



July 21, 2014

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ATTN: Well Stimulation Regulations

**Re: Public Comments: SB 4 Well Stimulation Treatment Regulations**

To Whom It May Concern:

These comments are submitted on behalf of the Sierra Club, Sierra Club California, and Sierra Club California's more than 380,000 members and active supporters.

The current draft of the Division of Oil Gas and Geothermal Resources' (DOGGR) proposed regulations for well stimulation and fracking are inadequate to protect public health and the environment. DOGGR must "prevent, as far as possible, damage to life, health, property, and natural resources."<sup>1</sup> Indeed, consistent with this mandate, DOGGR may only permit those "methods . . . of increasing the ultimate recovery of underground hydrocarbons" which DOGGR deems "suitable," and the only forms of production that may be used are those "methods or processes [that] have been approved by [DOGGR]."<sup>2</sup> Available information has shown that well stimulation and unconventional production pose significant risks to life, health, property, and the environment. Therefore, we continue to urge DOGGR to impose an immediate moratorium on fracking and well stimulation.

If DOGGR nonetheless permits well stimulation, the proposed regulations must be improved in a number of ways. We reiterate that DOGGR has unquestionable authority to adopt regulations more stringent than the floor set by the legislature in Senate Bill 4 and California Public Resources Code § 3160. In comments submitted on January 14, 2014, we identified many necessary improvements to DOGGR's previous draft regulations. Although DOGGR's June 13, 2014 revision to its proposed regulations implements some of those improvements, the majority of the criticisms expressed in our prior comment apply to revised proposal as well. We therefore incorporate that comment herein by reference.<sup>3</sup>

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<sup>1</sup> Cal. Pub. Resources Code § 3106(a).

<sup>2</sup> *Id.* § 3016(b).

<sup>3</sup> Sierra Club *et al.*, Public Comments: SB 4 Well Stimulation Treatment Regulations (Jan. 14, 2014), attached as Ex. 1.

In addition, we offer the below additional comments on the revised draft. In general, DOGGR must:

- Assess whether the proposed regulations will be adequate to meet DOGGR's statutory duty to protect life, health, property, and natural resources
- Clarify the relationship between, and timing of, the various events and approvals that precede well stimulation, including:
  - Notice of Intent to Drill
  - Application for Permit to Perform Well Stimulation
  - Neighbor notification
  - All pertinent review under the California Environmental Quality Act
- Revise definitions of "well stimulation treatment" and "protected water" to conform to the Public Resources Code and to protect important resources
- Revise the public disclosure and neighbor notification provisions
- Improve the water monitoring provisions
- Improve the seismic monitoring provisions

We explain these comments in further detail below.

## I. Well Stimulation Background

Well stimulation, the subject of the current rulemaking, is largely used to produce oil and gas from unconventional resources. A growing body of evidence documents the significant environmental and human health impacts of these techniques and of unconventional oil and gas production.

The federal Department of Energy and the National Energy Technology Laboratory have recently, albeit imperfectly, summarized many of the environmental impacts of unconventional gas production.<sup>4</sup> These documents, supplemented by the comments Sierra Club and others submitted thereon,<sup>5</sup> demonstrate that well stimulation and associated processes have contaminated ground and surface water, caused water stress by consuming water in arid regions, polluted air , including contribution to violation of national ambient air quality standards for ozone (*i.e.*, ozone non-attainment), caused increases in seismic activity, and caused extensive harm to landscapes, ecosystems, and the wildlife that depends thereon. While these reports focus on hydraulic fracturing

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<sup>4</sup> National Environmental Technology Laboratory, *Environmental Impacts of Unconventional Natural Gas Development and Production* (May 29, 2014), available at [http://www.netl.doe.gov/File%20Library/Research/Oil-Gas/publications/NG\\_Literature\\_Review3\\_Post.pdf](http://www.netl.doe.gov/File%20Library/Research/Oil-Gas/publications/NG_Literature_Review3_Post.pdf), attached as Ex. 2; Department of Energy, *Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas from The United States* (May 29, 2014), available at <http://www.energy.gov/fe/draft-addendum-environmental-review-documents-concerning-exports-natural-gas-united-states>, attached as Ex. 3.

<sup>5</sup> Sierra Club, *et al.*, Comments on Environmental Addendum (July 21, 2014), attached as Exs. 4 and 5.

for natural gas production, many of the risks they describe pertain to hydraulic fracturing for oil production and to other methods of well stimulation generally.

In the face of the extensive literature documenting the risks and harms of well stimulation, as well as literature demonstrating uncertainty as to the risk of still further harms, DOGGR has not explained whether or how the proposed regulations will “prevent, as far as possible, damage to life, health, property, and natural resources.” DOGGR cannot allow well stimulation to proceed unless and until DOGGR has shown that the governing regulations will prevent the environmental damage that well stimulation has been shown to have caused elsewhere. The California Environmental Quality Act (“CEQA”) review process provides the appropriate vehicle for evaluating these issues.

