

SB 4 WELL STIMULATION TREATMENT REGULATIONS

SECOND REVISED TEXT OF PROPOSED REGULATIONS

Added text in originally proposed regulations is shown in underline.

Added text in first revised proposed regulations is shown in double underline.

Deleted text in first revised proposed regulations is shown in ~~double strikethrough~~.

Added text in second revised proposed regulations is shown in **bold double underline**.

Deleted text in second revised proposed regulations is shown in ~~**bold double strikethrough**~~.

CHAPTER 4. DEVELOPMENT, REGULATION, AND CONSERVATION OF OIL AND GAS RESOURCES

Subchapter 2. Environmental Protection

Article 1. General.

1751. Single-Project Authorization.

(a) For the purposes of this section, “single-project authorization” shall mean a single Division approval for multiple applications for permits to perform well stimulation treatments under Public Resources Code section 3160, subdivision (d), and/or notices of intent to drill or rework wells under Public Resources Code section 3203.

(b) A request for a single-project authorization shall include:

- (1) Identification of each of the applications and notices that are part of the request;
- (2) The applications and notices that comprise the request for a single-project authorization.

(c) The Division will review each application and notice submitted for single-project authorization in the same manner as it would had the application or notice been submitted individually. A single-project authorization shall specify which of the

application or notices have been approved and the conditions of each approval. ~~specify what operations are approved by a single project authorization and the conditions under which the operations are approved.~~

(d) Operations approved by a single-project authorization that have not commenced within one year shall not be commenced without first obtaining a new approval for those operations from the Division.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, 3160 and 3203, Public Resources Code.

Article 2. Definitions

1761. Well Stimulation and Underground Injection Projects.

(a) The following definitions are applicable to this ~~chapter~~ subchapter:

(1) "Well stimulation treatment" means a treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation.

(A) Well stimulation is a short term and non-continual process for the purposes of opening and stimulating channels for the flow of hydrocarbons. Examples of well stimulation treatments include hydraulic fracturing, acid fracturing, and acid matrix stimulation. **Except for operations that meet the definition of "underground injection project" under Section 1761(a)(2).**

(i) A treatment at pressure exceeding the formation fracture gradient shall be presumed to be a well stimulation treatment unless it is demonstrated to the Division's satisfaction that the treatment, as designed, does not enhance oil and gas production or recovery by increasing the permeability of the formation.

(ii) A treatment that involves emplacing acid in a well and that uses a volume of fluid equal to or greater than the Acid Volume Threshold for the operation shall be presumed to be a well stimulation treatment unless it is demonstrated to the Division's satisfaction that the treatment, as designed, does not enhance oil and gas production or recovery by increasing the permeability of the formation. **For the purpose of determining whether a treatment is greater than the Acid Volume Threshold, the volume of fluid used in a treatment does not include the volume fluid used for a pre-flush that does not use acid or an overdisplacement that does not use acid.**

(iii) The searchable index maintained by the Division under Section 1777.4(d) will clearly indicate each submission for a treatment that exceeds the formation fracture gradient or emplaces acid in the well and exceeds the Acid Volume Threshold, and such submissions shall include the Division's determination that the treatment is not a well stimulation treatment and the basis for the determination.

(B) Well stimulation treatment does not include routine well cleanout work; routine well maintenance; routine treatment for the purpose of removal of formation damage due to drilling; bottom hole pressure surveys; routine activities that do not affect the integrity of the well or the formation; the removal of scale or precipitate from the perforations, casing, or tubing; a gravel pack treatment that does not exceed the formation fracture gradient; or a treatment that involves emplacing acid in a well and that uses a volume of fluid that is less than the Acid Volume Threshold for the operation and is below the formation fracture gradient ~~does not penetrate into the formation more than 36 inches from the wellbore.~~

(2) "Underground injection project" or "subsurface injection or disposal project" means sustained or continual injection into one or more wells over an extended period in order to add fluid to a zone for the purpose of enhanced oil recovery, disposal, or storage. Examples of underground injection projects include waterflood injection, steamflood injection, cyclic steam injection, injection disposal, and gas storage projects.

(3) "Acid Volume Threshold" means a volume, in gallons, per treated foot of well stimulation treatment, calculated as follows: **$((\text{Size of the drill bit that was used in the treated zone}/2)(\text{inches}) + 36(\text{inches}))^2 \times 3.1416 \times 12(\text{inches}) \times \text{treated formation porosity} - \text{wellbore volume of treated zone}(\text{inches}^3) / 231(\text{inches}^3/\text{gallon})$** . **The lowest calculated or measured porosity in the zone of treated formation shall be the treated formation porosity used for calculating the Acid Volume Threshold.** ~~$((48,858 \text{ inches}^3 \times \text{treated formation porosity}) - \text{wellbore volume of treated zone}(\text{inches}^3)) / (231(\text{inches}^3)/\text{gallon})$~~

(b) Well stimulation treatments and underground injection projects are two distinct kinds of oil and gas production processes. Unless a regulation expressly addresses both well stimulation and underground injection projects,

(1) Regulations regarding well stimulation treatments do not apply to underground injection projects; and

(2) Regulations regarding underground injection projects do not apply to well stimulation.

(3) If well stimulation treatment is done ~~on~~ on a well that is part of an underground injection project, then regulations regarding well stimulation treatment apply to the well stimulation treatment and regulations regarding underground injection projects apply to the underground injection project operations.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, 3157 and 3160, Public Resources Code.

Article 3. Requirements

1777.4. Well Maintenance and Cleanout History.

(a) ~~Within~~ **Unless already addressed by an approved aggregation plan under subdivision (d),** within 60 days of completing an operation on a well that involves emplacing fluid containing acid in the well, the operator shall submit the following information ~~with~~ **to** the Division for inclusion in the well history:

(1) A description of the nature and purpose of the operation;

(2) The volume of fluid emplaced in the well in the course of the operation, including specification of the gallons per treated foot; and

(3) Calculation of the Acid Volume Threshold for the operation.

(b) Within 60 days of completing an operation on a well that involves application of pressure to the formation **that exceeds formation pore pressure,** the operator shall submit the following information with the Division for inclusion in the well history:

(1) A description of the nature and purpose of the operation; and

(2) The bottom-hole pressure applied to the formation; **and**

(3) Calculations used to determine bottom-hole pressure, if any.

(c) This section does not apply to the following operations:

(1) Well stimulation treatments regulated under Article 4 of this subchapter;

(2) Underground injection project operations regulated under Sections 1724.6 through 1724.10 or Sections 1748 through 1748.3; ~~or~~

(3) Drilling, re-drilling, reworking, plugging, or abandonment operations permitted under Public Resources Code section 3203 or 3229; **and**

(4) Replacement of equipment in the well, including but not limited to packers, pumps, and tubing.

(d) **Subject to approval by the Division, an operator may propose a plan for submitting aggregated information regarding a specific type of repeated operation that involves emplacing fluid containing acid in the well yet clearly does not meet the definition of a well stimulation treatment. An aggregation plan shall provide for annual submission of the aggregated volume of fluid containing acid used in an oilfield for the type of operation, a list of the wells subject to the operation during the year, and, if the operation is performed multiple times on the same well, the number of time the operation was performed on each well. An aggregation plan may be terminated at the Division's sole discretion.**

(ed) The Division will maintain a searchable index of submissions made under this section, and the index will be made available on the ~~the~~ Division's public internet website. The searchable index will clearly indicate each submission for a treatment that exceeds the formation fracture gradient or emplaces acid in the well and exceeds the

Acid Volume Threshold, and such submissions shall include the ~~the~~ Division's determination that the treatment is not a well stimulation treatment and the basis for the determination.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, 3160 and 3213, Public Resources Code.

