SB 4 WELL STIMULATION TREATMENT REGULATIONS

NOTICE OF PROPOSED RULEMAKING ACTION

REGARDING

TITLE 14. NATURAL RESOURCES
DIVISION 2. DEPARTMENT OF CONSERVATION
CHAPTER 4. DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

Notice Published November 15, 2013

Office of Administrative Law Notice File Number: Z-2013-1105-01

NOTICE IF HEREBY GIVEN that the California Department of Conservation (Department) proposes to adopt the regulations described below after considering all comments, objections, and recommendations regarding the proposed action. With this rulemaking the Department will propose permanent regulations, after the consideration of all comments, objections, or recommendations.

WRITTEN COMMENT PERIOD AND PUBLIC COMMENT HEARINGS

Any person, or his or her authorized representative, may submit written statements, arguments, or comments related to the proposed regulatory action to the Department. Comments may be submitted by email to DOGGRRegulations@conservation.ca.gov, by facsimile (FAX) to (916) 324-0948, or by mail to:

Department of Conservation
801 K Street, MS 24-02
Sacramento, CA 95814
ATTN: Well Stimulation Regulations

The written comment period closes at 5:00 p.m. on January 14, 2014. The Department will consider only comments received at the Department's offices by that time.

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Any interested person, or their authorized representative, may present statements or arguments orally or in writing relevant to the proposed action at one of the public hearings to be held at the following times and places:

- Sacramento – January 6, 3:00pm – 7:00pm. Sierra Hearing Room in the Cal/EPA Building, 1001 I Street, 2nd Floor.

- Long Beach – January 6, 3:00pm – 7:00pm. California State University Auditorium, 1212 Bellflower Boulevard.

- Salinas – January 8, 3:00pm – 7:00pm. National Steinbeck Center, One Main Street.

- Bakersfield – January 8, 3:00pm – 7:00pm. Kern County Administrative Center, First Floor Board Chambers, 1115 Truxtun Avenue.

- Santa Maria – January 13, 3:00pm – 7:00pm. Santa Barbara County Supervisors Hearing Room, 511 East Lakeside Pkwy.

AUTHORITY AND REFERENCE

Pursuant to the authority vested by Sections 3013 and 3160 of the Public Resources Code, and to implement, interpret or make specific Sections 3106, 3150, 3151, 3152, 3153, 3154, 3156, 3157, 3158, 3159, 3160, 3203, 3234, and 21065 of the Public Resources Code, the Department is considering changes to Chapter 4 of Division 2 of Title 14 of the California Code of Regulations as follows: adoption of sections 1751, 1761, 1780, 1781, 1782, 1783, 1783.1, 1783.2, 1783.3, 1784, 1784.1, 1785, 1786, 1787, 1788, and 1789.

POLICY STATEMENT OVERVIEW / INFORMATIVE DIGEST

Senate Bill 4 (Pavley, Chapter 313, Statutes of 2013) was signed by Governor Brown on September 20, 2013. The intent of SB 4 is to provide a comprehensive regulatory framework for well stimulation treatments in California. SB 4 requires a permit from the Division of Oil, Gas and Geothermal Resources to conduct well stimulation. The permit application must include detailed information about the fluids to be used, a ground water monitoring plan, and a water management plan. Copies of an approved permit must be sent to neighboring property owners and tenants, and water well testing must be provided upon request. SB 4 requires the Division to prepare regulations to ensure that

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well stimulation is done safely and to require detailed public disclosure about the well stimulation. The Division must develop an internet website to facilitate public disclosure of well stimulation information, and the website must allow the public to easily search and aggregate the information.

SB 4 requires the Division to prepare an environmental impact report, consistent with the California Environmental Quality Act, addressing the practice of well stimulation in California. Additionally, SB 4 requires the Natural Resources Agency to complete an independent scientific study on well stimulation treatments, and the State Water Resources Control Board to develop groundwater modeling criteria and implement groundwater monitoring programs.

Well stimulation is a short term and non-continual process designed to enhance oil and gas production or recovery. Initially, the Department's rulemaking effort had focused on one specific form of well stimulation: hydraulic fracturing. Hydraulic fracturing is the high-pressure injection of a mix of fluids and proppants into an oil or gas reservoir. The mix, injected under pressure, fractures the reservoir rock. When the fluids are removed, the proppants keep open the cracks left by the fracturing, allowing oil or natural gas to flow back to the well. Fracturing the rock is necessary to extract oil or natural gas from formations in which the pore space in the rock making up the oil or natural gas reservoir is too tight to allow the flow of fluids or gasses to the well.

