STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

MAJOR REGULATIONS STANDARDIZED REGULATORY IMPACT ASSESSMENT SUMMARY

DF-131 (NEW 11/13)

STANDARDIZED REGULATORY IMPACT ASSESSMENT SUMMARY

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1. Statement of the need for the proposed major regulation.

Because of the potential health and environmental dangers posed by the state's large inventory of idle wells, the proposed regulations introduce additional tests and greater testing frequency of idle wells in order to ensure proactive monitoring by both the Division and the operator. The Division's current regulations do not provide for a comprehensive and regular testing regime for idle wells. Current regulations only require operators to conduct a fluid level test on any well that has not produced oil or natural gas or been used for fluid injection for a continuous six-month period during any consecutive five-year period. The Division may require additional well tests or remedial operations if the fluid level is located above or adjacent to freshwater or potential drinking water zones. Subsequent testing periods are based on fluid level in the well, the well's location in relation to freshwater zones, mitigation measures taken by the operator to prevent fluid migration, or other factors determined by the appropriate Division district deputy, upon a showing of good cause. This lack of adequate regulation combined with comparatively insignificant idle well fees has led to a proliferation of idle wells over time. An improperly maintained idle well casing can rust or crack as it lays dormant, contaminating its surroundings, affecting groundwater, air, public health, and quality of life for nearby residents. Other idle wells could be located in fields that are susceptible to subsidence, resulting in the shearing of these wells. Leaks or damage to idle wells could go unnoticed for long periods of time in the absence of the proposed regulations. In addition, the longer a well remains idle, the more likely it is to be deserted by the operator, increasing liability for the State.

The proposed regulations also address the testing and management of observation wells. Idle wells have previously been repurposed, or intentionally mislabeled, as observation wells. The potential risks from well failure or degradation apply to observation wells as well, resulting in risks to the environment and the public. A proactive testing regiment will also identify mechanical integrity issues for these wells.

2. The categories of individuals and business enterprises who will be impacted by the proposed major regulation and the amount of the economic impact on each such category.

The proposed regulations directly affect California's oil and gas operators with idle wells, as they are expected to carry an average cost of compliance of about $214.4 million per year over the first six years of this analysis. The beneficiaries of the compliance spending are primarily oil and gas service contractors, as they will see an increase in demand primarily for the testing, plugging and abandonment, and remediation of idle wells. Other industries that will benefit from the regulatory spending by the initial change in demand are companies that provide the following services: architectural, engineering, and related services; data processing, hosting, and related services; and industrial process variable instruments and manufacturing.

3. Description of all costs and all benefits due to the proposed regulatory change (calculated on an annual basis from estimated date of filing with the Secretary of State through 12 months after the estimated date the proposed major regulation will be fully implemented as estimated by the agency).

Costs: In the first year of compliance, the proposed regulations could cost the operators with idle wells over $249 million statewide. The cost of the proposed regulations could be as high as $270 million in Year 2, $262 million in Year 3, and $196 million in Year 4, before dropping to $148 million in Year 5 and $162 million in Year 6. The cost of compliance in each of the first four years of implementation are expected to be the highest as operators work towards bringing all of their idle wells into compliance with the proposed testing requirements.

Benefits: One of the intended benefits resulting from the proposed regulations is the protection of groundwater. The prevention of groundwater contamination is much less resource-intensive than remediation efforts once groundwater has been contaminated. A US EPA study of costs associated with groundwater contamination remediation at Superfund and RCRA sites estimates that the costs could rise to over $5 million per site. The proposed regulations should reduce the risk of contamination by helping to identify idle wells that could act as conduits for fluid migration. Another intended benefit is the reduction in methane emissions from idle wells. Using the estimated social costs for methane reduction developed by the Interagency Working Group on Social Cost of Greenhouse Gases, the total expected benefits from the social cost of methane reductions will range from $353,552 to $1,019,250, in total, over the six years of this analysis. Another benefit of the proposed regulations is the reduced liability to the state when long-term idle wells are properly plugged and abandoned. The Division has plugged and abandoned more than 1,350 orphan wells at a cost of more than $27 million since 1977. In October 2016, the Division spent over $1 million in contractor costs to plug and abandon two wells on Firmin Street in the Echo Park neighborhood in Los Angeles – much of the costs going to the restoration of the infrastructure surrounding the idle well. And finally, the proposed regulations are expected to reduce the operator's potential liability resulting from a leak or contamination that could lead to both a stop in production and costly remediation efforts.