Article 4. Well Stimulation Treatments

1780. Purpose, Scope, and Applicability.

(a) The purpose of this article is to set forth regulations governing well stimulation treatments, as defined in Section 1761, ~~subdivision (a)(1), for wells located both onshore and offshore, except that the requirements of this article do not apply to acid matrix stimulation treatments that use an acid concentration of 7% or less. Nor is an operator required to obtain a permit under Public Resources Code section 3160, subdivision (d), prior to performing an acid matrix stimulation treatment that uses an acid concentration of 7% or less.~~

(b) Well stimulation treatments are not subsurface injection or disposal projects and are not subject to Sections 1724.6 through 1724.10 or Sections 1748 through 1748.3. This article does not apply to underground injection projects.

(c) For purposes of this article, a well stimulation treatment commences when well stimulation fluid is pumped into the well, and ends when the well stimulation treatment equipment is disconnected from the well.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1781. Definitions.

The following definition shall govern this article:

(a) "**Acid fracturing**" means a well stimulation treatment that, in whole or in part, includes the pressurized injection of acid into an underground geologic formation in order to fracture the formation, thereby causing or enhancing, for the purposes of this division, the production of oil or gas from a well.

(~~ba~~) "**Acid matrix stimulation treatment**" means an acid treatment conducted at pressures lower than the applied pressure necessary to fracture the underground geologic formation.

(~~cb~~) "**Acid well stimulation treatment**" means a well stimulation treatment that uses, in whole or in part, the application of one or more acids to the well or underground

geologic formation. The acid well stimulation treatment may be at any applied pressure and may be used in combination with hydraulic fracturing treatments or other well stimulation treatments. Acid well stimulation treatments include acid matrix stimulation treatments and acid fracturing treatments.

(de) “**Acid stimulation treatment fluid**” means one or more base fluids mixed with physical and chemical additives for the purpose of performing an acid well stimulation treatment.

(ee) “**Additive**” means a substance or combination of substances added to a base fluid for purposes of preparing well stimulation treatment fluid, including, but not limited to, acid stimulation treatment fluid and hydraulic fracturing fluid. An additive may serve additional purposes beyond the transmission of hydraulic pressure to the geologic formation. An additive may be of any phase and may include proppants.

(f) “**ADSA**” or “**axial dimensional stimulation area**” means the estimated axial dimensions, expressed as maximum length, width, height, and azimuth, of the area(s) stimulated by a well stimulation treatment.

(gfe) “**Base fluid**” means the continuous phase fluid used in the makeup of a well stimulation treatment fluid. The continuous phase fluid may include, but is not limited to, water, and may be a liquid or a hydrocarbon or nonhydrocarbon gas. A well stimulation treatment may use more than one base fluid.

(hgf) “**Chemical Disclosure Registry**” means ~~the Internet Web site developed by the Division for the purpose of reporting the information required under Section 1788. Until the Division has completed development of the reporting website, “Chemical Disclosure Registry” shall mean~~ the chemical registry Internet Web site known as fracfocus.org developed by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission, ~~or another publicly accessible information Internet Web site that is designated by the Division.~~

(ih) “**Designated Contractor for Water Sampling**” means an independent third-party person or entity designated by the State Water Board to sample water well and surface water in accordance with Public Resources Code section 3160, subdivision (d)(7).

(jig) “**Flowback fluid**” means the fluid recovered from the treated well before the commencement of oil and gas production from that well following a well stimulation treatment. The flowback fluid may include materials of any phase.

(kjh) “**Hydraulic fracturing**” means a well stimulation treatment that, in whole or in part, includes the pressurized injection of hydraulic fracturing fluid into an underground geologic formation in order to fracture the formation, thereby causing or enhancing, for the purposes of this division, the production of oil or gas from a well.

(lki) “**Hydraulic fracturing fluid**” means one or more base fluids mixed with physical and chemical additives for the purpose of hydraulic fracturing.

~~(m)~~ “Independent third party” means a person or entity responsible to an operator, but who is not an employee of the operator, is not under the ownership or direct control of the operator, and does not have a direct financial interest in the production activities of the operator.

~~(nm)~~ “Proppants” means materials inserted or injected into the underground geologic formation that are intended to prevent fractures from closing.

~~(nk) “Protected water” means water outside of a hydrocarbon zone that contains no more than 10,000 mg/l total dissolved solids unless the water has been determined to be an exempt aquifer pursuant to the Code of Federal Regulations, title 40, part 146.4.~~

~~(o)~~ “Regional Water Board” means the Regional Water Quality Control Board with jurisdiction over the location of a well subject to well stimulation treatment.

~~(p) “State Water Board” means the the State Water Resources Control Board.~~

~~(qm) “Surface property owner” means the owner of real property as shown on the latest equalized assessment roll or, if more recent information than the information contained on the assessment roll is available, the owner of record according to the county assessor or tax collector.~~

~~(r) “Tenant” means a person or entity with a possessory interest in and right to occupy a legally recognized parcel, or portion thereof.~~

~~(s)~~ “Well stimulation treatment fluid” means a base fluid mixed with physical and chemical additives, which may include acid, for the purpose of a well stimulation treatment. A well stimulation treatment may include more than one well stimulation treatment fluid. Well stimulation treatment fluids include, but are not limited to, hydraulic fracturing fluids and acid stimulation treatment fluids.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, 3150, 3151, 3152, 3153, 3154, 3156, 3158, 3159 and 3160, Public Resources Code.

1782. General Well Stimulation Treatment Requirements.

(a) When a well stimulation treatment is performed, the operator shall ensure that all of the following conditions are continuously met:

(1) Casing is sufficiently cemented or otherwise anchored in the hole in order to effectively control the well at all times;

(2) Geologic and hydrologic isolation of the oil and gas formation are maintained during and following the well stimulation treatment;

(3) All potentially productive zones, zones capable of over-pressurizing the surface casing annulus, or corrosive zones be isolated and sealed off to the extent that such isolation is necessary to prevent vertical migration of fluids or gases behind the casing;

(4) All well stimulation treatment fluids are directed into the zone(s) of interest;

(5) The wellbore's mechanical integrity is tested and maintained;

(6) The well stimulation ~~treat~~ treatment fluids used are of known quantity and description for reporting and disclosure as required pursuant to this Article; and

(7) The well stimulation treatment ~~fluid is not of a concentration level that~~ will not damage the well casing, tubing, cement, or other well equipment, or would otherwise cause degradation of the well's mechanical integrity during the treatment process;

(8) Well breach occurring during well stimulation treatment will be reported as required in Section 1785, subdivision (d); and

(9) Well stimulation treatment operations are conducted in compliance with all applicable requirements of the Regional Water Board, the Department of Toxic Substances Control, the Air Resources Board, the Air Quality Management District or Air Pollution Control District, the Certified Unified Program Agency, and any other local agencies with jurisdiction over the location of the well stimulation activities.

(b) In addition to specific methods set forth in these regulations, to achieve the objectives of this section, the operator shall follow the intent of all applicable well construction requirements, use good engineering practices, and employ best industry standards.

(c) The operator shall terminate well stimulation treatment as soon as it is safe to do so after it determines, or is informed by the Division, that any of the conditions of subdivision (a) are not being met.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1783. Application for Permit to Perform Well Stimulation Treatment.

(a) A well stimulation treatment or repeat well stimulation treatment shall not commence without a valid permit approved by the Division and shall be done in accordance with the conditions of the Division's approval. **All well stimulation treatment permits approved by the Division shall include the condition that the well stimulation treatment shall not commence until the State Water Board or the Regional Water Board has provided written approval that the well stimulation treatment is covered under Water Code section 10783.**

(b) An application for a permit to conduct well stimulation operations shall include all of the information listed in Section 1783.1 and shall be submitted electronically to the

Division on a digital form specified by the Division and available on the Division's public internet Web site at <http://www.conservation.ca.gov/DOG/Pages/Index.aspx>.