With the increased use of the practice in other parts of the country, public scrutiny of hydraulic fracturing has become as common as the practice itself. Public concern over a perceived lack of regulation has become widespread, highlighted by various documentaries, studies, reports, and proposed legislation, at both the federal and state level.

SB 4 began as a bill to regulate hydraulic fracturing, but was expanded to include all forms of well stimulation due in part to lack of public information about these procedures and new information about oil reserve estimates in areas of the state not previously subject to widespread oil recovery activity, such as the Monterey Shale.

Existing Law

All oil and gas wells drilled and constructed in California must adhere to strict requirements. As specified in Public Resources Code (PRC), Division 3, Chapter 1, section 3106, the Department's Division of Oil, Gas, and Geothermal Resources (Division) regulates oil, gas, and geothermal well operations throughout the State. PRC section 3106 requires the Division supervise the drilling, operation, and abandonment of oil and gas wells "so as to prevent, as far as possible, damage to life, health, property,

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and natural resources ...." Also included in PRC section 3106 is the authority to allow, with Division approval and oversight, the oil and gas industry to "utilize all methods and practices known to the oil industry for the purpose of increasing the ultimate recovery of underground hydrocarbons." Essentially, PRC section 3106 mandates the Division to find a balance between health and safety, and the recovery of underground hydrocarbons.

In accordance with these statutory mandates, the Division has numerous existing regulations regarding oil and gas operations in California. These regulations include requirements regarding the protection of underground and surface water; testing and monitoring to ensure the integrity of the well casing; the cement used to secure the well casing inside the bore hole; the cement and equipment used to seal off the well from underground zones bearing fresh water, and other hydrocarbon resources; and minimum maintenance requirements for oil and gas production facilities. These requirements provide a first line of protection from potential damage caused by all aspects of oil and gas production, including well stimulation.

SB 4 complements the existing rules that require some of the strongest well construction and operation standards in the nation by requiring further safeguards to public health and safety and the environment regarding well stimulation treatment.

Proposed Regulations

The proposed regulations are intended to supplement the Division's current oil and gas regulatory framework with regulations specific to well stimulation treatment to meet the mandates of SB 4. The proposed regulations satisfy the goals and requirements of SB 4 by setting requirements to ensure integrity of wells, well casings, and the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatments; and by requiring full disclosure of the composition and disposition of well stimulation fluids, including hydraulic fracturing fluids, acid well stimulation fluids, and flowback fluids. The proposed regulations satisfy the goals and requirements of SB 4 by implementing express statutory requirements regarding well stimulation permits, public disclosure, neighbor notification, and water well testing. The proposed regulations address the distinction between well stimulation treatment and other routine operations; the distinction between well stimulation and underground injection projects; and the acid concentration threshold at which an acid matrix stimulation treatment is subject to the requirements of SB 4. Each of these objectives is discussed further below.

- The proposed regulations address pressure testing and specified evaluation of the well and the geology near the well prior to the well stimulation treatment to ensure

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that the well stimulation treatment will not damage the well, and that the well stimulation fluids will be confined to the intended zone. The objective of pressure testing a well prior to a well stimulation treatment is to make sure the well through which the well stimulation treatment occurs is competent to withstand the pressures created by the well stimulation treatment. The objective of evaluating the well and the area around the well is to indentify other wells in the vicinity of the well stimulation treatment that may act as a conduit out of the intended zone. The benefit of the evaluation and testing is that the Division and the operator will have comprehensive information regarding the integrity of the well, information regarding the integrity of wells near the well stimulation treatment, and geologic information regarding the area around the well prior to the well stimulation treatment.

The proposed regulations address monitoring that operators must complete during and after a well stimulation treatment. The objective of monitoring during and after well stimulation is to require operators to monitor for any indication of well failure, specify how an operator would respond in the case of a well failure, and specify that a well must be monitored to determine the amount of gas, oil and water produced, including the volume of a readily identifiable fluid flowback. The benefit of monitoring during and after well stimulation is that the operator will have a clear directive regarding when to terminate a well stimulation treatment, how to respond in the case of a well failure, and what information must be collected to ensure that future well failures are preventable.

