulation regulations in the nation.

Timeline:

Activity	Start	Finish	Status
Adopt Interim WST Regulations			
Initiate rulemaking		12/13/13	☐
Issue Interim Rules		12/13/13	☐
Interim Rules effective		1/1/14	☐
Adopt Permanent WST Regulations			
Initiate rulemaking	11/15/14		☐
Circulate draft regulations for public review/comment, including public hearings	11/15/13	1/14/14	☐
Circulate second draft of regulations for public review/comment, including public hearings	6/13/14	7/28/14	☐
Circulate third draft of regulations for public review	10/9/14	10/24/14	☐
Office Of Administrative Law approves regulations		12/30/14	☐
Permanent Regulations effective (by statute)		7/1/15	☐

Key: ☐ = Complete IP = In Progress

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Action Item 2.2: Adopt New Rules for Cyclic Steaming

Oil operators have applied cyclic steaming to oil reservoirs since the 1980s to heat the oil-bearing formations so that the oil can flow more easily to the well and be pumped to the surface. Traditional enhanced oil recovery (EOR) techniques involve application of water or steam into a formation by one well and production through another well. In a cyclic steam operation, injection and production operations alternate or "cycle" through the same well. Steam might be injected for several hours or days, allowed to remain in the formation for some time, and then the well is put into production to bring oil to the surface. The Division has long regulated cyclic steam operations as if they were EOR operations. Cyclic steaming, however, poses potential risks that regular EOR operations may not experience. Cycling of hot and cooler periods may affect well bore integrity. In shallow formations, steam can migrate out of the intended injection zone, sometimes impacting the surface or presenting hazards to workers.

To ensure that cyclic steam operations do not damage wells, allow fluids to migrate into zones not intended for injection led to failures of zonal isolation, or harm oil field workers, the Division needs more specific and robust regulations for cyclic steam operations. The Division has started the process for adopting new regulations specific to cyclic steam operations. Those regulations are expected to be completed by December 2016.

Timeline:

Activity	Start	Finish	Status
Cyclic Steam Rulemaking	July, '15		
Identify interested parties and solicit concerns and/or suggestions		Oct., '15	IP
Draft proposed regulations and conduct pre-regulatory consultations		Nov. '15	
Begin formal rulemaking processes		Jan. '16	
Conclude rulemaking		Dec. '16	

Key: □ = Complete IP = In Progress

Action Item 2.3: Develop Capacity to Anticipate Regulatory Needs

The Division historically has reacted to changes in oil and gas production industry practices by applying existing regulations and trusting that risks have been ameliorated. The Division has been slow to react to emerging production trends. In the case of hydraulic fracturing, for example, the Division was focused on application of current law instead of strategizing how regulation should evolve with production practice.

To create a regulatory culture that proposes solutions to risks posed by evolving production practices, the Division is creating a new "Emerging Technologies and Regulations" unit. A precursor is the "New Program Development" unit, which was charged with leading the development of well-stimulation regulations in 2013-14. This unit works with the industry, academia, and others to identify emerging production techniques, assess corresponding risks, and determine whether existing regulations sufficiently guard against risk. Where they do not, this unit is charged with developing draft regulations and working to adopt appropriate changes.

Timeline:

Activity	Start	Finish	Status
Establish Emerging Technologies and Regulations Unit			
Formation of New Program Development Unit in headquarters	July '14	Dec. '14	☐
Reorganization of Division	Sept. '15	Sept. '16	
Formal establishment of ETR Unit	Sept. '15	Feb. '16	

Key: ☐ = Complete IP = In Progress

OBJECTIVE 3:
MODERNIZE DATA MANAGEMENT

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OBJECTIVE 3: MODERNIZE DATA MANAGEMENT

For decades, the Division relied upon paper filing to manage information. Oil production was tracked electronically, but other data about permitting of wells, well construction details, and well logs were maintained in paper form. Operators submit applications to drill wells on paper forms, for instance, and Division staff enter some of the data manually into Division systems. New regulations for well stimulation will require review of sophisticated industry analyses, including 3-dimensional subsurface modeling. The Division lacks the technology to recreate such models, which limits its ability to independently verify industry submittals. Lack of digital record-keeping hampers the Division's ability to analyze data and respond to public, legislative, and public inquiries.