(c) Upon receipt of a complete application for a permit to conduct well stimulation treatment, the Division will provide a copy of the permit application, including information in the application designated as trade secret or confidential, to the Regional Water Board, the Department of Toxic Substances Control, the Air Resources Board, and the local air district where the well stimulation treatment may occur, provided that the manner and timing of providing copies of permit applications has been specified in a written agreement between the Division and the receiving agency.

(~~d~~) The operator shall notify the Division at least 72 hours prior to commencing well stimulation so that Division staff may witness. ~~Three~~**Between three and fifteen** hours prior to commencing, the operator shall confirm with the Division that the well stimulation treatment is proceeding. Upon receipt of 72-hour notice from an operator, the Division will relay the notice to the Regional Water Board, the Department of Toxic Substances Control, the Air Resources Board, and the local air district where the well stimulation treatment may occur, provided that the manner and timing of relaying the notice has been specified in a written agreement between the Division and the receiving agency.

(e) If a well is drilled, redrilled, or reworked after the Division approves a permit for a well stimulation treatment on the well, then, when providing the 72-hour notice under subdivision (d), the operator shall indicate what, if any, variance there was from the original notice of intent to drill, redrill, or rework the well.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1783.1. Contents of Application for Permit to Perform Well Stimulation Treatment.

(a) An application for a permit to perform a well stimulation treatment shall include the following:

- (1) Operator's name;
- (2) Name and telephone number of person filing the form;
- (3) Name of person to contact with technical questions regarding operations;
- (4) Telephone number and email address of person to contact with technical questions regarding operations;
- (5) Lease name and number of the well;
- (6) Location of the well, submitted as a six-digit decimal degrees, non-projected, Latitude **and** Longitude, in the **Geographic General**-Coordinate System (GCS) NAD83.
- (7) API number assigned to the well by the Division;

- (8) Type of well;
- (9) Name of the oil field;
- (10) County in which the well is located;
- (11) The estimated two-week time period during which the well stimulation treatment is planned to occur.
- ~~(12) For directionally drilled wells, the proposed coordinates (from surface location), the true vertical depth at total depth, and the wellbore path;~~
- (12~~13~~) Estimated measured and estimated true vertical depth of the well, and, ~~for~~ **directionally drilled wells**, a description of the wellbore path that is specific enough to identify the location of the well stimulation treatment;
- (13~~14~~) ~~Name~~ Formation name and vertical depth of the top and bottom of the productive horizon where well stimulation treatment will occur;
- (14) The **maximum** number of stages in the well stimulation treatment;
- (15) ~~The~~ For each stage of the well stimulation treatment, the **estimated** measured and **estimated** true vertical depth of the planned ~~location~~ interval of the well stimulation treatment on the well bore; ~~the~~
- (16) The **ADSA for each stage estimated length (measured perpendicular to the wellbore), height (measured perpendicular to the length), and direction of the induced fractures or other planned modification**, if any, and the location of existing wells, including plugged and abandoned wells, that may be impacted by these fractures and modifications;
- (17~~16~~) ~~Depth of the base of protected water, including method used to determine protected water;~~
- (18~~17~~) Anticipated For each stage of the well stimulation treatment, the anticipated volume, rate, and pressures of fluid to be injected;
- (18~~19~~) Identification of all wells that have previously been hydraulically fractured subject to well stimulation treatment in the same production horizon within the area of twice the **ADSA anticipated fracture radius of the planned fracture or modification**;
- (19~~20~~) Identification of where in the operator's Spill Contingency Plan handling of well stimulation fluid and additives has been addressed;
- (20~~21~~) The operator's plan for completing the cement evaluation required under Section ~~1784(a)(1)~~ 1784.2(a), or a request for approval of an alternate cement evaluation plan under Section 1784.2(c);
- (21~~22~~) The information required for the well stimulation treatment **area radius** analysis ~~required under Section 1784(a)(2)~~, including identification of all water within the ~~area of the well stimulation treatment radius analysis~~, and the names and API numbers of all wells within the ~~area of the well stimulation treatment radius analysis~~;
- (22~~23~~) The well stimulation treatment design required under Section 1784(b)(a)(3);

~~(232423)~~ A water management plan that includes all of the following:

- ~~(A) a~~ An estimate of the amount of water to be used in the treatment;
- ~~(B) a~~ 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 or reuse;
- ~~(D) †~~ The anticipated source of the water to be used in the treatment, including **any of the following:**
 - (i) The well or wells, if commingled, from which the water will be produced or extracted;**
 - (ii) The water supplier, if it will be purchased from a supplier;**
 - (iii) The point of diversion of surface water**
~~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;~~ and
- ~~(E) †~~ The anticipated disposal method that will be used for the recovered water in the flowback fluid from the treatment that is not produced water that would be reported pursuant to Section 3227;

~~(2425)~~ A description of anticipated procedures to comply with the Hazardous Waste Control Law (Health and Safety Code §§ 25100 et seq.) and implementing regulations pertaining to the activities and information provided under this article;

~~(2526)~~ The anticipated source, amount, and composition of the base fluids to be used in the treatment, including pH, flash point, and any constituents listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A) and (B);

~~(262724)~~ The estimated amount of treatment-generated waste materials that are not addressed by the water management plan, and the anticipated disposal method for the waste materials;

~~(272825)~~ Certification Documentation from either the State Water Board or the Regional Water Board that the well subject to the well stimulation treatment is covered **by a regional groundwater monitoring program pursuant to Water Code section 10783, subdivision (h)(1), or indication that the operator is working with the State Water Board or the Regional Water Board to ensure that the well subject to well stimulation treatment is covered** ~~by a well-specific, field-wide, or regional groundwater monitoring plan developed~~ in accordance with Water Code section 10783; and

~~(282926)~~ A complete list of the names, Chemical Abstract Service numbers, and estimated concentrations, in percent by mass, of each and every chemical constituent of the well stimulation fluids anticipated to be used in the treatment. ~~If~~ (if a Chemical Abstract Service number does not exist for a chemical constituent, another unique identifier may be used, if available);

(29) Whether it is anticipated that radiological components or tracers will be injected during the well stimulation treatment;

(30) The State Clearinghouse Number or other identification of all documents prepared under the California Environmental Quality Act that relate to the proposed well stimulation treatment; and

(31) Other information as requested by the Division.

(b) A claim of trade secret protection for the information required under this section shall be handled in the manner specified under Public Resources Code section 3160, subdivision (j).

(c) Notwithstanding any claim of trade secret protection, the Division shall not approve as complete an application for a permit to perform a well stimulation treatment unless all of the information specified in this paragraph has been provided to the Division.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code; Section 10783, Water Code.

1783.2. Copy of Well Stimulation Permit; Notice of Availability for Water Testing, Sampling.

(a) At least 30 days in advance of commencing well stimulation treatment, the operator of any oil or gas well receiving a well stimulation treatment permit from the Division is required to provide to surface property owners and tenants of legally recognized parcels of land situated within a 1500 foot radius of the wellhead of any such well, or within 500 feet of the horizontal projection of the subsurface parts of any such well, the following:

(1) A copy of the well stimulation treatment permit;

(2) Notice of the availability for water sampling and testing of any water well suitable for drinking or irrigation purposes; and

(3) Notice of the availability for water sampling and testing of any surface water suitable for drinking or irrigation purposes.

(b) For the purposes of this section, "tenant" means a person or entity possessing the right to occupy a legally recognized parcel, or portion thereof, by way of a valid written agreement.

(c) For the purposes of this section, "horizontal projection" means the surface representation of the horizontal path of the wellbore.