The proposed regulations address storage and handling of well stimulation fluids, including storage of fluid in containers. The objective of the proposed regulations regarding storage and handling is to ensure that storage and handling be performed in compliance with all existing laws and regulations, and that an operator has a plan of action in the case of an unauthorized release. The benefit of the proposed storage and handling requirements is that all fluids will be handled safely and that spills and incidents are responded to effectively and proactively.

The proposed regulations address reporting by establishing the procedures by which operators submit specified information during and after the well stimulation treatment has been completed. The objective of the proposed regulations is to ensure that operators submit specified information to the Division throughout the well stimulation process, and other State agencies would be able to obtain specified information if necessary. The benefit of the proposed regulation is that the Division will receive comprehensive data at every step of the well stimulation process to ensure that well stimulation is done so in a safe manner; and the public will know when and where

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well stimulation is occurring, and be able to obtain information specific to the completed well stimulation treatment.

- The proposed regulations address the procedure by which an operator may request a review and authorization for multiple well stimulation treatment permit applications or notices of intent to drill or rework a well. The objective of the proposed regulation is to group approvals to create efficiency for the Division and the operator.

- The proposed regulations address the difference between well stimulation and underground injection projects. The objective of the proposed regulations is to define the two separate terms and clarify that both are subject to two distinct regulatory frameworks. The benefit of the proposed regulation is clarity for the Division, operators, and the public regarding which set of regulations oversee a specified oil and gas operation.

- The proposed regulations address the specified acid concentration threshold at which the regulations are applicable; the point at which well stimulation treatment begins and ends, for purposes of the regulations; and the distinction between well stimulation treatment requirements, and underground injection project requirements. The objective of the proposed regulation is to establish the necessary parameters for the requirements of the proposed regulations. The benefit of the proposed regulation is clarity for the Division, operators, and the public regarding which set of regulations oversee a specified oil and gas operation.

CONSISTENCY WITH FEDERAL STATUTE AND REGULATION

The federal Bureau of Land Management (BLM) is in the process of developing regulations regarding well stimulation treatment on federal and Indian lands. Operators with leases on federal lands must comply with both BLM's regulations and with state operating requirements. The Department is in regular dialogue with BLM for the purpose of ensuring harmonized and efficient implementation of the two agencies' respective regulations. The Department will continue to work with BLM to ensure that the well stimulation regulations are compatible.

The U.S Safe Drinking Water Act (SDWA) mandates the protection of underground sources of drinking water from endangerment related to underground injection activities (42 U.S.C. § 1421(b)(1)). The Underground Injection Control (UIC) Program requirements promulgated under SDWA authority and codified at 40 CFR Parts 124 and 144 through 148 create a regulatory framework to ensure protection of current and future USDWs from endangerment. Underground injection of fluids through wells is

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subject to the requirements of the SDWA except where specifically excluded by the statute. In the 2005 Energy Policy Act, Congress revised the SDWA definition of "underground injection" to specifically exclude from UIC regulation the "underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities" (42 U.S.C. § 1421(d)(1)(B)). UIC regulations further provide that "[a]ny underground injection, except into a well authorized by rule or except as authorized by permit issued under the UIC program, is prohibited" (40 CFR 144.11).

The general exclusion of hydraulic fracturing from the SDWA in no way precludes the state from regulating hydraulic fracturing or any other form of well stimulation treatment. To the extent that the SDWA does apply, the proposed regulations are consistent with the federal law and the proposed regulations will effectively prevent well stimulation treatment from endangering underground sources of drinking water.

CONSISTENCY WITH EXISTING STATE REGULATIONS

The proposed regulations reflect extensive consultation with other state agencies with authority over aspects of oil and gas production operations. The proposed regulations are intended to dovetail with the requirements implemented by other state agencies. The proposed regulations are not inconsistent or incompatible with existing state regulations.

PLAIN ENGLISH REQUIREMENT

The Department staff prepared the proposed regulation changes pursuant to the standard of clarity provided in Government Code Section 11349 and the plain English requirements of Government Code Sections 11342.580 and 11346.2 (a)(1). The proposed regulations are written to be easily understood by the parties that will use them.

LOCAL MANDATE

This proposal does not impose a mandate on local agencies or school districts.

