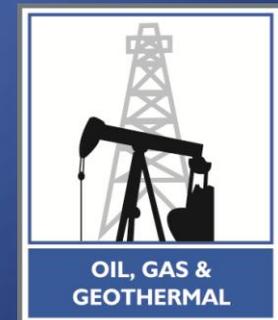


Well Stimulation and UIC: What's Next?

University of Southern California, July 24th, 2015

Steve Bohlen, State Oil and Gas Supervisor,
California Division of Oil, Gas, and Geothermal
Resources



The Metrics of an Incredible Year

- July: State out of compliance with the SDWA Act.
- August: Well review begins for 536 disposal wells, 6,425 EOR wells in non-exempted aquifers.
- December: State negotiates Compliance Schedule with US EPA.
- January: SB 4 Regulations Complete; Science Study Chapter 1 delivered.
- February and March: 6 Legislative Hearings on UIC and SB 4.
- March-April: Negotiated resources for positions and IT system
- July: SB 4 Regulations enforced
- July: Programmatic EIR delivered; SB 4 Science Study Chapters 2-4 delivered
- The Year: 14 lawsuits, 31 PRA requests; 70 articles in the press

Goals For the Division

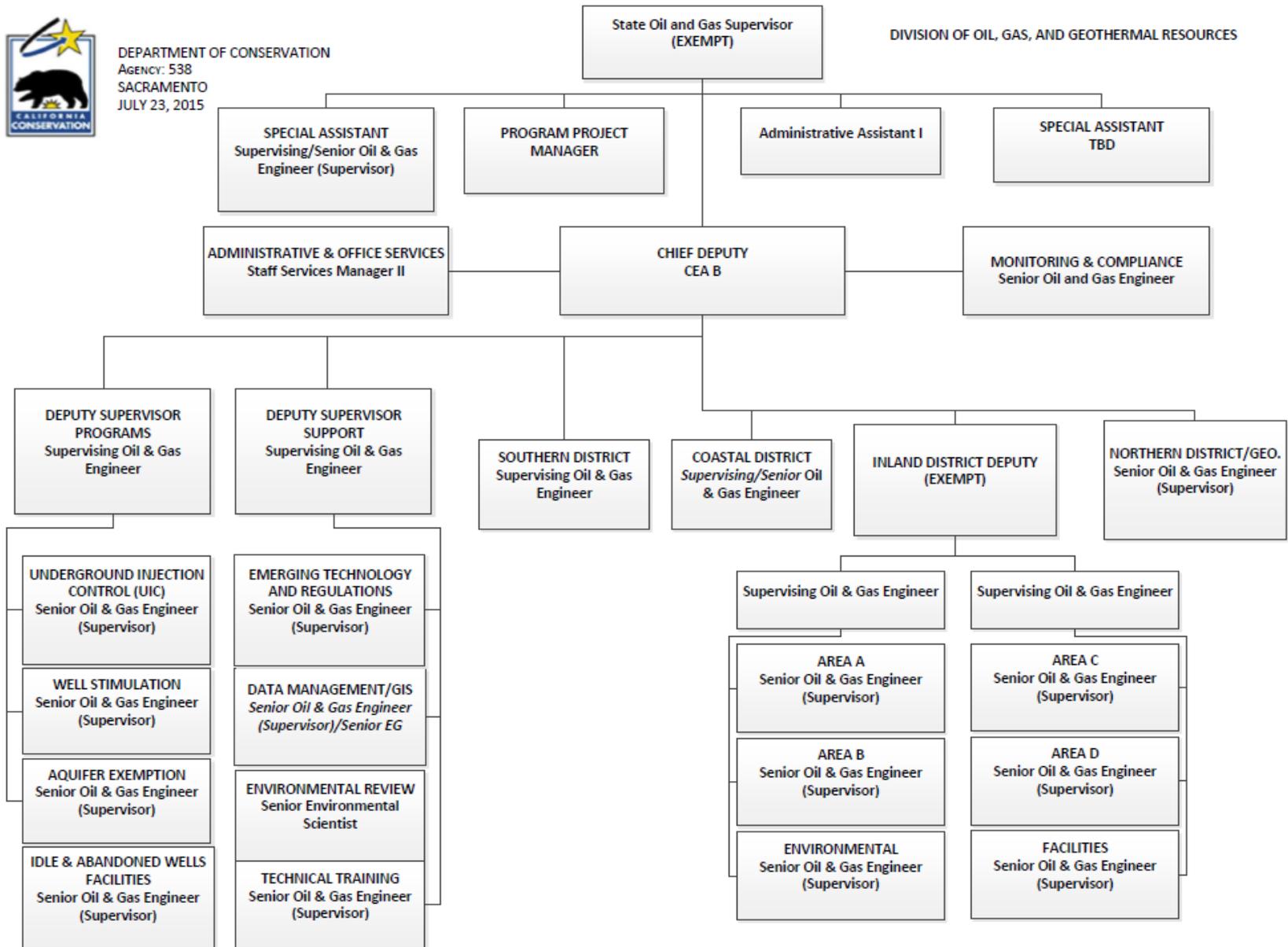
- Culture Change: Rebuilding the Division to be a science and data-driven regulator
- Training: Make training a cultural habit
- Structure: Build focused regulatory programs
- Technology: Transition from paper to an on-line well management system, integrated fields systems
- Regulations: Modernize regulations
- Mission: Honor the Division's mission statement

