

REQUIREMENTS FOR IDLE WELL TESTING AND MANAGEMENT

FIRST REVISED TEXT OF PROPOSED REGULATIONS

Text added in the originally proposed regulations is shown in underline.

Text deleted in the originally proposed regulations is shown in ~~striketrough~~.

Text added in the first revised proposed regulations is shown in double underline.

Text deleted in the first revised proposed regulations is shown in ~~double striketrough~~.

Changes to existing regulations resulting from a separate rulemaking action, effective October 1, 2018, are shown in *italics*.

CALIFORNIA CODE OF REGULATIONS, TITLE 14 DIVISION 2. DEPARTMENT OF CONSERVATION CHAPTER 4. DEVELOPMENT, REGULATION, AND CONSERVATION OF OIL AND GAS RESOURCES

Subchapter 1. Onshore Well Regulation

Article 3. Requirements

1723.9. Testing of Idle Wells

~~Any well that has not produced oil or natural gas or been used for fluid injection for a continuous six-month period during any consecutive five-year period, prior to after the adoption of this regulation, must have either the fluid level determined using acoustical, mechanical, or other reliable methods, or other diagnostic tests as approved by the Supervisor. Additional well tests or remedial operations may be required if the fluid level is located above or adjacent to freshwater or freshwater or potential drinking water~~

~~zones, or as specified by the appropriate Division district deputy. Subsequent testing periods shall be based on the fluid level in the well, the well's location in relation to freshwater zones, mitigation measures taken by the operator to prevent fluid migration, or other factors determined by the appropriate Division district deputy, upon a showing of good cause. The appropriate district office shall be notified before tests are made, as a Division inspector may witness the operations. Operators shall comply with all of the requirements in Section 1772.1 for the testing of idle wells.~~

Note: Authority cited: Section 3013, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

Subchapter 2. Environmental Protection

Article 1. General

1752. Wells Partially Plugged

~~(a) Operators shall obtain written approval from the Division prior to partially plugging a well, in accordance with Public Resources Code section 3203.~~

~~(b) When partially plugging a well, the The operator shall adhere to the following all requirements for plugging and abandonment of a well except for Sections 1723.5, 1723.6, 1723.7(g) and (h), 1745.5, 1745.8, and 1745.9. requirements when partially plugging a well:~~

~~—(1) Proper hole fluids shall be placed in the well consistent with Section 1723(b);~~

~~—(2) All oil, gas and disposal zones shall be isolated with cement in accordance with the requirements of Section 1723.1;~~

~~—(3) All USDWs and freshwaters shall be isolated with cement in accordance with Section 1723.2; and~~

~~—(4) All USDWs shall be isolated with cement.~~

~~(c) The operator of a well that has been partially plugged shall conduct a pressure test of the casing of the well to the approved effective depth within 60 months of the effective date of this section or when by April 1, 2024, or by the date the partially plugged well becomes a long-term idle well, whichever is later, and at least once every~~

~~60 months thereafter. If an operator has a long-term idle well that, as of April 1, 2019, has been partially plugged for more than 60 months on the effective date of this section, then the operator shall conduct a pressure test of the casing within 12 months of the effective date of this section by April 1, 2020. After the initial pressure test required under this section, the operator shall conduct a pressure test of the casing of a partially plugged well at least once every 60 months.~~

~~(d) Pressure testing required under this section shall be conducted at a pressure of at least 200 psi above surface pressure and in accordance with the parameters specified in Section 1772.1.1.~~

~~(e) Idle wells that are partially plugged and tested in accordance with the requirements of this section are not subject to the testing requirements under Section 1772.1 or the engineering analysis requirements under Section 1772.1.2.~~

NOTE: Authority cited: Section 3013, Public Resources Code. Reference: Section 3106 and 3206.1, Public Resources Code.

Article 2. Definitions

1760. Definitions

The following definitions are applicable to this subchapter:

(a) *“Active gas pipeline” means an in-service pipeline that carries gas in gaseous or vapor phase and may contain fractional amounts of liquids, solids, and other non-hydrocarbon gases.*

~~(a)~~(b) *“Alteration” of a production facility means any action that changes by more than ten percent the total processing capacity, or storage volume of the production facilities within a given secondary containment. “Alteration” does not include activities such as maintenance, replacement, or minor modification of production facilities, or installation of temporary production facilities.*

~~(b)~~(c) *“Catch basin” means a dry sump that is constructed to protect against unplanned overflow conditions.*

~~(c)~~(d) *“Decommission” means to safely dismantle and remove a production facility and to restore the site where it was located in accordance with Sections 1775 and 1776(f).*

~~(d)~~(e) “Designated waterways” means any named perennial or ephemeral waterways or any perennial waterways shown as solid blue lines on United States Geological Survey topographic maps and any ephemeral waterways that the Supervisor determines to have a direct impact on perennial waterways.

~~(e)~~(f) “Environmentally sensitive” means any of the following:

(1) A production facility within 300 feet of any public recreational area, or a building intended for human occupancy that is not necessary to the operation of the production operation, such as residences, schools, hospitals, and businesses.

(2) A production facility within 200 feet of any officially recognized wildlife preserve or environmentally sensitive habitat that is designated on a United States Geological Survey topographical map, designated waterways, or other surface waters such as lakes, reservoirs, rivers, canals, creeks, or other water bodies that contain water throughout the year.

(3) A production facility within the coastal zone as defined in Section 30103(b) of the Public Resources Code.

(4) Any production facility which the Supervisor determines may be a significant potential threat to life, health, property, or natural resources in the event of a leak, or that has a history of chronic leaks.

~~(f)~~(g) “Field” means the general surface area that is underlain or reasonably appears to be underlain by an underground accumulation of crude oil or natural gas, or both. The surface area is delineated by the administrative boundaries shown on maps maintained by the Supervisor.