FISCAL IMPACT

This proposal does not impose costs on any local agency or school district for which reimbursement would be required pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code. This proposal does not impose other nondiscretionary cost or savings on local agencies. This proposal does not result in any cost or savings in federal funding to the state.

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COST OR SAVINGS TO STATE AGENCIES

Implementation of the requirements in the proposed regulations would require a baseline appropriation of approximately $8.645 million first year, $7.738 million second year, and $7.738 million ongoing.

EFFECT ON HOUSING COSTS

The Department has determined that the proposed regulations will not have a significant effect on housing costs.

IMPACT ON BUSINESS

The Department has made an initial determination that the adoption of these regulations may have a significant, statewide adverse economic impact directly affecting business, including the ability of California business to compete with businesses in other states. The Department has considered proposed alternatives that would lessen any adverse economic impact on business and invites you to submit proposals. Submissions may include the following considerations:

- The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to businesses.
- Consolidation or simplification of compliance and reporting requirements for businesses.
- The use of performance standards rather than prescriptive standards.
- Exemption or partial exemption from the regulatory requirements for businesses.

This rulemaking will affect businesses engaged in the practice of well stimulation in the State. The following compliance requirements are projected to result from the proposed action:

- Radial cement evaluation, or other cement evaluation approved by the Division.
- Well stimulation radius analysis.
- Pressure testing prior to the well stimulation treatment.
- Monitoring during a well stimulation treatment.
- Storage and handling of well stimulation fluids.
- Monitoring after a well stimulation treatment.
- Post well stimulation reporting.

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SB 4 expressly establishes the following reporting and recordkeeping requirement:

- Public Resources Code section 3160 requires operators to publicly disclose the composition and disposition of well stimulation fluids, including, but not limited to, hydraulic fracturing fluids, acid well stimulation fluids, and flowback fluids.

The proposed regulations establish the following reporting requirements:

- The proposed regulations specify the contents of a well stimulation permit application, including the results of the cement evaluation, the results of the well stimulation treatment radius analysis, the well stimulation treatment design, and specified chemical information.
- The proposed regulations require operators to report specified diagnostic testing results obtained from monitoring during a well stimulation treatment.
- The proposed regulations require operators to provide the Division a specified written report in the case of an unauthorized release of well stimulation fluids.
- The proposed regulations require operators to submit specified information obtained from monitoring after a well stimulation treatment.
- The proposed regulations require an operator to submit a specified report after the well stimulation treatment.

COST IMPACTS ON A REPRESENTATIVE PRIVATE PERSON OR BUSINESS

The Department drafted the proposed regulations after careful consideration of current best practices instituted by operators when conducting the many forms of well stimulation. A majority of the requirements in the proposed regulations are consistent with common and best industry practices followed by operators, before, during, and after a well stimulation treatment. Additionally, the Department drafted the proposed regulations based on the requirements of SB 4 (Pavley, Chapter 313, Statutes of 2013), thereby many of the proposed regulations simply clarify and streamline statutory law. The following areas of the proposed regulations have been identified by the Department as potentially resulting in economic impact:

1. Radial cement evaluation, or other cement evaluation approved by the Division.
2. Well stimulation radius analysis.
3. Pressure testing prior to the well stimulation treatment.
4. Monitoring during a well stimulation treatment.
5. Storage and handling of well stimulation fluids.
6. Monitoring after a well stimulation treatment.
7. Post well stimulation reporting.

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RESULTS OF THE ECONOMIC IMPACT ASSESSMENT/ANALYSIS

Given the economic context of well stimulation treatments, the added economic impacts associated with complying with the proposed regulations will not deter operators from performing future well stimulation treatments. For these reasons, the Department has made the following determinations:

- The proposed regulations will not affect the creation or elimination of jobs within the State of California.
- The proposed regulations will not affect the creation of new businesses or the elimination of existing businesses with the State of California.
- The proposed regulations will not affect the expansion of businesses currently doing business in the State of California.
- The proposed regulations will not affect the ability of businesses within California to compete with businesses in other States.