NOTE: Authority cited: Section 3013 and 3160, Public Resources Code. Reference: Section 3106 and 3160, Public Resources Code.

~~**1783.3. Duty to Hire Independent Third Party to Provide Copy of Permit, Notice of Water Testing, Sampling.**~~

~~—(a) It is the operator’s responsibility to identify the surface property owners and tenants to whom a copy of the well stimulation treatment permit must be provided and notification is required under Section 1783.2. To fulfill this responsibility, the operator or owner must hire an independent person or entity to provide a copy of the permit and the notification required.~~

~~—(b) Any person or entity hired by the owner of a well to provide a copy of the permit and notice in accordance with this regulation shall, after providing such notice, deliver to the Division, in writing, the following:~~

~~—(1) The names of the property owners or tenants identified;~~

~~—(2) The method by which the copy of the permit was provided, and the date on which the copy of the permit was provided; and~~

~~—(3) The method by which the notice of the availability of water sampling and testing was provided, and the date on which the notice was provided.~~

~~—(c) Information about the availability of water quality testing may be included in the notification or the notification may reference a website with further information about testing options.~~

~~NOTE: Authority cited: Section 3013 and 3160, Public Resources Code. Reference: Section 3106 and 3160, Public Resources Code.~~

1783.2 Neighbor Notification, Duty to Hire Independent Third Party.

(a) The operator of any oil or gas well receiving a permit to conduct well stimulation treatment from the Division shall hire an independent third party to perform the following actions:

(1) Identify surface property owners and tenants, **other than the operator of the well subject to well stimulation treatment**, of legally recognized parcels of land situated within a 1500-foot radius of the wellhead receiving well stimulation treatment, or within 500 feet of the surface representation of the horizontal path of the subsurface parts of such well, **other than the surface property owner of the parcel upon which the oil or gas well receiving the well stimulation treatment is located**;

(2) Provide all surface property owners and tenants so identified, or their duly authorized agents, with neighbor notification that shall include and must be limited to both of the following:

(A) A copy of the approved well stimulation treatment permit; and

(B) A completed Well Stimulation Treatment Neighbor Notification Form (1/15 version), hereby incorporated by reference; and

(3) Compile and mail to the Division a declaration of notice pursuant to subdivision (h).

(b) Neighbor notification is not required if the independent third party determines that there are no surface property owners or tenants as described in subdivision (a)(1).

(c) A well stimulation treatment subject to the neighbor notification requirements of this section shall not commence until 30 calendar days after all required notices are provided, as defined in subdivision (e). If the independent third party has made a determination under subdivision (b) that neighbor notification is not required, then the well stimulation treatment shall not commence until at least 72 hours after the operator provides the Division with a signed written statement from the independent third party certifying that determination.

(d) The notice required under subdivision (a)(2) may be given by any of the following means:

(1) Personal delivery;

(2) Overnight delivery by an express service carrier;

(3) Registered, certified, or express mail;

(4) Electronic mail or facsimile, but only if the person to be notified has agreed in writing prior to the notice to accept notice by electronic mail or facsimile. The prior written agreement shall contain the email address or facsimile number of the person to be notified, which address or number shall be used until otherwise instructed by the person to be notified.

(e) The notice required under this section is deemed to have been provided at the following times:

(1) If given by personal delivery, when delivered;

(2) If given by overnight delivery by an express service carrier, 2 calendar days after the notice is deposited with the carrier;

(3) If given by registered, certified or express mail, 5 calendar days after the notice is deposited in the mail;

(4) If given by electronic mail or facsimile, 2 calendar days after the notice is transmitted.

(f) Any notice that is given to surface property owners by overnight delivery by an express service carrier or by registered, certified, or express mail shall be addressed to the address of record for that person, or his/her duly authorized agent, as shown on the latest equalized assessment roll, county assessor or tax collector records. In addition, if the owner's address of record is different from the physical address of the property within the notification radius, and if that property is capable of receiving mail, a copy of the notice shall also be delivered or mailed to that property.

(g) ~~No notice to any~~ **Notice to a** tenant shall **not** be considered deficient for lack of a named individual. Notice to any tenant can be addressed generally to “current resident,” “current occupant,” or such other non-specific addressee, as may be appropriate.

(h) In addition to the means set forth in subdivision (d), tenants of a residential or commercial property that has 10 or more individual units for lease may be provided notice by leaving the copy of the permit and Well Stimulation Treatment Neighbor Notification Form at **each the** individual residential or commercial unit **within the residential or commercial property** between the hours of eight in the morning and six in the evening, with some person not less than 18 years of age who provides a signature acknowledging receipt of the notice. Notice given in accordance with this subdivision shall be treated as a personal delivery for purposes of determining when such notice is deemed provided under subdivision (e).

(i) The independent third party hired by the operator to provide notice under this section shall, within 5 calendar days of all required notices having been provided for a well stimulation treatment, submit to the Division in a text-searchable electronic format, directed to the email address “NeighborNotificationWST@conservation.ca.gov” a declaration of notice that ~~states~~ **provides** all of the following:

(1) Identifying information for the well receiving well stimulation treatment and the operator of that well;

(2) A list of all notices provided, itemized by the ~~name of each surface property owner, name of each tenant, or designations for any non-specific addressees under subdivision (g);~~

~~(3) The~~ County Assessor’s Parcel Number for the property within the notification radius that corresponds to each notice provided;

~~(3) The~~ name of each surface property owner and tenant notified, or indication that the addressee was unspecified, as allowed under subdivision (g);

(4) The specific method of providing each notice, including the physical or electronic address to which each notice was sent;

(5) The date each notice was personally delivered, deposited with an express carrier or mail service, or transmitted electronically;

(6) The date each notice is deemed to have been provided in accordance with subdivision (e); and

(7) Representative copies of the completed Well Stimulation Treatment Neighbor Notification Form that were provided.

(j) If any additional surface property owners or tenants are notified after the original declaration of notice is provided to the Division, then the independent third party shall

within 5 calendar days submit to the Division a supplemental declaration of notice that contains the information listed in subdivision (i).

(k) Each independent third party hired by the operator to provide notice under this section shall retain copies of all of the following:

(1) A representative copy of the well stimulation treatment permits provided to surface property owners and tenants;

(2) Representative copies of the completed Well Stimulation Treatment Neighbor Notification Form provided to surface property owners and tenants;

(3) Documentation demonstrating that the notices required under this section were provided, including documentation from the United States Postal Service or express service carrier such as proof of payment records, return receipts, delivery confirmations, and tracking records; and

(4) Records relied upon to identify surface property owners and tenants who must receive notice under this section.

(l) Records specified for retention under subdivision (k) shall be made available to the Division promptly upon request, and shall be maintained for at least 5 years from the date that the declaration of notice required under subdivision (h) is submitted to the Division.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1783.3 Availability of Water Testing, Request for Water Testing.

(a) A surface property owner notified pursuant to Section 1783.2 may request water quality testing on any existing water well or surface water located on the parcel that is suitable for drinking or irrigation purposes, ~~provided that the request is made in writing and postmarked to the operator within 20 calendar days from the date notice is provided under section 1783.2(e).~~

(b) When a surface property owner makes a request for water quality testing on any water well or surface water pursuant to subdivision (a), sampling and testing shall be in accordance with the following:

(1) Water quality testing shall be performed by a Designated Contractor for Water Sampling.

(2) Water quality testing shall be conducted in accordance with the standards and protocols specified by the State Water Board pursuant to Public Resources Code section 3160, subdivision (d)(7)(B).

(3) Water quality testing shall include baseline measurements prior to the commencement of the well stimulation treatment, and follow-up measurements after the well stimulation treatment is completed.