~~(g)~~(h) “Flowline” or “injection line” mean any pipeline that connects a well with a gathering line or header.

(i) “Fluid” means liquid or gas.

(j) “Freshwater” means water that contains 3,000 mg/L TDS or less.

~~(j)~~(k) “Gas” means any natural hydrocarbon gas coming from the earth.

~~(h)~~~~(k)~~(l) “Gathering line” means a pipeline (independent of size) that transports liquid hydrocarbons between any of the following: multiple wells, a testing facility, a treating and production facility, a storage facility, or a custody transfer facility.

~~(j)~~~~(l)~~(m) “Header” means a chamber from which fluid is distributed to or from smaller pipelines.

~~(i)(n)~~ “Idle well” means any well that for a period of 24 consecutive months has not either produced oil or natural gas, produced water to be used in production stimulation, or been used for enhanced oil recovery, reservoir pressure management, or injection. For the purpose of determining whether a well is an idle well, production or injection is subject to verification by the Division. An idle well continues to be an idle well until it has been properly abandoned in accordance with Section 3208 or it has been shown to the Division's satisfaction that, since the well became an idle well, the well has for a continuous six-month period either maintained production of oil or natural gas, maintained production of water used in production stimulation, or been used for enhanced oil recovery, reservoir pressure management, or injection. An idle well does not include an active observation well.

~~(k)(o)~~ “Long-term idle well” means any well that has been an idle well for eight or more years.

(p) “Low-priority idle well” means an idle well for which it has been demonstrated to the Division’s satisfaction that the well:

(1) Does not penetrate a USDW;

(2) Does not indicate any pressure at the surface and is not open to the atmosphere;

(3) Is not in an area of known geologic hazards, such as subsidence, landslides, or a history of damage to wells in the area from seismicity; and

(4) Is not a critical well, is not in an urban area, and does not have an environmentally sensitive wellhead.

~~(j)(m)(l)(q)~~ “Pipeline” means a tube, usually cylindrical, with a cross sectional area greater than 0.8 square inches (1 inch nominal diameter), through which crude oil, liquid hydrocarbons, combustible gases, and/or produced water flows from one point to another within the administrative boundaries of an oil or gas field. Pipelines under the State Fire Marshall jurisdiction, as specified by the Elder Pipeline Safety Act of 1981 (commencing with § 51010 of the Government Code, and the regulations promulgated thereunder) are exempt from this definition.

~~(k)(n)(m)(r)~~ “Production facility” means any equipment attendant to oil and gas production or injection operations including, but not limited to, tanks, flowlines, headers, gathering lines, wellheads, heater treaters, pumps, valves, compressors, injection equipment, production safety systems, separators, manifolds, and pipelines that are not

under the jurisdiction of the State Fire Marshal pursuant to Section 51010 of the Government Code, excluding fire suppression equipment.

~~(l)(e)(n)(s)~~ “Out-of-Service” means any production facility that become incapable of containing fluid safely or cannot be shown to operate as designed.

~~(m)(p)(e)(t)~~ “In-Service” means any production facility that is capable of containing fluid safely and can be shown to operate as designed.

~~(n)(e)(e)(u)~~ “Secondary containment” means an engineered impoundment, such as a catch basin, which can include natural topographical features, that is designed to capture fluid released from a production facility.

~~(r)(v)~~ “Sensitive area” means any of the following:

(1) *An area containing a building intended for human occupancy, such as a residence, school, hospital, or business that is located within 300 feet of an active gas pipeline and that is not necessary to the operation of the pipeline.*

(2) *An area determined by the supervisor to present a significant potential threat to life, health, property, or natural resources in the event of a leak from an active gas pipeline.*

(3) *An area determined by the supervisor to have an active gas pipeline that has a history of chronic leaks.*

~~(e)(e)(e)(w)~~ “Sump” means an open pit or excavation serving as a receptacle for collecting and/or storing fluids such as mud, hydrocarbons, or waste waters attendant to oil or gas field drilling or producing operations.

(1) “Drilling sump” means a sump used in conjunction with well drilling operations.

(2) “Evaporation sump” means a sump containing fresh or saline water which can properly be used to store such waters for evaporation.

(3) “Operations sump” means a sump used in conjunction with an abandonment or rework operation.

(x) “Underground source of drinking water” or “USDW” means an aquifer or its portion which has not been approved by the United States Environmental Protection Agency as an exempted aquifer pursuant to the Code of Federal Regulations, title 40, section 144.7, and which:

(1) Supplies a public water system, as defined in Health and Safety Code section 116275; or

(2) Contains a sufficient quantity of groundwater to supply a public water system, as defined in Health and Safety Code section 116275; and

(A) Currently supplies drinking water for human consumption; or

(B) Contains fewer than 10,000 mg/L TDS.

~~(p)(t)(r)(y)~~ “Urban area” means a cohesive area of at least twenty-five business establishments, residences, or combination thereof, the perimeter of which is 300 feet beyond the outer limits of the outermost structures.

~~(s) “Underground source of drinking water” or “USDW” means an aquifer or its portion which has not been approved by the United States Environmental Protection Agency as an exempted aquifer pursuant to the Code of Federal Regulations, title 40, section 144.7, and which:~~

~~—(1) Supplies a public water system, as defined in Health and Safety Code section 116275; or~~

~~—(2) Contains a sufficient quantity of groundwater to supply a public water system, as defined in Health and Safety Code section 116275; and~~

~~—(A) Currently supplies drinking water for human consumption; or~~

~~—(B) Contains fewer than 10,000 mg/L TDS.~~

~~(q)(u)(t)(z)~~ “Urban pipeline” means that portion of any pipeline within an urban area as defined in this section.

~~(r)(v)(u)(aa)~~ “Waste water” means produced water that after being separated from the produced oil may be of such quality that discharge requirements need to be set by a California Regional Water Quality Control Board.