The proposed regulations satisfy the Division's statutory mandate to prevent damage to life, health, property, and natural resources by ensuring that wells are properly drilled, operated, repaired, and plugged and abandoned; and to allow, with Division approval and oversight, the oil and gas industry to utilize all methods and practices known to the oil industry for the purpose of increasing the ultimate recovery of underground hydrocarbons. Also, the proposed regulations satisfy the statutory goals of SB 4 by addressing the well stimulation permit application process, acid concentration thresholds, construction of wells and well casings to ensure integrity of wells, well casings, and the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatments, and full disclosure of the composition and disposition of well stimulation fluids, including hydraulic fracturing fluids, acid well stimulation fluids, and flowback fluids, and the distinction between well stimulation and underground injection projects. Further, the Department has determined that the proposed regulations will result in nonmonetary benefits such as protection of public health and safety, worker safety, environmental safety, and transparency in business and government. Specifically, the benefits are as follows:

- Clarity for the Division, operators, and the public regarding which set of regulations oversee a specified oil and gas operation.
- A better informed public who know when and where well stimulation is occurring, and be able to obtain information specific to a completed well stimulation treatment.

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- The Division will receive comprehensive information regarding the integrity of a well, information regarding the integrity of wells near a well stimulation treatment, and geologic information regarding the area around the well prior to a well stimulation treatment, which will result in assurances that well stimulation will be completed safely.
- Operators will be provided with clear directives regarding when to terminate a well stimulation treatment, how to respond in the case of a well failure, and what information must be collected to ensure that future well failures are preventable.
- Assurances that all well stimulation fluids will be handled safely and that spills and incidents will be responded to effectively and proactively.

HOUSING COSTS

The proposed regulation will have no significant affect on housing costs.

FINDING OF NECESSITY OF REPORTS

The Department has found that the proposed requirements for reports are necessary to implement the effective regulation of well stimulation, and are necessary for the health, safety, and welfare of the people of the state that the requirements apply to businesses.

SMALL BUSINESS DETERMINATION

The Department has determined that the proposed regulations may affect small businesses.

CONSIDERATION OF ALTERNATIVES

In accordance with GC 11346.5, subdivision (a)(13), the Department must determine that no reasonable alternative it considered or that has otherwise been identified and brought to the attention of the Department that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

The Department invites interested persons to present statements or arguments with respect to alternatives to the proposed regulations during the written comment period or at any hearing scheduled to take statements or arguments that are relevant to the proposed action.

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CONTACT PERSONS

Inquiries concerning the proposed administrative action may be directed to:

Tim Shular
Department of Conservation
801 K Street, MS 24-02
Sacramento, CA 95814
Phone: (916) 322-3080
Email: DOGGRRegulations@conservation.ca.gov

The backup contact person for these inquiries is:

Jan Perez
Department of Conservation
801 K Street, MS 24-02
Sacramento, CA 95814
Phone: (916) 322-3080
Email: DOGGRRegulations@conservation.ca.gov

Please direct requests for copies of the proposed text (the "express terms") of these regulations, the initial statement of reasons, the modified text of these regulations, if any, or other information upon which this rulemaking is based to Tim Shular at the above address.

AVAILABILITY OF INITIAL STATEMENT OF REASONS, TEXT OF PROPOSED REGULATION, AND RULEMAKING FILE

The Department will have the entire rulemaking file available for inspection and copying throughout the rulemaking process at its office at the above address. As of the date this Notice is published in the Notice Register, the rulemaking file consists of this notice, the proposed text of the regulation, the initial statement of reasons, and a standard form 399.

Copies of these documents may be obtained by contacting Tim Shular at the address and phone number listed above.

AVAILABILITY OF CHANGED OR MODIFIED TEXT

After the written comment period and any hearing that may be conducted by the Department to accept comments and evidence regarding the adoption of these proposed regulations, the Department will consider all timely and relevant comments received, thereafter the Department may adopt the proposed regulations substantially as described in this notice. If the Department makes modifications that are sufficiently related to the original proposed text, it will make the modified text (with changes clearly indicated) available to the public for at least 15 days before the Department adopts the regulations as revised. Please send requests for copies of any modified regulations to the attention of Tim Shular at the address indicated above. The Department will accept written comments on the modified regulations for 15 days after the date on which they are made available.

AVAILABILITY OF THE FINAL STATEMENT OF REASONS

Upon its completion, copies of the Final Statement of Reasons may be obtained by contacting Tim Shular at the above address.

AVAILABILITY OF DOCUMENTS ON THE INTERNET

Copies of the Notice of Proposed Action, the Initial Statement of Reasons, and the text of the regulations in underline and strikeout can be accessed through our website at: http://www.conservation.ca.gov.

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