(4) Any written request for water testing shall specify whether the surface property owner elects to select the Designated Contractor for Water Sampling and communicate directly with the contractor to arrange for testing, or, alternatively, elects to have the operator select the Designated Contractor for Water Sampling and arrange for testing.

(A) If the surface property owner elects to have the operator select and contract with the Designated Contractor for Water Sampling, the well stimulation treatment may not commence until the requested baseline water ~~testing~~ **sampling** is completed, provided that **the request is made in writing and postmarked to the operator within 20 calendar days from the date notice is provided under section 1783.2(e) and the surface property owner moves expeditiously and makes necessary accommodations to enable the collection of baseline measurements without undue delay. ~~The operator shall arrange for follow-up measurements to be taken between 30 and 60 calendar days after the well stimulation treatment is completed.~~**

(B) If the surface property owner elects to select the Designated Contractor for Water Sampling and communicate directly with the contractor to arrange for testing, the surface property owner is responsible for scheduling baseline measurements to be taken prior to the commencement of the well stimulation treatment. The operator shall immediately inform the surface property owner when the well stimulation treatment is completed so that follow-up measurements can be collected.

(5) The operator shall pay for all reasonable costs of water quality testing under this subdivision regardless of whether the surface property owner or the operator selects and coordinates with the Designated Contractor for Water Sampling.

(6) The results of any water quality testing shall be provided to the Division, the appropriate Regional Water Board, the State Water Board, the surface property owner, and any tenant notified pursuant to Section 1783.2 to the extent authorized by the tenant's lease.

(7) The Regional Water Board shall be notified at least two working days prior to collecting a sample under this section so that Regional Water Board staff may witness the sampling.

(c) ~~Groundwater~~ **Water** quality data collected under subdivision (b) shall be submitted to the Regional Water Board in an electronic format that follows the guidelines detailed in California Code of Regulations, title 23, chapter 30.

(d) A tenant notified pursuant to Section 1783.2 that has lawful use of any existing water well or surface water located on the parcel that is suitable for drinking or irrigation purposes may independently contract with a Designated Contractor for Water Sampling

for water quality testing of such water. A tenant that contracts for such testing is responsible for scheduling baseline measurements to be taken prior to the commencement of the well stimulation treatment. A tenant that contracts for water testing pursuant to this section is not entitled to reimbursement from the operator for the costs of such testing. If the operator is made aware of the tenant's contracting for water quality testing, then the operator shall immediately notify the tenant when the well stimulation treatment is completed so that follow-up measurements can be collected.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1784. ~~Evaluation Prior to Well Stimulation Treatment~~ Radius Area Analysis and Design.

~~(a) The operator shall do all of the following prior to commencing or recommencing well stimulation treatment operations:~~

~~(1) Allowing at least 48 hours to elapse after cement placement, the operator shall run a radial cement evaluation log or other cement evaluation method that is approved by the Division and capable of demonstrating adequate cementing. If the quality of the cement outside of the production casing is not sufficient to ensure the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatment, then the operator must develop a plan to remediate the cement and obtain approval from the Division for the remediation plan prior to proceeding. The operator is only required to evaluate the cement that is required to be in place under Section 1722.4. The Division may waive the requirement of doing a cement evaluation if the supervisor is satisfied that, based on geologic and engineering information available from previous drilling or producing operations in the area where the well stimulation treatment will occur, well construction and cementing methods have been established that ensure that there will be no voids in the annular space of the well.~~

~~(2) The~~

(a) As part of an application for a permit to conduct well stimulation, the operator shall conduct a well stimulation treatment **area radius** analysis to ensure the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatment.

(1i) The operator shall utilize modelling, **or other analysis**, approved by the Division that will effectively **estimate the ADSA. The operator shall submit the ADSA and information supporting the modeling or analysis to the Division. simulate the projected well stimulation treatment area of influence within the design limits of the projected well stimulation treatment operations. The criteria, assumptions,**

~~and outcomes used for the modeling shall be indicated in the well stimulation treatment analysis.~~

~~(2ii) The well stimulation treatment area radius-analysis shall include identification and a review of all well bores located completely or partially wells and faults (active or inactive) within two times the ADSA a radius of twice the anticipated well stimulation treatment length from each point of well stimulation treatment to ensure the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation. The Division may allow modification of the review area based on modeling and analysis provided by the operator that demonstrates geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatment. For each well bore within the review area within the radius of twice the anticipated well stimulation treatment length from each point of well stimulation treatment, the well stimulation treatment area analysis shall include the following information:~~

~~(A) Casing diagrams clearly indicating:~~

~~(i) Sizes and weights of casing;~~

~~(ii) Depths of shoes, stubs, and liner tops;~~

~~(iii) Depths of perforation intervals, water shutoff holes, cement port, cavity shots, cuts, casing damage, and top of junk or fish left in well;~~

~~(iv) Diameter and depth of hole;~~

~~(v) Cement plugs inside casings, including top and bottom of cement plug, with indication of method of determining;~~

~~(vi) Cement fill behind casings, including top and bottom of cement fill, with indication of method of determining;~~

~~(vii) Type and weight (density) of fluid between cement plugs;~~

~~(viii) Depths and names of the formations, zones, and sand markers penetrated by the well, including the top and bottom of the zone where well stimulation treatment will occur;~~

~~(ix) All steps of cement yield and cement calculations performed; and~~

~~(x) All information used to calculate the cement slurry (volume, density, yield), including but not limited to, cement type and additives, for each cement job completed in each well; and~~

~~(xi) All of the information listed in this paragraph for all previous redrilled or sidetracked well bores.~~

~~(B) For directionally drilled wells, a wellbore path giving both inclination and azimuth measurements.~~

~~(3) The well stimulation treatment area radius-analysis shall include a review of all geologic features, including known faults (active or inactive), within five times the ADSA a radius of five times the anticipated well stimulation treatment length from each point of well stimulation treatment to ensure the geologic and hydrologic~~

isolation of the oil and gas formation during and following well stimulation. **For all such geologic features, the operator shall provide:**

(A) An evaluation of whether the geologic feature may act as a migration pathway for injected fluids or displaced formation fluids; and

(B) An assessment of the risk that the well stimulation treatment will communicate with the geologic feature.

(4iii) If ~~five times the ADSA a radius of five times the anticipated well stimulation treatment length from a point of treatment~~ extends beyond the productive horizon being evaluated for possible well stimulation treatment, then the well stimulation treatment ~~area radius~~ analysis shall include a review of the geological formations adjacent to the productive horizon. The operator shall assess the mechanical rock properties, including permeability, relative hardness (using Young's Modulus), relative elasticity (using Poisson's Ratio), and other relevant characteristics of the geological formations to determine whether the geological formations will ensure the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation.

(5) The well stimulation treatment ~~area radius~~ analysis shall include identification of all water within ~~two times the ADSA a radius of twice the anticipated well stimulation treatment length from each point of well stimulation treatment~~.

(b3) Utilizing the well stimulation treatment ~~area radius~~ analysis conducted pursuant to ~~subsection (a)(4) subdivision (a)~~, the operator shall design the well stimulation treatment so as to ensure that the well stimulation treatment fluids or hydrocarbons do not migrate and remain geologically and hydrologically isolated to the hydrocarbon formation. A well stimulation treatment shall not be designed to employ pressure exceeding 80% of ~~of~~ the API rated minimum internal yield on any casing string in communication with the well stimulation treatment.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1784.1. Pressure Testing Prior to Well Stimulation Treatment.