NOTE: Authority cited: Sections 3013, 3270 and 3782, Public Resources Code.

Reference: Sections 3008, 3010, 3106, 3270 and 3782, Public Resources Code.

1772. Idle Well Inventory and Evaluation

(a) Operators shall submit an Idle Well Inventory and Evaluation to the Division that provides all of the following information for each of the operator’s idle wells:

(1) API number and name of the idle well;

(24) ~~The date that~~ Date the well was completed/spudded;

~~(32)~~ Identification of any surface obstacles or impediments on the surface preventing access to an idle well, including but not limited to buildings or structures, surface-use activities, irrigation systems, roads, terrain, or restricted access;

~~(43) The history of~~ Results of the most recent mechanical integrity testing for the idle well ~~with any failed pressure tests clearly flagged~~, including the type of test, the date of the test, the results of the test, and a description of any remediation of the well subsequent to the test;

(5) Whether the idle well penetrates freshwater;

(64) Whether it has been demonstrated to the Division that the idle well does not penetrate a USDW;

~~(5) Whether the idle well indicates any pressure at the surface;~~

(7) Identification of the current tubing and casing pressures for the idle well, or indication that the well is open to the atmosphere;

(86) Whether the idle well is a critical well, is in an urban area, or has an environmentally sensitive wellhead;

~~(7) Whether the idle well is in an area that is prone to subsidence or landslides;~~

(9) Whether the idle well is located in an area of known geologic hazard, such as subsidence, landslides, or a history of damage to wells in the area from seismicity;

(108) Indication of known downhole issues with the idle well that would make it difficult to either reactivate the well or plug and abandon the well, such as known holes in casing, collapsed casing, stuck rods, packer, or fish; and

(119) Whether the idle well is partially plugged in accordance with Section 1752.

(b) Operators shall submit their Idle Well Inventory and Evaluation to the Division in a digital format ~~within one year of the effective date of this section~~ by January 31, 2021, or ~~within one year of~~ after becoming the operator of an idle well, whichever comes later.

The Division may allow additional time for submittal of the Idle Well Inventory and Evaluation on a case-by-case basis based on the operator's total number of idle wells and particular obstacles the operator faces in compiling the information. Unless requested by the Division, information that has previously been submitted to the Division is not required to be resubmitted. After initial submission, operators shall update their Idle Well Inventory and Evaluation annually and submit it to the Division by January 31 of each year.

~~(c) Operators implementing an Idle Well Management Plan filed under Public Resources Code section 3206, subdivision (a)(2), should prioritize wells according to the factors in subdivision (a), as well as any other factors that may present a risk to public health or safety or to the environment.~~

NOTE: Authority cited: Section 3013 and 3206.1, Public Resources Code. Reference: Sections 3106, 3206 and 3206.1, Public Resources Code.

1772.1. Testing of Idle Wells

(a) Operators shall test each of their idle wells as follows:

(1) Within 24 months of a well becoming an idle well, the operator shall conduct a fluid-level test for all idle wells using acoustical, mechanical, or other reliable methods, or other diagnostic tests approved by the Supervisor to determine whether the fluid is above the base of a ~~known~~ USDW. The operator shall repeat testing at least once every 24 months for as long as the well is an idle well, unless the operator demonstrates to the Division's satisfaction that the wellbore is outside of one-half mile of ~~does not penetrate a USDW, in which case fluid-level testing under this section is not required the operator shall repeat the test once every 60 months for as long as the well is an idle well.~~ If the operator has not demonstrated the location of the base of the USDW, then it shall be presumed that the fluid is above the base of a USDW. After April 1, 2025, the operator shall conduct testing as described in subdivision (a)(2) within 90 days of the first time that a fluid-level test indicates that the fluid level in the well is, or is presumed to be, above the base of a USDW. A well that became an idle well on or before April 1, 2019, is not required to have a fluid-level test under this section until April 1, 2021.

(2) Within 24 months of a well becoming an idle well, ~~or within 90 days of the first time that a fluid level test indicates that the fluid level in the well is above a USDW, whichever is sooner,~~ the operator shall conduct a casing pressure test from the surface to ~~500 feet below the base of the USDW, or at least~~ to a depth that is 100 feet from measured depth above the uppermost perforation, ~~or immediately above the casing shoe of the deepest cement casing, or immediately above the top of the landed liner, whichever is highest.~~ If the top of the landed liner is 100 feet or more above the cement

casing shoe, then the pressure test shall be to a depth specified by the Division on a case-by-case basis. The pressure test shall be conducted at a pressure of at least 200 psi above surface pressure and in accordance with the parameters specified in Section 1772.1.1. If for any reason a well cannot be safely and effectively pressure tested as required, then the well shall be deemed to have failed the pressure test. If a well fails the pressure testing required under this subdivision, then, within a timeframe appropriate to the circumstances and acceptable to the Division, the integrity of the well shall be demonstrated to the Division's satisfaction, either by subsequent testing or by remediation of the well and subsequent testing. Subsequent casing pressure tests shall be conducted as follows: For as long as the well is an idle well, the operator shall conduct subsequent testing of the well as follows:

(A) If the operator conducts the a pressure test at 200 psi above surface pressure, then the operator shall repeat the testing every within 48 months as long as the well is an idle well.

(B) If the operator conducts the a pressure test at 500 psi above surface pressure, then the operator shall repeat the testing every within 72 months as long as the well is an idle well.

(C) If the operator conducts the a pressure test at 1,000 psi above surface pressure, then the operator shall repeat the testing every within 96 months as long as the well is an idle well.

(D) If the operator conducts testing as specified under Section 1772.1.1(b), (c), or (d), then the operator shall repeat testing within 48 months.