## II. Permit and Review Process

DOGGR must provide the public with a clear statement of the steps involved in drilling and stimulating a well, the timing of each, the opportunities for public participation, and environmental review.

As summarized in proposed § 1751, well stimulation requires at least two DOGGR approvals: approval of the notice of intent to drill or rework a well, pursuant to Public Resources Code § 3203, and approval of the application for permit to perform well stimulation, pursuant to Public Resources Code § 3160(d). In § 1751, DOGGR proposes to consolidate its review of these two applications for a cluster of wells.

If DOGGR adopts the proposed § 1751 regarding single project authorization encompassing multiple wells, such multi-well or single project authorization must be capped to ensure adequate review. As we previously explained, the maximum number of wells under one permit must be capped at maximum of 10, and all wells must be located in the same zone and operated by the same operator.

More broadly, DOGGR must provide the public with a clear, concise explanation of the complete approval process for the entire lifecycle of stimulated wells, including authorizations required from DOGGR as well as other agencies, including whether the public may participate at each stage.<sup>6</sup> This explanation must encompass the CEQA process, including the timing and scope of statewide, field, and well specific CEQA review.

Having clarified this process, DOGGR must ensure that key stakeholders are given adequate opportunity to participate. The process for neighbor notification of well stimulation, proposed § 1783.2, should be expanded to provide affirmative notification to neighbors during the application and environmental review, rather than merely notifying neighbors of the impending execution of already-approved permits. When a well and well stimulation treatment would, if authorized, require neighbor notification under § 1783.2, all persons for whom notification would be required should

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<sup>6</sup> At a minimum, a summary similar to that provided by the Federal Energy Regulatory Commission for natural gas project approvals, supplemented to include mandated dates and timeframes. See Federal Energy Regulatory Commission, *Processes for Natural Gas Certificates*, <https://www.ferc.gov/help/processes/flow/gas-2.asp>, attached as Ex. 6.

also receive, pursuant to the same process, notice of CEQA documents and public comment periods.

### **III. Definitions**

Several of the definitions provided are inappropriately narrow.

The first error is in the definition of “well stimulation treatment.” Public Resources Code § 3157(a) provides that “‘well stimulation treatment’ means any treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation. Well stimulation treatments include, but are not limited to, hydraulic fracturing treatments and acid well stimulation treatments.” Proposed § 1761(a) unlawfully narrows this definition by adding conditions not present in the statute. The proposed regulation specifies that “Well stimulation is a short term and non-continual process,” but the statute provides no support for these qualifiers. Limiting well stimulation to “short term and non-continual process[es]” invites needless dispute over the meaning of these undefined and imprecise terms and potentially excludes treatments that are well within the legislative mandate. Similarly, proposed § 1761(a)(1)(B) excludes from the definition of well stimulation treatment numerous activities, such as gravel pack treatment, not excluded by Public Resources Code § 3157(b).

Second, well stimulation treatment can coincide with underground injection projects, and DOGGR must clarify its language regarding the relationship between the two. Nothing in the statutory definition of “well stimulation treatment” excludes underground injection projects. DOGGR’s proposed § 1761(b)(3) explicitly acknowledges that a well can undergo well stimulation treatment while part of an underground injection project. In some cases a process may meet the definitions of both an underground injection project and a well stimulation treatment. In other cases, well stimulation and underground injection may be used at different times on the same well. In either situation, both regulatory frameworks must apply. DOGGR must therefore clarify proposed § 1780(b) to indicate that where an underground injection project or other well would ordinarily be subject to sections 1724.6 through 1724.10 or 1748 through 1748.3, addition of a well stimulation treatment does not remove the well from the ambit of these regulations, consistent with proposed § 1761(b)(3).

Separately, although § 1761 defines well stimulation with reference to the acid volume threshold, we emphasize that DOGGR should require reporting of all uses of acids to DOGGR, without regard to an acid volume or concentration threshold. Reporting on all acid use should be made available to the public. Reporting and disclosure should be required even if only treatments using acid in excess a particular threshold are regulated as well stimulation treatments.

DOGGR must also broaden the definition of “protected water” in proposed § 1781(n). The Bureau of Land Management, in its proposed well stimulation regulations, recognized that waters containing greater than 1000 mg/l of total dissolved solids can be put to productive use, and that where these uses are occurring, waters over the 1000 mg/l threshold must be protected.<sup>7</sup> Thus, BLM proposes to protect “Zones in use for supplying water for agricultural or industrial purposes,

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<sup>7</sup> BLM, *Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Proposed Rule 78* Fed. Reg. 31636, 31674 (May 24, 2013) (proposed 43 C.F.R. § 3160.0-5).