New Organizational Structure



DEPARTMENT OF CONSERVATION
 AGENCY: 538
 SACRAMENTO
 JULY 23, 2015

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES



SB 4 Environmental Impact Report (EIR)

Bottom Line

- The most significant environmental impacts identified can be reduced to the level of “less-than-significant” including potential impacts to groundwater and surface water, as well as the threat of seismic activity.
- While the EIR finds that some significant and unavoidable environmental impacts may result from well stimulation activities, adherence to the new Well-Stim regulations effective July 1, 2015 will result in most significant impacts being avoided or mitigated.

SB 4 EIR

- Where the EIR finds that significant environmental effects might still occur, it proposes additional mitigation measures that would be imposed on future well stimulation treatment permits.
- With the regulations and the newly formulated mitigation measures in place, well stimulation treatment activities can continue in California without the kind of environmental problems that have plagued well stimulation treatment in other states with lesser levels of environmental protection.

SB 4 EIR: Future Practical Use

- This EIR is intended to function as a programmatic environmental review document that the Division and its sister agencies can rely on when considering discretionary permits for oil and gas well stimulation treatments after July 1, 2015.
- As a program EIR, the Division's EIR will be put to the traditional uses of program EIRs. In other words, the Division expects that this Program EIR will simply function as a first tier data base on which the Division and other agencies can build in order to allow future publicly circulated CEQA documents to focus on site-specific issues.

SB 4 EIR: Findings

- The EIR does find that well stimulation activities have the potential to cause significant and unavoidable impacts to aesthetics; air quality; biological resources (terrestrial environment); cultural resources; geology, soils and minerals; greenhouse gas emissions; land use and planning; risk of upset/public and worker safety; and transportation and traffic.
 - Some of these impacts—for example, those related to air quality—may be reduced to “less than significant” by way of the mitigation measures proposed in the surface water.
 - The EIR proposes mitigation measures to minimize these potentials impacts.

SB 4 EIR

Mitigation Measures to be Incorporated as Regulations

- The seven Mitigation Measures in question are:
 - Alternative Water Sources
 - Protected Groundwater
 - Surface Water Protection
 - Avoid Active Faults
 - Implement Setback
 - Earthquake Response Plan
 - Spill Contingency Plan Provides Adequate Protection

SB 4 EIR: Alternatives

- Alternatives to well stimulation:
 - No Future Well Stimulation Treatments Alternative
 - No Future Well Stimulation Treatments Outside of Existing Oil and Gas Field Boundaries Alternative
 - Well Pad Consolidation Alternative
 - Urbanized Area Protection Alternative
 - Active Fault Zone Restrictions Alternative
 - No Project Alternative
- The “project” addressed in the EIR, which is well stimulation with regulatory protections and mitigation measures, **is “the environmentally superior alternative”** for purposes of CEQA.

SB 4 EIR

Interaction with SB 4 Independent Science Study

- The Division intends to take into account the findings and recommendations found in the of the independent scientific study conducted pursuant to SB 4 by the California Council on Science and Technology (CCST).
- After reviewing the findings, conclusions and recommendation from the independent scientific study, the Division may amend the Mitigation Policy Manual and/or propose additional regulations that may be warranted.

SB 4 Science Study

Interagency Working Group

- Governor Brown has created an interagency working group to fully consider the CCST science report's findings and make recommendations for any appropriate regulatory or legislative changes
- The interagency working group will draw from nine agencies and departments: California Natural Resources Agency, California Environmental Protection Agency, Department of Conservation, California Air Resources Board, Department of Toxic Substances Control, Office of Environmental Health Hazard Assessment, Department of Industrial Relations, Department of Fish and Wildlife, Department of Public Health
- Meetings will begin at the end of this month (July 2015)

Underground Injection Control

- Well review complete by July 31
- Project by Project review begins September 1
- Rule Making process underway
- First Well-Closure deadline, October 15
- 11 Aquifer closure by December 31, 2016
- Program Fully Compliant with SDWA, February 2017
- Project by Project review complete by December 2017

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