~~(D) A casing pressure test conducted according to subdivision (B) or (C) prior to the effective date of this section will be accepted for initial compliance provided that the test was conducted in accordance with the pressure testing parameters in Section 1772.1.1.~~

(3) Within ~~8~~ eight years of a well becoming an idle well, the operator shall perform a clean out tag on the well to ~~verify~~ determine the ability to reach the current Division-permitted approved depth of the well using either open-ended tubing or a gauge ring demonstrated to the Division to be of the minimum diameter of the tubing necessary to properly plug and abandon the well. The operator shall attempt to reach the Division-permitted approved depth, but shall at least reach 25 feet below the uppermost perforation in the lowermost zone not abandoned under Sections 1723 and 1723.1. The operator shall repeat this testing once every 48 months for as long as the well is an

idle well, or at a lesser frequency approved by the Division on a case-by-case basis based on the successful results of previous testing and consideration of the factors described in Section 1772.4. The Division may require more frequent clean outs if known field or geologic conditions indicate risk to the mechanical integrity of the well.

~~(4) If there is any indication that an idle well exhibits a high risk of corrosion or other mechanical integrity issues, including damage caused by subsidence or other factors, then the Division may require the operator to conduct an ultrasonic or magnetic flux survey, or equivalent survey approved by the Division, to measure mechanical integrity. If the survey is performed and the corrosion rate cannot be determined, then the operator shall repeat this survey after 24 months, but within 36 months, to determine the corrosion rate. The Division will determine a future testing schedule based on well condition, corrosion rate, and other identified risks.~~

(b) In addition to any other penalty or remedial requirement imposed by the Division, within 12 months of failing to successfully complete testing under subdivisions (a)(2) or (3), or otherwise failing to comply with a requirement of this section, the operator shall do one of the following:

(1) Bring the well into compliance, to the satisfaction of the Division;

(2) Partially plug and abandon the well in accordance with Section 1752; ~~or~~

(3) Plug and abandon the well in accordance with Public Resources Code section 3208; or

(4) Schedule the well for plugging and abandonment under an approved Idle Well Management Plan or an approved Testing Waiver Plan.

(c) Before conducting any test required under this section, the operator shall give the appropriate district office 24 hours' notice, or a shorter notice acceptable to the district office, so that a Division inspector may witness the testing. All testing shall be documented and copies of test results shall be submitted to the Division in ~~an electronic digital format~~ within ~~30-60~~ days of the date the test is conducted, except that when fluid-level testing indicates that fluid is, or is presumed to be, above the base of a USDW test results shall be submitted within 30 days.

(d) Subject to approval by the Division, the requirements of this section and Section 1772.1.2 do not apply to an idle well if the operator has made a diligent effort to locate and access the well, and the documentation of those efforts demonstrates that ~~the well is inaccessible~~ it is infeasible to physically access the well.

(1) Within one year of the Division approving an operator's demonstration that a well is inaccessible, the operator shall submit a plan for the Division's review and approval to ensure that any hazards posed by the well are identified and addressed so as to prevent damage to life, health, property, and natural resources. The plan shall at a minimum address all of the following:

(A) Ongoing monitoring of the inaccessible well, including by such methods as periodic gas monitoring at the surface, monitoring of other wells in proximity, and, where appropriate, groundwater monitoring;

(B) Response to any indication that the inaccessible well is venting gas discharging reservoir fluids to the surface or otherwise posing a threat;

(C) Planning and commitment to plug and abandon the well in accordance with Public Resource Code section 3208 as soon as possible should it ever become accessible; and

~~(D)~~ Periodic reporting to the Division on the implementation of the plan.

(2) If the Division identifies any deficiencies in the plan submitted by the operator, then the Division will consult with the operator and identify an appropriate timeframe for correcting the deficiency.

(3) It is a violation of this subdivision if the operator fails to submit a plan under subdivision (d)(1) in a timely manner, fails to address deficiencies with the plan in a timely manner, or fails to comply with the plan as approved by the Division. If the operator violates this section then the Division may, in its discretion, discontinue the waiver under this subdivision from compliance with the other requirements of this section and Section 1772.1.2.

~~(e) Idle wells that are partially plugged and tested in accordance with the requirements of Section 1752 are not subject to the testing requirements under this section or the engineering analysis requirements under Section 1772.1.2.~~

(ef) If the operator demonstrates to the Division's satisfaction that no part of the wellbore is not within one-half mile of a USDW, then for purposes of this section the well shall not be deemed an idle well until it has met the definition of "idle well" in Public Resources Code section 3008 for an additional two years.

~~(g) For wells that as of the effective date of this section would be overdue for testing under subdivisions (a)(2) or (a)(3), the operator is not required to complete the testing required under these subdivisions until 48 months after the effective date of this section.~~

~~provided that the operator completes the testing for at least half of these wells within 24 months after the effective date of this section.~~

NOTE: Authority cited: Section 3013, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

1772.1.1. Pressure Testing Parameters

(a) **Pressure Testing.** Pressure testing ~~required under~~ conducted to satisfy the requirements of Sections 1752, 1772.1, or ~~1772.3~~ 1772.5 shall be conducted according to the following parameters:

(1) Pressure testing shall be conducted with a liquid ~~with a viscosity no greater than 3.0 centipoise~~ unless the Division approves pressure testing with gas.

(2) If pressure testing will be conducted with a liquid that contains additives other than brine, corrosion inhibitors, or biocides, then the operator shall consult with the Division regarding the contents of the liquid prior to commencing testing.

~~(32)~~ The wellbore shall be filled with a stable column of fluid that is free of excess gasses.

~~(43)~~ Pressure tests shall be recorded and a calibrated gauge shall be used that can record a pressure with an accuracy within one percent of the test pressure. Pressure shall be recorded at least once per minute during testing. If an analog gauge is used, then the test pressure shall be within the mid-range scale of the gauge. The pressure test results shall be submitted to the Division in digital tabular format within 60 days of the date the test is conducted. The charts or digital recording of the pressures during testing shall be provided to the Division upon request.