(a) The operator shall conduct pressure testing not more than 30 days before commencing well stimulation treatment, but after all operations that could affect well integrity ~~or the integrity of the equipment~~ are complete. Pressure testing shall include the following: ~~The operator shall do all of the following not more than 24 hours prior to commencing or recommencing well stimulation treatment:~~

(1) All cemented casing strings and all tubing strings to be utilized in the well stimulation treatment operations shall be pressure tested for at least 30 minutes at a pressure equal to ~~125%~~ **at least 100%** of the maximum surface pressure anticipated

during the well stimulation treatment, but not greater than the API rated minimum internal yield of the tested casing. The operator shall chart the pressure testing. If during testing, and after equilibrium has been reached, there is a pressure drop change of 10% or more from the original test pressure, then the operator shall immediately notify the Division, the operator shall provide the Division with copies of the charting of the pressure testing, and the tested casing or tubing shall not be used until the cause of the pressure drop is identified and corrected to the Division's satisfaction. No casing or tubing shall be used unless it has been successfully tested pursuant to this section.

(2) All surface equipment to be utilized for well stimulation treatment shall be rigged up as designed. The pump, and all equipment downstream from the pump, shall be pressure tested at a pressure equal to 125% of the maximum surface pressure anticipated during the well stimulation treatment, but not greater than the manufacturer's pressure rating for the equipment being tested. If during testing there is a pressure change of 10% or more from the original test pressure, then the operator shall immediately notify the Division, and the tested equipment shall not be used until the cause of the pressure change is identified and corrected to the Division's satisfaction. No equipment shall be used unless it has been successfully tested pursuant to this section.

(b) The operator shall notify the Division at least 24 hours prior to conducting the pressure testing required under ~~this section~~ subdivision (a) so that Division staff may witness. The charting of pressure testing required under ~~subsection~~ **subsection subdivision (a)(1)** shall be provided to the Division not less than 12 hours before commencing well stimulation treatment.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1784.2. Cement Evaluation Prior to Well Stimulation Treatment.

(a) In advance of conducting well stimulation treatment, but at least 48 hours after cement placement, the operator shall run a radial cement evaluation log or other cement evaluation method that is approved by the Division, and the cement evaluation shall demonstrate the following:

(1) The well was and continues to be cemented in accordance with the requirements of Section 1722.4 if it is an onshore well, or Section 1744.3 if it is an offshore well; and

(2) The quality of the cement is sufficient to ensure the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatment.

(b) Documentation of the cement evaluation shall be provided to the Division not less than 72 hours before commencement of the well stimulation treatment. If the Division

identifies a concern with the cement evaluation, the well stimulation treatment shall not commence until the concern has been addressed to the Division's satisfaction.

(c) The Division may approve an alternate cement evaluation plan that waives the requirements of subdivisions (a) and (b) if the Division is satisfied that, based on geologic and engineering information available from previous drilling or producing operations in the area where the well stimulation treatment will occur, well construction and cementing methods have been established that ensure that there will be no voids in the annular space of the well. A request for approval of an alternate cement evaluation plan shall be submitted to the Division as part of the application for a permit to perform well stimulation treatment submitted under Section 1783.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1785. Monitoring During Well Stimulation Treatment Operations.

(a) The operator shall continuously monitor and record all of the following parameters during the well stimulation treatment, if applicable:

- (1) Surface injection pressure;
- (2) Slurry rate;
- (3) Proppant concentration;
- (4) Fluid rate; and
- (5) All annuli pressures.

(b) The operator shall terminate the well stimulation treatment and immediately provide the collected data to the Division if any of the following occurs:

(1) ~~A production surface casing annulus pressure change of~~ A pressure change in the annulus between the tubing or casing through which well stimulation treatment fluid is conducted and the next larger tubular or casing more than 20% or greater than the calculated pressure increase due to pressure and/or temperature expansion;

(2) Pressure exceeding 90% of the API rated minimum internal yield on any casing string in communication with the well stimulation treatment, **if the pressure testing under Section 1784.1(a)(1) was done at a pressure equal to 100% of the API rated minimum internal yield of the tested casing;**

(3) **Pressure exceeding 80% of the API rated minimum internal yield on any casing string in communication with the well stimulation treatment, if the pressure testing under Section 1784.1(a)(1) was done at a pressure equal to less than 100% of the API rated minimum internal yield of the tested casing;** or

(34) The operator has reason to suspect ~~any~~ potential breach in the **cemented casing strings, the tubing strings utilized in the well stimulation treatment**

~~operations, production casing, production casing cement, or isolation of any sources of protected water the geologic or hydrologic isolation of the formation.~~

~~(c) If any of the events listed in subdivision (b) occurs, then the operator shall perform diagnostic testing on the well to determine whether a breach has occurred. Diagnostic testing shall be done as soon as is reasonably practical. The Division shall be notified when diagnostic testing is being done so that Division staff may witness the testing. All diagnostic testing results shall be immediately provided to the Division.~~

~~(d) If diagnostic testing reveals that a breach has occurred, then the operator shall immediately shut-in the well, isolate the perforated interval, and notify the Division and the Regional Water Board with all of the following information:~~

~~(1) A description of the activities leading up to the well **breach failure**.~~

~~(2) Depth interval of the well **breach failure** and methods used to determine the depth interval.~~

~~(3) An exact description of the chemical constituents of the well stimulation treatment fluid, or of the fluid that is most representative of the fluid composition in the well at the time of the well **breach failure**, including:~~

~~— (A) Total dissolved solids;~~

~~— (B) Chloride, sodium, and all organic or inorganic chemicals listed in the tables in California Code of Regulations, title 14, sections 64431 and 64444; and~~

~~— (C) Gross alpha, gross beta, uranium, tritium, radium 226+228, and all other radionuclides;~~

~~— (4) An estimate of the volume of fluid lost during well failure.~~

~~— (5) If available, groundwater quality data for the protected water closest to the well failure.~~

~~**(e) The operator shall not resume operation of a well that has been shut-in under subdivision (d) without first obtaining approval from the Division.**~~

~~**(f)** Groundwater quality data submitted to the Regional Water Boards under ~~subsection subdivision (d)~~ shall be in an electronic format that follows the guidelines detailed in California Code of Regulations, title 23, chapter 30.~~

~~**(g)** If the surface casing annulus is not open to atmospheric pressure, then the surface casing pressures shall be monitored with a gauge and pressure relief device. The maximum set pressure on the relief device shall be the lowest of the following and well stimulation treatment shall be terminated if pressures in excess of the maximum set pressure are observed in the surface casing annulus:~~

~~(1) A pressure equal to: 0.70 times 0.433 times the true vertical depth of the surface casing shoe (expressed in feet);~~

~~(2) 70% of the API rated minimum internal yield for the surface casing; or~~

(3) A pressure change that is 20% or greater than the calculated pressure increase due to pressure and/or temperature expansion.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1785.1. Monitoring and Evaluation of Seismic Activity in the Vicinity of Hydraulic Fracturing.

(a) From commencement of hydraulic fracturing until 10 days after the end of hydraulic fracturing, the operator shall monitor the California Integrated Seismic Network for indication of an earthquake of magnitude ~~2.7~~ **2.0** or greater occurring within a radius of five times the ~~ADSA-anticipated fracture length from each point of fracture~~.

(b) If an earthquake of magnitude ~~2.7~~ **2.0** or greater is identified under subdivision (a), then the following requirements shall apply:

(1) The operator shall immediately notify the ~~Division~~ **division** and inform the division when the earthquake occurred relative to the hydraulic fracturing operations.

(2) The ~~Division~~ **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 earthquake;

(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~~ **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.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1786. Storage and Handling of Well Stimulation Treatment Fluids and Wastes.

(a) Operators shall adhere to the following requirements for the storage and handling of well stimulation treatment fluid, additives, and produced water from a well that has had a well stimulation treatment:

(1) Fluids shall be stored in compliance with the secondary containment requirements of Section 1773.1, except that secondary containment is not required under this section

for portable or temporary production facilities that are in one location for less than 30 days. The operator's Spill Contingency Plan shall account for all production facilities outside of secondary containment and include specific steps to be taken and equipment available to address a spill outside of secondary containment.