4. Description of the 12-month period in which the agency estimates the economic impact of the proposed major regulation will exceed $50 million.

The proposed regulations' economic impacts are estimated to exceed the $50 million threshold in each of the six years of analysis after implementation. Direct costs are expected to range from $148-270 million per year over the six years, with operators meeting requirements for the current inventory of idle wells and conservative estimates for projected inventory estimates per year. The first four years of the analysis are expected to create the highest direct costs to the industry as operators work to bring the idle wells into compliance with the proposed testing requirements. For the six years described in this analysis, the effect of the initial spending is expected to generate an annual average of $284 million per year in gross output, 1,231 new jobs per year, $84 million per year in total earnings, and over $185 million per year in value added. The indirect economic impacts of regulatory spending, however, will be muted by potential short-term effects on the operators themselves, including reduced profit margins, diverted spending priorities and investment decisions, and the possible loss of jobs. Small operators may even exit the industry. Initially, there may be lower total production due to proposed regulations in the short-term. However, most operators have evolved their business practices to withstand the extreme volatility of crude oil and natural gas prices. Since compliance costs imposed by the regulations are a small fraction of typical fluctuations in oil and gas in any given year, the Division expects that most operators will be able to absorb the costs of the proposed regulations. And in the long-term, the Division expects the typical operator to continue to innovate and adopt best practices to remain profitable.

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5. Description of the agency's baseline:

The baseline assumes that operators will be in full compliance with the provisions of AB 2729 effective January 1, 2018, which includes Idle Well Management Plan (IWMP) requirements and specified idle well fee requirements. AB 2729 amended much of the existing statutes pertaining to idle wells. Operators can no longer avoid paying idle well fees or eliminating long-term idle wells through bonds or escrow accounts. Idle well fees have increased, and operators electing to submit an IWMP must either properly plug and abandon a percentage of long-term idle wells or return them to use. Further, Public Resources Code section 3206.1, subdivision (d) requires an operator to plug and abandon an idle well if the operator cannot demonstrate that an idle well is economically viable or if the operator fails to remediate an idle well as required by these proposed regulations. Wells returned to use would be required to meet minimum mechanical integrity standards and would become subject to testing and maintenance requirements under other regulations. Wells that remain idle are subject to the fluid level test required under existing regulations section 1723.9. Existing regulations section 1723.9 require the operator to test the fluid level in an idle well at least once every five years. Any subsequent testing is to be based on the fluid level in the well, the well's location in relation to freshwater zones, mitigation measures taken by the operator to prevent fluid migration, or other factors upon a showing of good cause by the district deputy. Operators are required to notify the appropriate Division district office to provide an opportunity for district staff to witness the fluid level test. No mechanical integrity testing is required, unless specifically ordered by the Supervisor. The local districts, as part of the Renewal Plan, will enforce the requirement for subsequent testing uniformly as needed to mitigate issues identified by the fluid test.

6. For each alternative that the agency considered (including those provided by the public or another governmental agency), please describe:

a. All costs and all benefits of the alternative
b. The reason for rejecting alternative

Alternative 1 provides a more burdensome requirement for consideration. While the proposed regulations allow the operator to self-select the maximum pressure at which to pressure test each of its idle wells based on the risk of the well, Alternative 1 would require all idle wells to be tested at 500 psi and repeat the casing pressure test every 72 months. The first alternative yields several benefits: (1) the pressure testing at 500 psi would identify a larger number of idle wells with mechanical integrity issues; (2) operators may decide to plug and abandon even more idle wells to avoid wasteful testing costs on idle wells that would likely fail at 500 psi; (3) idle wells that successfully pressure test at 500 psi instead of 200 psi under the proposed regulations would be able to delay repeat testing for 72 months instead of 48 months; and (4) a single pressure standard for the casing pressure test offers regulatory clarity and consistency. However, Alternative 1 could also result in increased costs relative to the proposed regulations by possibly damaging otherwise stable idle wells at 200 psi, leading to plugging and abandonment or remediation. Over the first four years of the analysis, Alternative 1 could cost $5-33 million more per year than the casing pressure test requirements in the proposed regulations. Alternative 1 could therefore increase compliance costs and potential environmental and public health costs. The Division rejects Alternative 1 because it does not think the increased financial, environmental, and public health costs outweigh the benefits.