(5) Pressure tests shall be conducted at an initial pressure of at least 200 psi above surface pressure.

~~(64) The pressure test shall be continuous for 30 minutes. A pressure test is successful if the pressure gauge does not show more than a ~~5~~ three percent decline in pressure change from the initial test pressure in the first 15 minutes, and does not show more than a 1 percent decline in pressure from the pressure after the first 15 minutes in the last 15 minutes over a continuous 30-minute period, except that if the well is within~~

the area of review for a cyclic steam injection well or a steamflood injection well, then an increase in pressure of as much as 10 percent is a successful test.

~~(7)(b)~~ The Division may modify the testing parameters specified in this subdivision on a case-by-case basis if, in the Division's judgement, the modification is necessary to ensure an effective test of the integrity of the casing.

(b) Inert Gas Depression Testing. The operator may conduct an inert gas depression test to satisfy the pressure testing requirements of Sections 1752, 1772.1, or 1772.5, unless the computed necessary pressure under subdivision (b)(1) is less than 500 psi. An inert gas depression test conducted to satisfy the requirements of Sections 1752, 1772.1, or 1772.5 shall be conducted according to the following parameters:

(1) Based on measurement of the fluid level in the well and an estimation of the specific gravity of the fluid, the operator shall compute the pressure and corresponding volume of gas necessary to displace the fluid level down to a depth that is within 100 feet measured depth above the uppermost perforation, immediately above the casing shoe of the deepest cement casing, or immediately above the top of the landed liner, whichever is highest. If the top of the landed liner is 100 feet or more above the cement casing shoe, then the depth shall be specified by the Division on a case-by-case basis. If the computed necessary pressure is less than 500 psi, then an inert gas depression test shall not be used to satisfy the pressure testing requirements of Sections 1752, 1772.1, or 1772.5.

(2) Inert gas shall be injected into the well in a volume as computed under subdivision (b)(1), and the fluid level shall be measured again to determine if fluid has been displaced to the correct depth. Inert gas shall be added or removed as needed to displace fluid to the correct depth.

(3) The test shall be recorded and a calibrated gauge shall be used that can record a pressure with an accuracy within one percent of the testing pressure, and pressure shall be recorded at least once per minute during testing. If an analog gauge is used, then the test pressure shall be within the mid-range scale of the gauge. The test results shall be submitted to the Division in a digital tabular format within 60 days, along with all fluid-level measurements taken, the estimation of the specific gravity of the fluid in the well, and the computation of pressure necessary to displace fluid to the correct depth. The charts or digital recording of the pressures during testing shall be provided to the Division upon request.

(4) For the test to be successful, the fluid level must be static and the pressure must stabilize at the calculated pressure with a change of no more than one percent over a continuous 60-minute period. A fluid level shall be taken at the end of the test to confirm that the correct depth was maintained.

(5) The Division may modify the testing parameters specified in this subdivision on a case-by-case basis if, in the Division's judgment, the modification is necessary to ensure an effective test of the integrity of the casing.

(c) **Alternate Testing Methods.** An alternate mechanical integrity testing method may be used to satisfy the pressure testing requirements of Sections 1752, 1772.1, or 1772.5 if the alternate testing method has been approved by the Division on a case-by-case basis as being at least as effective as pressure testing to demonstrate the integrity of the well. Examples of alternate testing methods that would be considered on a case-by-case basis are a casing wall thickness inspection to estimate internal and external corrosion, employing such methods as magnetic flux or ultrasonic technologies; or a combination of an ultrasonic imaging tool and a cement evaluation log.

(d) **Passive Testing.** If a well is a low-priority idle well, then the operator may satisfy the pressure testing requirements of Sections 1752, 1772.1, or 1772.5 by conducting a caliper survey, provided the Division has approved the testing protocols as effective for evaluating well integrity.

(e) Before conducting any testing under this section, the operator shall give the appropriate district office 24 hours' notice, or a shorter notice acceptable to the district office, so that Division staff may witness the testing.

NOTE: Authority cited: Section 3013, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

1772.1.2. Engineering Analysis for 15-Year Idle Wells

(a) ~~Within 15 years of a well becoming an idle well~~By the end of the month in which an idle well has been idle for 15 years, the operator shall provide the Division with an engineering analysis demonstrating to the Division's satisfaction that it is viable to return the well to operation in the future. The engineering analysis shall document that the well could be used to access potential oil and gas reserves and that it has mechanical

integrity as demonstrated by pressure testing and a clean out tag as required under Section 1772.1(a)(2) and (a)(3).

(b) The engineering analysis required under subdivision (a) shall include the following information for the purpose of demonstrating the well could be used to access potential ~~to~~ oil and gas reserves:

(1) API number and name of the idle well.

(2) Statement of the potential future use for the idle well.

(3~~4~~) Identification of each reservoir unit that might be accessed and the reservoir characteristics of each of the identified reservoir units, ~~including:~~

~~— (A) Average porosity and permeability;~~

~~— (B) Average gross interval thickness and net pay thickness;~~

~~— (C) Original and residual oil, gas, and water saturations;~~

~~— (D) Estimated original oil and gas in place volumes;~~

~~— (E) Estimated recoverable resources, for injection wells this includes estimated incremental oil production at the producing wells;~~

~~— (F) Areal extent of the reservoir;~~

~~— (G) Oil gravity and viscosity;~~

~~— (H) Specific gravity of gas; and~~

~~— (I) Original and present reservoir temperature and pressure.~~

(4~~2~~) A representative electric log to a depth below the deepest producing zone, identifying all geologic units, formations, USDWs, freshwater aquifers, oil or gas zones, and each reservoir unit to be utilized.