(2) Operators shall be in compliance with all applicable testing, inspection, and maintenance requirements for production facilities containing well stimulation treatment fluids.

(3) Fluids shall be accounted for in the operator's Spill Contingency Plan.

(4) Fluids shall be stored in containers and shall not be stored in sumps or pits.

(5) In the event of an unauthorized release, the operator shall immediately implement the Spill Contingency Plan; notify the Regional Water Board and any other appropriate response entities for the location and the type of fluids involved, as required by all applicable federal, state, and local laws and regulations; and shall perform clean up and remediation of the area, and dispose of any cleanup or remediation waste, as required by all applicable federal, state, and local laws and regulations.

(6) Within 5 days of the occurrence of an unauthorized release, the operator shall provide the Division a written report that includes:

(A) A description of the activities leading up to the release;

(B) The type and volumes of fluid released;

(C) The cause(s) of release;

(D) Action taken to stop, control, and respond to the release; and

(E) Steps taken and any changes in operational procedures implemented by the operator to prevent future releases.

(7) Operators shall ~~be~~ conduct all activities that relate to storage and management of fluids in compliance with all applicable requirements of the Regional Water Board, the Department of Toxic Substances Control, the Air Resources Board, ~~and the Air Quality Management District or Air Pollution Control District, the Certified Unified Program Agency, and any other state or local agencies~~ with jurisdiction over the location of the well stimulation activities.

~~(8) If fluids will be transported offsite and not injected into a well regulated by the Division under Sections 1724.6 through 1724.10, then the fluids shall be evaluated to determine if they are hazardous waste, as defined by Department of Toxic Substances Control in its regulations. An operator who generates a waste, as defined in Health and Safety Code section 25124 and California Code of Regulations, title 22, section 66261.2, in the course of conducting well stimulation activities, including but not limited to well stimulation treatment fluid, additives, produced water from a well, solids separated from well stimulation treatment fluid, remediation wastes, or any other wastes generated from the processing, treatment or management of these wastes, shall~~

determine if the waste is a hazardous waste by sampling and testing the waste according to the methods set forth in California Code of Regulations, title 22, division 4.5, chapter 11, article 3 (section 66261.20 et seq.), or according to an equivalent method approved by the Department of Toxic Substances Control pursuant to California Code of Regulations, title 22, section 66260.21, except where the operator has determined that the waste is excluded from regulation under California Code of Regulations, title 22, section 66261.4 or Health and Safety Code section 25143.2. Notwithstanding any other section in this article, wastes that are determined by the operator to be hazardous wastes shall be managed in compliance with all hazardous waste management requirements of the Department of Toxic Substances Control.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1787. Well Monitoring After Well Stimulation Treatment.

(a) Operators shall monitor each ~~producing~~ well that has had a well stimulation treatment as specified in subdivision ~~(d)(b)~~ to identify any indication of a well breach potential problems with a well that could endanger any underground source of protected water or hydrocarbon zone. If there is any indication of a well failure, the operator shall immediately notify the Division and the Regional Water Board and perform diagnostic testing on the well to determine whether a well failure has actually occurred. If monitoring ~~the testing~~ indicates that a well failure breach **may have has** occurred, then the operator shall **perform diagnostic testing on the well to determine whether a breach has occurred. Diagnostic testing shall be done as soon as is reasonably practical. The Division shall be notified when diagnostic testing is being done so that Division staff may witness the testing. All diagnostic testing results shall be immediately provided to the Division.**

(b) If diagnostic testing reveals that a breach has occurred, then the operator shall immediately shut-in the well, isolate the perforated interval, and notify the Division and the Regional Water Board with all of the following information:

- (1) A description of the activities leading up to the well breach.
- (2) Depth interval of the well breach and methods used to determine the depth interval.
- (3) An exact description of the chemical constituents the fluid that is most representative of the fluid composition in the well at the time of the well breach. ~~immediately take all appropriate measures to prevent contamination of all underground sources of protected water, hydrocarbon zones, and all surface~~

~~waters in the area of the well and shall provide the Division and the Regional Water Board with the information described in section 1785(d).~~

(c) The operator shall not resume operation of a well that has been shut-in under subdivision (b) without first obtaining approval from the Division.

(d) Operators shall adhere to the following requirements for a well that has had a well stimulation treatment:

(1) The production pressure of the well shall be monitored at least once every two days for the first thirty days after the well stimulation treatment and on a monthly basis thereafter. Information regarding production pressures shall be reported to the Division on a monthly basis.

~~(2) The well shall be monitored at least once every two days for the first thirty days after the well stimulation treatment and on a monthly basis thereafter to determine the amount of gas, oil, and water produced, including the volume of readily identifiable well stimulation treatment fluid flowback. The operator shall report the information to the Division on a monthly basis for 5 years or until there has been a 95% reduction in well stimulation treatment fluid contained in the produced fluid, whichever comes first.~~

(23) The annular pressures of the well shall be reported to the Division annually, unless it has been demonstrated to the Division's satisfaction that there are no voids in the annular space. It shall be immediately reported to the Division if annular pressure exceeds 70% of the API rated minimum internal yield or collapse strength of casing, or if surface casing pressures exceed a pressure equal to: 0.70 times 0.433 times the true vertical depth of the surface casing shoe (expressed in feet).

(34) The annular valve shall be kept accessible from the surface or left open and plumbed to the surface with a working pressure gauge unless it has been demonstrated to the Division's satisfaction that there are no voids in the annular space.

(45) A properly functioning pressure relief device shall be installed on the annulus between the surface casing and the production casing, or, if intermediate casing is set, on the annuli between the surface casing and the intermediate casing and the production casing. This requirement may be waived by the Division, if the operator demonstrates to the Division's satisfaction that the installation of a pressure relief device is unnecessary based on technical analysis and/or operating experience in the area.

(56) If a pressure relief device is installed, then all pressure releases from the device shall be **immediately** reported to the Division ~~within 24 hours of detection~~. The maximum set pressure of a surface casing pressure relief device shall be the lowest of the following:

(A) A pressure equal to: 0.70 times 0.433 times the true vertical depth of the surface casing shoe (expressed in feet);

(B) 70% of the API rated minimum internal yield for the surface casing; or

(C) A pressure change that is 20% or greater than the calculated pressure increase due to pressure and/or temperature expansion

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106 and 3160, Public Resources Code.

1788. Required Public Disclosures.

(a) Except as provided in subdivision (c), within 60 days after the cessation of a well stimulation treatment, the operator shall publicly disclose ~~post to the Chemical Disclosure Registry~~ all of the following information:

- (1) Operator's name;
- (2) API number assigned to the well by the Division;
- (3) Lease name and number of the well;
- (4) Location of the well, submitted as a six-digit decimal degrees, non-projected, Latitude **and** Longitude, in the ~~Geographic General~~ Coordinate System (GCS) NAD83.
- (5) County in which the well is located;
- (6) Date that the well stimulation treatment occurred;
- (7) The measured and true vertical depth of the well;
- (8) ~~Name~~ Formation name and vertical depth of the top and bottom of the productive horizon where well stimulation treatment occurred;
- (9) The trade name, supplier, concentration, and a brief description of the intended purpose of each additive contained in the well stimulation fluids used;
- (10) The total volume of base fluid used during the well stimulation treatment;
- (11) Identification of whether the base fluid is water suitable for irrigation or domestic purposes, water not suitable for irrigation or domestic purposes, or a fluid other than water;
- (12) The source, volume, and specific composition and disposition of all water associated with the well stimulation treatment, including all of the following:
 - (A) The source of the water used as a base fluid for the well stimulation treatment, including **any of the following:**
 - (i) The well or wells, if commingled, from which the water was produced or extracted;**
 - (ii) The water supplier, if purchased from a supplier;**
 - (iii) The point of diversion of surface water;**
 - ~~how the water was acquired, where the water was acquired, and, if the water was purchased, from whom the water was purchased;~~
- (B) Composition of water used as base fluid, including all of the following: total dissolved solids; metals listed in California Code of Regulations, title 22, section