*regardless of the concentration of total dissolved solids*, unless the operator demonstrates that the existing agricultural or industrial user would not be adversely affected.”<sup>8</sup> DOGGR should adopt a similarly broad definition of “protected water.”

#### **IV. Information Disclosure and Public Notice**

The proposed regulations have numerous deficiencies regarding information disclosure and notification.

The June 13, 2014 revision to the proposed regulations defines “Chemical Disclosure Registry” to simply be the FracFocus website. Proposed § 1781(g). The legislature explicitly and specifically instructed DOGGR to use FracFocus only as an interim measure pending development of a state disclosure website. Pub. Resources Code § 3160(g)(2)(B). FracFocus suffers numerous limitations that make it an inappropriate substitute for mandatory public disclosures: it is ill-suited to prior disclosure, it does not provide information in aggregate and machine-readable forms (and has terms of use that prohibit such aggregation), and it does not meet appropriate standards for public data integrity and retention. The proposed regulations violate a clear legislative command to use a system other than FracFocus as soon as possible.

Proposed § 1783.2 should be revised to extend the period between neighbor notification and well stimulation treatment to 45 calendar days, to ensure adequate opportunity for baseline water testing. Similarly, the period in which a property owner may request water quality testing, pursuant to proposed § 1783.3(a), should be extended from 20 to 30 days.

Tenants, in addition to property owners, must be afforded the right to request water quality testing at the operator’s expense pursuant to proposed § 1783.3(a)-(c). At a minimum, tenants must have a right to request water quality testing by a designated contractor for water sampling selected by the operator pursuant to proposed § 1783.3(b)(4)(A).

Finally, proposed § 1788 should be revised to emphasize that full transparency and public disclosure must be DOGGR’s baseline regulatory approach. In the event that DOGGR determines that public disclosures are not required pursuant to Public Resources Code section 3234, DOGGR must provide written documentation for the basis of that decision. In all instances where information is available prior to any well stimulation, disposal or related activities, that information shall be required to be reported to all relevant authorities and disclosed to the public prior to those activities taking place.

#### **V. Water Management**

We support the June 13, 2014 revision to proposed § 1783.1 to include information regarding water acquisition and recycling. The regulations must continue to require a water management plan that includes all of the following:

- (A) An estimate of the amount of water to be used in the treatment;

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<sup>8</sup> *Id.*(emphasis added).

- (B) An estimate of water to be recycled following the well stimulation treatment;
- (C) A description of how and where the water from a well stimulation treatment will be recycled, including a description of any treatment or reclamation activities to be conducted prior to recycling and reuse; and
- (D) The anticipated source of the water to be used in the treatment, including how the water will be acquired, where the water will be acquired, and, if the water will be purchased, from whom the water will be purchased.

## VI. Seismic Monitoring

The scope and duration of seismic monitoring and evaluation should be increased to ensure adequate data collection and to protect public safety, as DOGGR has not demonstrated that the proposed thresholds are sufficient to protect the public. In addition, the term “seismic activity” should be used rather than “earthquakes” for consistency. We propose the following revisions:

- (a) From commencement of hydraulic fracturing until 14 days after the end of hydraulic fracturing, the operator shall monitor the California Integrated Seismic Network for indication of seismic activity 0.0 of magnitude or greater occurring within a radius of ten times the anticipated fracture length from each point of fracture.
- (b) If seismic activity of magnitude 1.0 or greater is identified then the following requirements shall apply:
  - (1) The operator shall immediately notify the division and inform the division when the seismic activity occurred relative to the hydraulic fracturing operations.
  - (2) The division, in consultation with the operator and the California Geological Survey, will conduct an evaluation of the following:
    - (A) Whether there is indication of a causal connection between the hydraulic fracturing and the seismic activity;
    - (B) Whether there is a pattern of seismic activity in the area that correlates with nearby hydraulic fracturing; and
    - (C) Whether the mechanical integrity of any active well within the radius specified in subdivision (a) has been compromised.
  - (3) No further hydraulic fracturing shall be done within the radius specified in subdivision (a) until the division has completed the evaluation under subdivision (b)(2) and is satisfied that hydraulic fracturing within that radius does not create a heightened risk of seismic activity
  - (4) Evidence of seismic activity associated with well stimulation and/or injection activities shall be considered to be public information and disclosed accordingly.
  - (5) Seismic Monitoring and associated regulations (see above) must be required for any; “Underground injection project” or “subsurface injection or disposal project” as defined in Section 1761.

## VII. Conclusion

Thank you for your attention to this letter. We look forward to the Division's response to our comments.

Sincerely,



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Sierra Club California/Our Wild America



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