(5~~3~~) Structural contour map drawn on a geologic marker at or near the top of each reservoir unit to be utilized indicating faults, other lateral containment features, and areal extent of the productive zone.

(c) The engineering analysis required under subdivision (a) shall include all data specified in Section 1772.1.3, provided in the form of a graphical casing diagram or flat file data sets.

(d) The Division may require the operator to include additional data in the engineering analysis required under subdivision (a) on a case-by-case basis if the Division deems it necessary for the evaluation of whether it is viable to return the well to operation in the future.

(e) If the operator submits information to the Division under subdivision (b) that is demonstrated to be applicable to multiple wells in the same field subject to the requirements of this section, then the operator may reference the applicable information in subsequent engineering analyses and is not required to submit duplicate information.

(f) All data required under this section shall be submitted to the Division electronically in a digital format. All maps, diagrams, and exhibits shall be clearly labeled, such as to scale and purpose, and shall clearly identify wells, boundaries, zones, contacts, and other relevant data. Unless requested by the Division, information that has already been provided to the Division is not required to be resubmitted.

(g) Where it is infeasible to supply the data specified in subdivisions (b) and (c), the Division may accept alternative data, provided that the alternative data demonstrate to the Division's satisfaction that it is viable to return the well to operation in the future.

(h) If the Division determines upon initial review of an engineering analysis required under subdivision (a) that it is not viable to return the well to operation in the future, then the Division will inform the operator of the basis of that determination and allow the operator at least 30 days to provide additional information to substantiate that the well is viable to return to operation in the future. If the Division determines upon final review of the engineering analysis and any additional information provided by the operator that it is not viable to return a well to operation in the future, then the Division will provide a notice of final determination to the operator. The operator shall either plug and abandon the well in accordance with Public Resources Code section 3208 within 12 months of receiving the notice of final determination, or schedule the well for plugging and abandonment under an approved Idle Well Management Plan or an approved Testing Waiver Plan.

(i) For wells that as of April 1, 2019, have met the definition of an idle well for nine years or more, the operator shall provide the engineering analysis described in this section to the Division by the later of the following:

(A) Within 60 days after the date pressure testing on the idle well is scheduled in the operator's Testing Compliance Work Plan under Section 1772.1.4; or

(B) By the end of the month in which the idle well has been idle for 15 years.

~~(i) For wells that as of the effective date of this section would be overdue for the submission of an engineering analysis, the operator is not required to submit the information required under this section until 48 months after the effective date of this~~

~~section, provided that the operator completes the analysis for at least half of those wells within 24 months after the effective date of this section.~~

NOTE: Authority Cited: Sections 3013, 3106, and 3206.1. Reference: Sections 3106 and 3206.1.

1772.1.3. Casing Diagrams

(a) Casing diagrams submitted under the requirements of Section 1772.1.2, subdivision (c), shall include all of the following data:

- (1) Operator name, lease name, well number, and API number of the well;
- (2) Date the well was spudded;
- ~~(3)~~ Ground elevation from sea level;
- ~~(4)~~ Reference elevation (i.e., rig floor or Kelly bushing);
- ~~(5)~~ Base of freshwater;
- ~~(6)~~ Base of the lowermost USDW penetrated by the well;
- ~~(7)~~ Sizes, grades, connection type, and weights of casing;
- ~~(8)~~ Depths of shoes, stubs, and liner tops;
- ~~(9)~~ Depths of perforations and perforation intervals, open-hole completions, water shutoff holes, cement ports, cavity shots, cuts, type and extent of casing damage, and type and extent of junk or fish left in the well, and any other feature that influences flow in the well or may compromise the mechanical integrity of the well;
- ~~(10)~~ Information regarding associated equipment such as subsurface safety valves, packers, and gas lift mandrels;
- ~~(11)~~ Diameter and depth of hole for all drilled intervals;
- ~~(12)~~ Identification of cement plugs inside casings, including locations of the top and bottom of cement plugs;
- ~~(13)~~ Identification of cement fill behind casings, including locations of the top and bottom of cement fill;
- ~~(14)~~ Type and weight (density) of fluid between cement plugs; and
- ~~(15)~~ Depths and names of the formations, zones, and sand markers penetrated by the well, including the top and bottom of both the injection zone and confining layer(s) for the underground injection project(s), if applicable.

(b) Each casing diagram submitted to the Division shall be accompanied by documentation of the following:

- (1) All steps of cement yield and cement calculations performed;
- (2) 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
- (3) The wellbore path, providing measured depth and both inclination and azimuth measurements.

(c) When multiple boreholes are drilled in a well, all of the information listed in this section is required for both the original hole and for any subsequent redrilled or sidetracked wellbores.

(d) Measured depth and true vertical depth shall be provided for all depths required under subdivision (a).

(e) ~~In lieu of graphical casing diagrams, operators~~ Operators may satisfy the requirements of section 1772.1.2, subdivision (c), by submitting graphical casing diagrams or a flat file data set containing all of the information described in this section.

AUTHORITY:

Note: Authority cited: Sections 3013 and 3106, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

1772.1.4. Idle Well Testing Compliance Work Plan

(a) Notwithstanding the timeframes specified in Section 1772.1(a)(2) and (a)(3), for all wells that are idle wells as of April 1, 2019, the operator shall conduct a pressure test and clean out tag as described under those subdivisions by April 1, 2025, unless the well is plugged and abandoned, partially plugged and abandoned, or scheduled for plugging and abandonment under an approved Idle Well Management Plan or Testing Waiver Plan. By June 1, 2019, the operator shall provide the Division with a Testing Compliance Work Plan that schedules completion of this testing over the six-year period in accordance with the requirements of this section.