Action Item 3.1: Improve Well Information Management System and Business Processes

The Division has begun the process to overhaul all business and information technology systems. The Division is working with the California Department of Technology to evaluate current data management systems and develop a plan to meet future data needs. At the same time, the Division is reviewing the various business processes employed within different Division districts. In some cases, the Division is creating business processes where none existed. These scoping and business process identification efforts form the foundation of the new well information system design. Subsequent steps in the procurement process include identifying a suitable data management solution from options that include (1) purchase of off-the-shelf software, (2) modification of off-the-shelf software, or (3) development of custom, stand-alone software. Development, testing and validation must occur before the final launch of the information system to users. However, those processes may occur somewhat in parallel -- instead of sequentially -- provided the Division and the Department of Technology can identify appropriate processes to manage project development risk. Once the system is usable for new data intake from permits and other ongoing Division activities, the Division will need to migrate legacy data from more than a century of well drilling history into the system.

Timeline:

Activity	Start	Finish	Status
Scoping of Well Information Management System	July '15	Nov '15	IP
Identifying/defining business processes	June '15	Nov '15	IP
Selection of business solution	Feb. '16		
Development	Feb '16	Dec. '16*	
Testing and validation	Middle '16*	Jan. ''17*	
Launch	Middle '16*		
Legacy data ,migration	Nov. '15*	Middle '18*	

Key: □ = Complete IP = In Progress

** = Dates are rough estimates/targets for IT development project*

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Action Item 3.2: Improve Transparency of Division Data

For most of the Division's history, the Division publicly presented data about the oil and gas industry once a year through an Annual Report of the Supervisor. The Division answered inquiries about particular wells (1) in an ad hoc manner or (2) by allowing operators or members of the public to review data on microfiche files physically held in district offices. The Division began scanning well records to PDF format files in 2004, though some districts experienced difficulties with the contractors who conducted the scanning jobs. Once those files were scanned to PDF format, however, the data were not significantly more useful than when it had been on microfiche. Data were available online, eliminating the need to travel to a district office to view a paper or microfiche file, but the PDF files were no more searchable than paper, making analysis of data an insurmountable chore.

With the 2013 enactment of Senate Bill 4 (Pavley), the Division is required to make more information available to the public. The Division met the requirement to begin providing disclosure of chemicals used in well stimulation jobs in an interim fashion. SB 4 envisions additional functionality being built into the disclosure system by January 1, 2016. The Department's information technology staff worked with the Division to develop a Well Finder application that works in conjunction with the disclosure webpage to provide a degree of web-based GIS capability for the public. Additionally, the Department is placing oil operators' water use records online, as reported under the provisions of SB 1281 (Pavley), enacted in 2014. Initial publication of those records has been complicated by the volume of data required, as well as operators' difficulty in gathering data, although the first quarter 2015 results now have been posted. The Division will further development its systems to increase transparency of data and the amount of data available, as well as enhance its online GIS capabilities.

Timeline:

Activity	Start	Finish	Status
Interim Well Stimulation Treatment Notice System	Oct. '13	March '14	☐
"WellFinder" application	Jan. '13	Jan. '14	☐
Interim post-WST chemical disclosure site on-line	Oct '13	Jan '14	☐
SB4-compliant post-WST chemical disclosure site on-line	Oct. '13	1/1/16	IP
SB1281 Reporting On-line	Oct. '14	8/12/15	☐

Key: ☐ = Complete IP = In Progress

Action Item 3.3: Develop e-Permitting Functionality

While many operators submit digital applications to drill wells or perform other oil field activities, the Division still incorporates the information by hand, sometimes printing the application and re-entering data. In some cases, the Division can accept electronic files from operators, provided the operators format the data in a manner that can be read by the Division's data management systems. In such cases, the electronic filing is conducted not by design of the permitting process, but as a work-around alternative to hand-entering the data.

The Division needs to establish electronic permitting. This would free Division staff to perform more productive regulatory duties, such as reviewing and analyzing proposals and conducting field inspections. Electronic functionality is being built as part of the overall Well Information Management System discussed in Action 3.1, and the timetable is not different than the final launch deliverable.

Timeline:

Activity	Start	Finish	Status
Incorporate e-permitting in Well Information Management System	July '15	Late '18	IP

Key: □ = Complete IP = In Progress

OBJECTIVE 4:
ENSURE HIGH QUALITY WORKFORCE

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OBJECTIVE 4: ENSURE HIGH-QUALITY WORKFORCE

Until recent budget cycles, the Division did not request—and therefore was not given—additional staff and resources necessary to fulfill its growing mandates. The result was a dramatically understaffed organization that had to (1) take short-cuts, (2) establish work-around solutions to meet regulatory requirements, or (3) simply not complete the requirements. The staff in the Division have not received consistent high-quality training about the role of the regulator or about the industry practices they regulate. The industry work experience some staff brought to the Division is now outdated. Current industry pay rates far exceed entry-level pay rates for civil service, and retention of new staff is difficult. Lack of consistent training about evolving industry practices puts the Division at a disadvantage when staff evaluate proposed permits or conduct field inspections. Furthermore, the Division's organizational structure is outdated, having been built at a time when communication was slower and permitting decisions had to be made independently in district offices proximate to oil fields. That structure fostered insular thinking, a lack of cooperation, and inconsistent application of statewide rules.