66261.24, subdivision (a)(2)(A); benzene, toluene, ethyl benzene, and xylenes; major and minor cations (including sodium, potassium, magnesium, and calcium); major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide); and trace elements (including lithium, strontium, and boron);

____ (C) Specific disposition of water recovered from the well following the well stimulation treatment, including method and location of disposal and, if the recovered water is injected into an injection well, identification of the operator, field, and project number of the injection project;

____ (D) Composition of water recovered from the well following the well stimulation treatment, sampled after a calculated wellbore volume has been produced back but before three calculated wellbore volumes have been produced back, and then sampled a second time **after 30 days of production** after the first sample is taken, with both samples taken prior to being placed in a storage tank or being aggregated with fluid from other wells;

____ (E) Composition of water recovered from the well following the well stimulation treatment shall be determined by testing the samples taken under paragraph (D) for all of the following: **appropriate indicator compound(s) for the well stimulation treatment fluid**; total dissolved solids; metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A); benzene, toluene, ethyl benzene, and xylenes; major and minor cations (including sodium, potassium, magnesium, and calcium); major and minor anions (including nitrate, chloride, sulfate, alkalinity, and bromide); and trace elements (including lithium, strontium, and boron); **radium-226, gross alpha-beta, radon 222, fluoride, iron (redox), manganese (redox), H2S (redox), nitrate+nitrite (redox), strontium, thallium, mercury, and methane;**

____ (F) All testing results shall have a cover page briefly describing when and where sampling was done and the results of the testing;

____ (G) Sampling and testing conducted under subdivision (a)(12) is separate from and in addition to any sampling or testing that may be required to make hazardous waste determinations under the requirements of the Department of Toxic Substances Control; ~~but not limited to, water used as base fluid and water recovered from the well following the well stimulation treatment that is not otherwise reported as produced water pursuant to 3227;~~

____ (13) Identification of any reuse of treated or untreated water for well stimulation treatments and well stimulation treatment-related activities;

____ (14) The specific composition and disposition of all well stimulation treatment fluids, including waste fluids, other than water;

____ (15) Any radiological components or tracers injected into the well as part of the well stimulation treatment, a description of the recovery method, if any, for those

components or tracers, the recovery rate, and specific disposal information for recovered components or tracers;

(16) The radioactivity of the recovered well stimulation fluids, and a brief description of the equipment and method used to determine the radioactivity;

(17) ~~The~~ For each stage of the well stimulation treatment, the measured and true vertical depth of the location of the portion of the well subject to the well stimulation treatment and the extent of the fracturing or other modification, if any, surrounding the well induced by the treatment.

(18) The estimated volume of well stimulation treatment fluid that has been recovered; and

(19) A complete list of the names, Chemical Abstract Service numbers, and maximum concentration, in percent by mass, of each and every chemical constituent of the well stimulation treatment fluids used. If a Chemical Abstract Service number does not exist for a chemical constituent, the operator may provide another unique identifier, if available.

(b) For hydraulic fracturing well stimulation treatments, the operator shall post the information listed in subdivision (a) to the Chemical Disclosure Registry, to the extent that the website is able to receive the information. ~~In addition~~ **For all well stimulation treatments**, the operator shall provide all of the information listed in subdivision (a) directly to the Division on the Well Stimulation Treatment Disclosure Reporting Form. The Well Stimulation Treatment Disclosure Reporting Form is available on the Division's public internet website at <ftp://ftp.consrv.ca.gov/pub/oil/forms/Oil%26Gas/OG110S.XLSX>. The Well Stimulation Treatment Disclosure Reporting Form shall be submitted to the Division in an electronic format, directed to the email address "DisclosureWST@conservation.ca.gov". The Division will ~~consolidate~~ **organize** the information provided on Well Stimulation Treatment Disclosure Forms **in a format, such as a spreadsheet, that allows the public to easily search and aggregate, to the extent practicable, each type of information disclosed,** ~~and the Division will make the consolidated information available in an organized electronic format on the Division's public internet website.~~ If the Chemical Disclosure Registry is unable to receive information required to be reported under this section, then the operator shall provide the information directly to the Division.

(c) Except for the information specified in subdivision (a) ~~items (1) through (6) of subsection (a)~~, operators are not required to publicly disclose ~~post~~ information to the Chemical Disclosure Registry if the information is found in a well record that the Division has determined is not public record, pursuant to Public Resources Code section 3234. If information listed in ~~subsection~~ subdivision (a) is not publicly disclosed ~~posted to the~~

~~Chemical Disclosure Registry~~ on this basis, then the operator shall inform the Division in writing, ~~specifying and provide the Division~~ the information that is not being publicly disclosed. **The Division will provide the information that is not publicly disclosed to other state agencies as needed for regulatory purposes and in accordance with a written agreement with the other state agency regarding sharing of confidential information.** It is the operator's responsibility to publicly disclose the withheld information in the manner described in subdivision (b) ~~post the information to the Chemical Disclosure Registry~~ as soon as the information becomes public record under Public Resources Code section 3234.

(d) A claim of trade secret protection for the information required to be disclosed under this section shall be handled in the manner specified under Public Resources Code section 3160, subdivision (j).

(e) Groundwater quality data reported under this section shall also be submitted to the Regional Water Board in an electronic format that follows the guidelines detailed in California Code of Regulations, title 23, chapter 30.

(f) If for any reason information specified in subdivision (a) cannot be collected within 60 days after the cessation of a well stimulation treatment, then the information shall still be publicly disclosed as soon as possible in the manner described in subdivision (b).

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, 3160 and 3234, Public Resources Code.

1789. Post-Well Stimulation Treatment Report.

(a) Within 60 days after the cessation of a well stimulation treatment, the operator shall submit a report to the Division describing:

~~(1) The results of the well stimulation treatment;~~

~~(12) The pressures recorded during monitoring required under Section 1785(a) encountered during the well stimulation treatment; and~~

~~(23) The pressures recorded during the first 30 days of production pressure monitoring under Section 1787(d)(1);~~

~~(3) The date and time that each stage of the well stimulation treatment was performed;~~

~~(4) How the actual well stimulation treatment differs from what was anticipated in the well stimulation treatment design that was prepared under Section 1784(a)(5) 1784(b); and~~

~~(53) How the actual location of the well stimulation treatment differs from what was indicated in the permit application under Section 1783.1(a)(15)(12); and~~

(64) A description of hazardous wastes generated during the well stimulation activities and their disposition, including copies of all hazardous waste manifests used to transport the hazardous wastes offsite to an authorized facility.

~~(b) If data maintained by the U.S. Geological Survey indicate that, since the commencement of well stimulation treatment, an earthquake of magnitude 2.0 or greater has occurred in the area of the well stimulation treatment radius analysis required under Section 1784(a)(4), then the occurrence of that earthquake shall be noted in the report prepared under subsection (a).~~

(b) If information found in a report submitted under this section is found in a well record that the Division has determined is not public record, pursuant to Public Resources Code section 3234, then the Division will provide the information to other state agencies as needed for regulatory purposes and in accordance with a written agreement with the other state agency regarding sharing of confidential information.

NOTE: Authority cited: Sections 3013 and 3160, Public Resources Code. Reference: Sections 3106, **3160 and 3215** ~~and 3160~~, Public Resources Code.