(b) The operator's Testing Compliance Work Plan shall schedule a pressure test and a clean out tag, as described under in Section 1772.1(a)(2) and (a)(3), for each well that

is an idle well as of April 1, 2019, but the Testing Compliance Work Plan shall exclude any well scheduled for plugging and abandonment under an approved Idle Well Management Plan or Testing Waiver Plan. The Testing Compliance Work Plan shall include the following required annual benchmarks:

(1) Testing shall be completed on at least 5 percent of all of the wells covered by the Testing Compliance Work Plan by April 1, 2020.

(2) Testing shall be completed on at least 15 percent of all of the wells covered by the Testing Compliance Work Plan by April 1, 2021.

(3) Testing shall be completed on at least 30 percent of all of the wells covered by the Testing Compliance Work Plan by April 1, 2022.

(4) Testing shall be completed on at least 50 percent of all of the wells covered by the Testing Compliance Work Plan by April 1, 2023.

(5) Testing shall be completed on at least 75 percent of all of the wells covered by the Testing Compliance Work Plan by April 1, 2024.

(6) Testing shall be completed on all of the wells covered by the Testing Compliance Work Plan by April 1, 2025.

(7) At least one well shall be scheduled for testing in each year until initial testing is completed on all wells covered by the Testing Compliance Work Plan.

(c) The operator shall prioritize the testing of wells based on the considerations listed in Section 1772.4, and the operator's Testing Compliance Work Plan shall include notes indicating the basis for prioritizing wells. The Division will review the Testing Compliance Work Plan upon submission and periodically after that, and the Division may adjust the order of wells to be tested based on the considerations listed in Section 1772.4.

(d) If, subsequent to submission of the Testing Compliance Work Plan, wells that were idle wells as of April 1, 2019, are transferred from one operator to another or scheduled for plugging and abandonment under an approved Idle Well Management Plan or Testing Waiver Plan, then the operator shall submit a revised Testing Compliance Work Plan to the Division within 90 days.

(e) For purposes of determining whether the operator has complied with the annual benchmarks specified in subdivision (b), proper plugging and abandonment or partial plugging and abandonment of a well amounts to completion of testing. Testing conducted prior to April 1, 2019, will be accepted for compliance with this section.

provided that the test was conducted in accordance with the parameters specified in Sections 1772.1 and 1772.1.1. If a well has been an idle well for less than two years as of April 1, 2019, then completion of the clean out tag is not required until eight years from the date the well became an idle well, and a clean out tag is not required for completion of testing under the Testing Compliance Work Plan.

(f) If the operator does not complete testing on the number of wells required under subdivision (b), then each well that the operator failed to test constitutes a separate violation and is subject to the requirements of Section 1772.1(b).

(g) Once testing is completed for an idle well covered by the Testing Compliance Work Plan, subsequent testing of the idle well shall be conducted in accordance with the timeframes for repeat testing specified in Section 1772.1(a)(2) and (a)(3). Wells that become idle wells after April 1, 2019, shall be tested in accordance with the timeframes specified in Section 1772.1.

NOTE: Authority cited: Sections 3013 and 3106, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

1772.2. Idle Well Testing Waiver ~~Program~~ Plan

(a) A Testing Waiver Plan is a schedule for plugging and abandonment of idle wells that extends up to but not more than eight years into the future. If an idle well is scheduled to be plugged and abandoned as part of a Testing Waiver Plan, ~~the plan that~~ has been approved by the Division, and the operator is in compliance with the plan, then the operator is not required to meet the requirements of Sections 1772.1, 1772.1.1, or 1772.1.2 for that well.

(b) ~~In order to be approved by the Division, a~~ A Testing Waiver Plan is subject to approval by the Division, and shall meet the following requirements:

(1) The plan shall include a list of idle wells to be plugged and abandoned under the plan, and the following information for each of the wells listed:

(A) The API number and name of the well;

(B) The date by which the well is scheduled to be plugged and abandoned; and

~~___ (C) Any known or existing wellbore integrity deficiencies in the well, including an explanation of the deficiency, and when it became known; and a description of any prior attempts to remediate or abandon the wellbore.~~

~~___ (D) Description of any prior attempts to remediate the wellbore.~~

~~___ (2) All idle wells listed in the plan shall be scheduled to be plugged and abandoned in accordance with Public Resources Code section 3208 within 5 years.~~

~~___ (2) In each year of the plan, at least 10 percent of the idle wells covered by the plan shall be scheduled to be plugged and abandoned, and all idle wells covered by the plan shall be scheduled to be plugged and abandoned within eight years.~~

~~___ (3) The operator shall prioritize the plugging and abandonment of wells based on the considerations listed in Section 1772.4, and the operator's Testing Waiver Plan shall include notes indicating the basis for prioritizing wells. In the course of reviewing a Testing Waiver Plan for approval or during subsequent review, the Division may adjust the order of wells to be plugged and abandoned based on the considerations listed in Section 1772.4.~~

~~___ (c) — (3) Subject to Division review and approval, the operator may request to modify the idle wells listed in an approved Testing Waiver Plan. A request to modify the list of idle wells shall be supported by justification for the change, information required under subdivision (b)(1) for any idle wells added to the list, and a work plan for expeditiously bringing any wells removed from the list into compliance with the requirements of Sections 1772.1, 1772.1.1, and 1772.1.2. After each year of adherence to a Testing Waiver Plan, the operator may add additional wells to an additional year of the plan, provided that the addition complies with the requirements of subdivision (b).~~

~~___ (c) The plan shall not schedule plug and abandonment of more than 5 percent of the operator's total idle wells in any one calendar year. The Division may approve inclusion of additional wells based on the operator's small total number of idle wells or a satisfactory demonstration that the operator will allocate necessary resources to plug and abandon the additional wells. This section does not restrict the number of wells that an operator may plug and abandon in a calendar year, but the exemptions under subdivision (a) do not apply to wells that are not scheduled for plug and abandonment under a Testing Waiver Plan approved by the Division.~~