Action Item 4.1: Obtain Adequate Staffing

The Division has requested resources for additional staff in six consecutive budgets and has been granted those staff. Some staff have been dedicated to UIC Program review and reform, others to implement recent legislation such as SB 4 (Pavley) from 2013 and SB 1281 (Pavley) from 2014.

These are welcome steps toward the Division having sufficient resources to meet workload requirements. However, bolstering staff is a slow process. Civil service hiring processes must be completed and new staff must be trained.

Newly-hired staff need to be brought to a functioning level before it can be determined whether resource levels need adjustment. The assessment is complicated when the Division is, at the same time, taking on new regulatory duties. The renewal process for the Division must proceed in a step-wise manner that allows for time to implement the last new mandate before imposing the next.

Timeline:

Activity	Start	Finish	Status
FY10-11 Budget Change Proposal (BCP) for UIC Program (34 PY)			☐
FY 11-12 BCP for Permitting and Enforcement staffing (36PY (6LT))			☐
FY 12-13 BCP for Compliance and Support staff (18PY)			☐
FY 14-15 BCP for SB 4 Implementation (65 PY (5LT))	July '14	March '16	IP
FY 15-16 BCP for UIC Program (23 PY)	July '15	June '16	IP
FY 15-16 BCP for Oil and Gas Data Management (21 LT PY)	July '15	June '16	IP

Key: ☐ = Complete IP = In Progress

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Action Item 4.2: Improve Recruitment and Outreach

Technical positions such as Associate Oil and Gas Engineer and Senior Oil and Gas Engineer are critical to the Division's mission. Exams have been offered in the past, and the number and quality of candidates have been low. As a result, the Division lacked enough qualified candidates to fill all of its vacancies. Division recruitment and outreach have been limited to posting job announcements in publications obscure to most non-governmental employees.

To get better-qualified job candidates, the Division contracted with the Department of Human Resources (CalHR) to create an online exam series for two, specialized and technical classifications. The Division and CalHR entered into an agreement in late 2014 to create online exams continuously open to applicants. Development of the exams was expected to require approximately 12 months. The Division and CalHR dramatically shortened this timeline. These exams are now online and generating applicants continuously.

To improve the reach of the Division's recruitment efforts, the Division is embarking on outreach in non-traditional (for government agencies) venues. The Division has posted notices in professional journals targeting petroleum engineers and geologists. Department Human Resources staff visit undergraduate and graduate student recruitment fairs. Most recently, the Division consulted with LinkedIn about using the online professional networking site to promote Division employment to people with experience in engineering, petroleum geology, and related subjects.

In addition, the Division has learned through interviews and discussions with interested candidates that the technical competence required for these specialized classifications may be acquired in ways other than education and earning of degrees. Work experience may meet the classification specifications for knowledge, skills, and abilities, but the educational minimum requirements disqualify some otherwise experienced potential candidates. The Department is reviewing with CalHR the minimum educational qualifications to determine if work experience can be substituted in certain cases. We expect to have this process completed in the next six months to generate even more qualified candidates for our vacant positions.

Timeline:

Activity	Start	Finish	Status
Develop on-line exam functionality for technical job classes	Fall '14	Spring '15	☐
Improve recruitment beyond traditional efforts	Spring '14	Ongoing	IP
Review/revise classifications to recognize work experience	July '15	Jan '16	IP

Key: ☐ = Complete IP = In Progress

Action Item 4.3: Reorganize Division

Currently, the Division is organized into six districts, each with a district office. These districts are geographically-based and structured around California's oil fields. Historically, district offices, headed by a "District Deputy," were authorized to make decisions on behalf of the State Oil and Gas Supervisor—a necessary feature of implementing statewide permitting requirements. The alternative would have created slow permitting processes as applications made their way to Sacramento before the Internet.

A review of Division business processes shows that this district model can lead to inconsistent application of statewide rules. There are some rules for which legitimate differences exist field-by-field. For instance, an oil field where wells are drilled to productive depths of 6,000 feet might legitimately have different well casing requirements than a field with wells drilling to 800-foot depths. However, some programs do require statewide consistency.

