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.

The goal of the proposed Oil and Gas Regulation is to obtain maximum GHG reductions, primarily methane, from oil and gas production, processing, storage and transmission compressor stations in a technically feasible and cost-effective manner. The proposed Oil and Gas Regulation (O&G Proposal) will promote statewide uniformity in methane emission controls, minimize the administrative burden on local air districts, harmonize state requirements with current and near-future local and federal requirements, achieve co-benefits that protect public health from toxic emissions from well stimulation or other sector sources, and support the State Implementation Plan (SIP) by designing a regulation that attends to criteria pollutant goals.

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 primary industries that will be affected by the proposed regulation are Oil and Gas Extraction and Natural Gas Distribution, as they will incur costs for compliance. Large capital costs will occur in the first year of the regulation, while minimal labor and other ongoing costs will be incurred annually. Secondary industries will benefit from increase in capital and labor demand imposed by this regulation, where 2017 will have significant capital and labor demand. Secondary industries include Electricity Transmission, Other Specialty Trade Contractors, Other General Purpose Machinery Manufacturing, Commercial and Service Industry Machinery, Motor Vehicle Manufacturing, Machinery, Equipment, and Supplies Merchant Wholesalers, and Agriculture, Construction, and Mining Machinery 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).

Benefits:

The O&G Proposal is anticipated to deliver environmental benefits that include an estimated annual reduction in GHG emissions, beginning in 2018, of about 556,000 MT CO2e from oil and gas related emissions in California. In addition, the O&G Proposal is expected to save about 1.1 million standard cubic foot (Mscf) per year of industrial natural gas through reductions of leaks and vapor recovery systems. Quantifying this benefit, assuming natural gas price is $4.10 per Mscf, the savings from the reduction in loss of natural gas would equal $4.8 million a year. The cost-effectiveness of the O&G Proposal is estimated to be approximately $40 per MT CO2e reduced.

Costs:

The initial direct costs incurred by regulated industries in 2017 is estimated at $18.8 million (using an annualized capital cost formula), which covers the capital costs required for compliance. Additionally, it is expected that primary industries will incur minimal ongoing costs for labor and capital after the first year of implementation.

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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 O&G Proposal was determined to be a major regulation because the modeling determined the estimated economic impact of compliance exceeds $50 million in 2017. While direct costs to the primary industries exceed $50 million in the first year of implementation, these industries achieve savings of almost $5 million annually from leakage prevention strategies within the O&G Proposal. Secondary industries also achieve benefits, as demand for their equipment, services, or other products such as natural gas increases yielding positive economic benefits.

5. Description of the agency's baseline:

For the baseline scenario, ARB utilized the Regional Economic Models, Inc. (REMI), specific to California, to model the macroeconomic impact of the O&G Proposal, which assumes that the California economy absent the proposal is the baseline. The REMI model generates year-by-year estimates of the total regional effects of a policy or set of policies. ARB used the REMI PI+ model for this analysis—a one-region, 160-sector model that has been modified by the Department of Finance to include California-specific data for population, demographics, and employment.

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

Additional Benefits Beyond the Proposal

a. Alternative 1 results in higher compliance costs and only slightly increases the amount of GHG emission reductions relative to the O&G Proposal.

b. Although Alternative 1 would achieve slightly greater GHG emission reductions than the O&G Proposal, some options are not feasible or cost effective or would not provide statewide uniformity.

Lower Level of Benefits Than the Proposal

a. The compliance costs associated with Alternative 2 would be less expensive for industry relative to the O&G Proposal; however the GHG emission reduction benefits would be reduced.

b. ARB rejects this alternative because it does not include all feasible GHG reductions, and would not provide a statewide standard for key components.

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

The proposed Oil and Gas Regulation was discussed at two workshops in August 2014 and December 2014, which provided stakeholders time to comment and propose alternatives, and allowed time to incorporate comments and alternatives into the SRIA analysis. ARB considers stakeholder feedback throughout the regulatory adoption process including up to the adoption of the final regulation. Thus, this SRIA is representative of a snapshot of this regulation (herein referred to as the O&G Proposal), where the costs and compliance requirements represent the best information we have at the time of SRIA submittal, and may differ from the proposed regulation that will be presented to the Air Resources Board in June 2015. The final proposed Oil & Gas Regulation will be informed by continued interactions with stakeholders, the public, external researchers, other regulatory agencies, as well as direction the Board may provide to staff at the hearings where it considers the proposal.

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

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basis for those assumptions).

The cost of compliance for the O&G Proposal is modeled in REMI as an increase in production cost for the affected primary industries and is calculated as the difference between the additional capital and maintenance cost required to comply with the O&G Proposal and the industries' business-as-usual (BAU) capital and maintenance costs. As modeled, the O&G Proposal will also result in more efficient business practices in the primary industries, generating additional revenue and partially offsetting the cost of compliance. By enhancing the leak detection, repair, and efficient replacement of capital and its components, businesses will see previously unaccounted-for gas captured and utilized. This fuel may be used for operating the machinery within the facility or may be used as additional product for sale. The savings are estimated based upon calculations of the potential captured gas multiplied by the forecasted price of natural gas as provided by the California Energy Commission. This increase in revenue for the primary industries is modeled as a reduction in production costs. Changes in production costs, including increases due to compliance and reductions due to efficiencies, are input into the model as one net value.

The following assumptions are used in the modeling of the O&G Proposal:
•The value of the capital purchased in 2017 is amortized by the primary industries in the following way:
-We assume that businesses are able to obtain financing, at a standard 5% interest rate, for the capital equipment costs required by the O&G Proposal.
-The life of the capital differs based upon the replacement requirements of the O&G Proposal, and the standard life of the equipment.
-When capital lifetime is longer than the time frame of the SRIA analysis, a 20 year amortization period is used for capital purchases.
-Equipment purchases are calculated as the amortized costs of compliance (payments for the loans) to the primary industries that occur in each year.
•The amortization impacts the results in the following way:
-There are large positive economic impacts in 2017 that dissipate over time. This result is due to the increase in the demand for the secondary industries' products that result in increased output for those industries.
-Unlike the benefit to the secondary industry, the increased cost to the primary industry does not occur in one year; instead, these costs and negative economic impacts are spread over multiple years because the costs are assumed to be financed.
-To the extent that some businesses are unable to obtain financing, we would expect higher capital costs in early years that would negatively impact the output of the primary industry as well as lead to lower economic impacts in 2017.
•Natural gas wholesale prices vary from $4.10 to $4.36 per Mscf from 2017 through 2022. The additional natural gas that is captured by the regulated parties may be of slightly lower quality than wholesale natural gas, but the value of this gas is not forecasted by energy agencies. Therefore, the price of wholesale natural gas is used to estimate the cost savings resulting from the captured gas.
•Natural gas savings are modeled as decreases in production costs.

Agency Signature	Date
	4/28/2015
Agency Head (Printed) Richard Corey	