Alternative 2 provides a less burdensome requirement for consideration. Alternative 2 would exempt a subset of idle wells from undergoing a casing pressure test if it meets the following criteria: (1) the well is located outside of a half-mile of a USDW, (2) the well passes a single required fluid test, and (3) the well is not a long-term idle well. Alternative 2 reduces the testing burden for idle wells considered to have a lower risk profile. The primary benefit of the Alternative 2 is the reduced cost of compliance to the operator for a portion of its idle wells. Approximately 1/4 of all current idle wells would be exempt from testing. The Division estimates that operators could avoid $3-21 million in any of the first six years of this analysis as compared to the requirements of the proposed regulations. However, there are two profound social and environmental costs associated with the second alternative. One, although some idle wells have a lower risk profile, these wells still pose a risk to the environment as they age and remain untested. The lack of a regular casing pressure test requirement for all idle wells in Alternative 2 places both the operator and the Division in a reactive position rather than a proactive position. Two, the exempt idle wells under Alternative 2 pose a liability to the state if an operator exits the industry while accumulating idle wells that go untested and unplugged. Because of these lingering concerns over any possible exemption from a casing pressure test requirement, the Division rejects the less burdensome Alternative 2.

7. A description of the methods by which the agency sought public input. (Please include documentation of that public outreach).

The Division reached out to stakeholders in the lead-up to the formal rulemaking process in order to collect feedback on the ongoing development of idle well testing and management requirements. The stakeholders included oil and gas operators, industry representatives such as the Western States Petroleum Association (WSPA) and the California Independent Petroleum Association (CIPA), environmental groups, and members of the general public. The Division publicly released its pre-rulemaking draft regulation (discussion draft) on June 14, 2017, ahead of a July 14, 2017 workshop in Bakersfield, CA, where the public was invited to provide oral and written comments. The comment period remained open for feedback from June 14, 2017 through August 21, 2017, due to public interest, mostly from industry. Additional in-person updates and discussions with WSPA, CIPA, and environmental groups, including the Natural Resources Defense Council, Environmental Defense Fund, Clean Water Action, and Environmental Working Group, about the requirements of the proposed regulation continued beyond the close of the initial public comment period. All comment submissions and in-person feedback were reviewed and carefully considered by the Division throughout the pre-rulemaking process.

The Division also distributed an idle well cost survey associated with the discussion draft in August 2018 to gather cost estimates associated with the proposed regulations. The survey was delivered electronically to WSPA, CIPA, IOPA, the Conservation Committee of California Oil and Gas Producers (CCCOGP), and over 160 individual oil and gas operators.

8. A description of the economic impact method and approach (including the underlying assumptions the agency used and the rationale and basis for those assumptions).

To estimate the direct costs of compliance with the proposed regulations, the Division divided the proposed regulatory requirements into discrete actions that operators will need to undertake if the regulations are implemented as proposed. Most of the individual requirements were translated into an online survey that was then delivered electronically to oil and gas trade associations and to over 160 individual oil and gas operators. The Division applied post-stratification weights to the responses and compared the weighted average costs to not only the unweighted average costs, but also costs submitted by the Conservation Committee of California Oil and Gas Producers (CCCOGP). Division experts reviewed each set of responses and determined that the average costs from the unweighted survey responses likely best reflect the actual per unit costs. In other instances, where the Division changed the proposed regulations such that a requirement was materially altered, the Department relied on a combination of operator input and Division engineering staff expertise to estimate the cost.

After the direct costs were determined, the indirect economic impacts were derived using the Regional Input-Output Modeling System II (RIMS II) provided by the US Bureau of Economic Analysis. RIMS II is produced by the U.S. Bureau of Economic Analysis (BEA) using their 2007 national I-O table, which shows the input and output structure of nearly 500 U.S. industries, and adjusted by their 2015 regional economic accounts to reflect California-specific industrial structure and trading patterns. Each industry is associated with a set of multipliers that represents final demand change in state output, earnings, employment, and value-added, for every dollar of direct spending. In this analysis, direct spending is necessary to satisfy regulatory requirements, so spending is treated as an investment purchase rather than an intermediate input. The resultant economic impacts from the RIMS II analysis have several important assumptions that could limit or reduce the state economic impact. First, it assumes businesses in the affected industries have no supply constraints and can satisfy additional demand with an increase in inputs and labor from within the state. Second, it assumes businesses have fixed patterns of purchases, or increase in output requires the same proportionate increase in input. Third, the model assumes businesses use local inputs if they are available.

Agency Signature	Date
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