In spite of the challenges a district model poses, the district model must be maintained for other reasons. Division staff must regularly visit wells for inspections. Division district staff must be familiar with industry operations in order to be effective regulators, and familiarity requires frequent, direct contact.

The Division is reviewing options for reorganization to improve cooperation and consistency among districts, improve technical and programmatic leadership, and allow more focused, consistent application of specific regulatory programs with statewide application. Such programs include the UIC program, Well Stimulation regulation, Idle Well Management, Abandoned Well Remediation, Technical Training, and others. This envisioned reorganization will maintain district presence in the oil fields, but will recognize efficiency in modern travel options and in modern communication tools. Reorganization also will ensure a more consistent application of statewide priorities.

Division leadership believe effect reorganization can occur under existing authority. However, the full scope of intended reorganization may require revisiting the statutory construct that calls for "six districts." Reorganization likely will require input from many stakeholders as the Division balances needs including access to field operations, and access to the Division by the public and operators.

Timeline:

Activity	Start	Finish	Status
Administrative reorganization under existing authority	Sept. '15	Sept. '16	
Review statutory organizational requirements	Sept. '15	Nov. '15	

Key: □ = Complete IP = In Progress

Action Item 4.4: Implement Comprehensive and Continuous Training

The Division's technical staff have had little opportunity for professional training. As a result, many of the Division's regulatory staff are significantly less aware of the industry practices they regulate than are the operators the Division regulates.

The Division is establishing the position of a Technical Training Coordinator who will implement the Division's training plan. That plan will be developed in late 2015 and will include necessary training requirements for each level of engineer or other professional staff, as well as a list of knowledge, skills, and abilities that the Division will require professional staff person to maintain.

Training opportunities will include regular cross-district meetings of Division staff to develop teamwork and share important information gained from field oversight and observations. This forum also will serve as a means of sharing information gained from independent training courses completed by professional staff. In particular, the Division is exploring establishing ongoing training course commitments with academic and/or research institutions to ensure that Division personnel have the highest-level, current state-of-the-industry understanding of the production practices the Division regulates.

The Division already has begun implementing some training. The Department of General Services has agreed to produce a video safety library. The videos will provide safety training for field engineers, with emphasis on practices related to well abandonments and blow-out prevention equipment.

Timeline:

Activity	Start	Finish	Status
Hire Technical Training Coordinator	Sept. 15	Dec. '15	IP
Improve training plan	July '15	Fall '15	IP
Establish safety video library and mandatory training	Sept. '15	May '16	IP

Key: □ = Complete IP = In Progress

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Action Item 4.5: Develop Best Practices for Staff / Managers

The Division has been reviewing its internal practices. The review occurred as a result of the establishment of new leadership in the Division in 2014, but also as a part of the review of internal business processes for use in establishing new data management systems. These reviews made clear that detailed, up-to-date training manuals for new employees did not exist. Further, Division practices differed widely among districts for implementation of Division regulations, for worker safety, or for administrative processes.

The Division has taken active steps in implementing best practices policies and procedures for its employees. The ongoing efforts include a comprehensive assessment of current Division practices, the development of best practice standards, and implementation of standardized policies and training to define best practices and increase Department effectiveness.

The initial step in improving the department's practices was a comprehensive internal assessment of current policies and procedures. The Division now seeks to achieve consistent "Best Practices" standards and procedures across the Division. When they are completed, these standards will be applied across the Division.

Timeline:

Activity	Start	Finish	Status
Internal assessment of current policies and procedures	Mar. '15	June '16	IP
Development of Best Practices Standards	Fall '15	July '16	IP
Implementation of Best Practices Standards	July '16	Ongoing	

Key: □ = Complete IP = In Progress

CONCLUSION

As the Division pursues the Objectives of this Plan, it will become a modern, efficient, collaborative, science-driven agency that intelligently and consistently regulates state oil and gas activities. The Division will use modern field tools, integrated with advanced data management systems, to raise the bar on oversight of the oil and gas industry. Safety will become an integrated cultural norm. Further, the Division will be much better connected with oil and gas-related research activities in industry, academia, and national laboratories. This will help the Division anticipate regulatory challenges and apply regulations with a higher level of understanding of the practices subject to regulation.

The Division will better be able to perform its duties with integrated collaboration of other state agencies to reduce the environmental impact of oil and gas development. Internal monitoring and compliance will be routine and fully integrated with all that the Division does so that our performance can be measured objectively. We will be able to support all interested parties because we will have a higher degree of transparency, allowing stakeholders, decision-makers and the public to more routinely observe Division activities and retrieve information of interest.

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