~~___ (d) When prioritizing the plugging and abandonment of wells under the Testing Waiver Plan, the operator shall consider the evaluation conducted under Section 1772, as well~~

~~as any other factors that may indicate that an idle well presents a risk to public health or safety or to the environment.~~

~~(de) If an operator fails to complete plugging and abandonment of any well according to the schedule approved by the Division, then the Division may cancel the Testing Waiver Plan. If the Division cancels the Testing Waiver Plan, then the exemptions under subdivision (a) no longer apply for any of the wells listed in the plan and the operator shall conduct the testing and analysis required under Sections 1772.1, 1772.1.1, and 1772.1.2 for each of the listed wells within 90 days. If the Division has canceled a Testing Waiver Plan, then the operator shall not submit another plan for at least 5 years, unless the operator first obtains the approval of the Division will not consider a new Testing Waiver Plan for approval unless the operator is in compliance with all of the requirements of Sections 1772.1, 1772.1.1, and 1772.1.2.~~

~~(e) For the purposes of this section, “plugging and abandonment” means plugging and abandonment in accordance with Public Resources Code section 3208 or partial plugging and abandonment in accordance with Section 1752.~~

NOTE: Authority cited: Sections 3013 and 3106, Public Resources Code. Reference: Sections 3106 and 3206.1, Public Resources Code.

1772.3. Idle Well Management Plan

(a) If an idle well is scheduled to be plugged and abandoned as part of an Idle Well Management Plan approved by the Division under Public Resources Code section 3206, subdivision (a)(2), and the operator is in compliance with the plan, then the operator is not required to meet the requirements of Sections 1772.1, 1772.1.1, or 1772.1.2 for that well.

(b) An Idle Well Management Plan under Public Resources Code section 3206, subdivision (a)(2), shall specify whether the long-term wells scheduled to be eliminated will be plugged and abandoned or returned to use.

(c) Operators implementing an Idle Well Management Plan filed under Public Resources Code section 3206, subdivision (a)(2), shall prioritize the elimination of long-term idle wells based on the considerations listed in Section 1772.4, and the operator’s Idle Well Management Plan shall include notes indicating the basis for prioritizing wells.

In the course of reviewing an Idle Well Management Plan for approval or during subsequent review, the Division may adjust the order of long-term idle wells to be eliminated based on the considerations listed in Section 1772.4.

NOTE: Authority cited: Sections 3013 and 3106, Public Resources Code. Reference: Sections 3106, 3206 and 3206.1, Public Resources Code.

1772.4. Prioritization of Idle Wells for Testing and Plugging and Abandonment

(a) When proposing a Testing Compliance Work Plan under Section 1772.1.4, a Testing Waiver Plan under Section 1772.2, or an Idle Well Management Plan under Public Resources Code section 3206, subdivision (a)(2), the operator shall consider all of the following when prioritizing idle wells for testing or plugging and abandonment:

(1) Whether the idle well is a critical well, in an urban area, or has an environmentally sensitive wellhead;

(2) Whether the idle well is located in an area of known geologic hazard, such as subsidence, landslides, or a history of damage to wells in the area from seismicity;

(3) Whether the idle well has pressure in the casing or tubing at the surface, and whether the well is open to the atmosphere;

(4) Whether the idle well has surface obstacles or other impediments preventing access to the wellhead, including but not limited to buildings or structures, surface-use activities, irrigation systems, roads, terrain, or restricted access;

(5) Whether the idle well has known downhole issues that would make it difficult to either reactivate the well or plug and abandon the well, such as known holes in casing, collapsed casing, stuck rods, packer, or fish;

(6) Whether the fluid level in the idle well is above the base of freshwater;

(7) Whether the fluid level in the idle well is above the base of a USDW;

(8) The age of the idle well;

(9) Any other indications that the idle well potentially poses a threat to life, health, property, or natural resources; and

(10) Operational or economic efficiencies that may be achieved by ordering work in a particular manner.

(b) In evaluating an operator's proposed Idle Well Management Plan, Testing Waiver Plan, or Testing Compliance Work Plan for approval, or in a subsequent review of a plan by the Division, the Division may adjust the order of idle wells to be tested or plugged and abandoned based on the considerations listed in subdivision (a).

NOTE: Authority cited: Sections 3013 and 3106, Public Resources Code. Reference: Sections 3106, 3206 and 3206.1, Public Resources Code.

1772.3-1772.5. Requirements for Active Observation Wells

~~(a) If any part of the wellbore of an observation well penetrates a USDW, the operator shall conduct a fluid level test using acoustical, mechanical, or other reliable methods, or other diagnostic tests approved by the Supervisor within 6 months of a well becoming an observation well and at least once every 60 months thereafter. The results from a fluid level test conducted within 60 months prior to the effective date of this section will be accepted for initial compliance provided that the operator can provide the depth of the base of the USDW for the well.~~

~~(a) Within 6 months of a well becoming an active observation well, the operator shall conduct a casing pressure test in accordance with the parameters specified in Section 1772.1.1, unless such testing has been conducted on the well in the past five years. The casing shall be tested from the surface to 500 feet below the depth of the base of the USDW, or at least to a depth that is 100 feet from measured feet above the uppermost perforation, or immediately above the casing shoe of the deepest cemented casing, or immediately above the top of the landed liner, whichever is highest. If the top of the landed liner is 100 feet or more above the cement casing shoe, then the pressure test shall be to a depth specified by the Division on a case-by-case basis. The operator shall repeat this testing at least once every 60 months while the well is an observation well. The pressure test shall be conducted at a pressure of at least 200 psi above surface pressure and in accordance with the testing parameters specified in Section 1772.1.1.~~

~~(b) In addition to any other penalty or remedial requirement imposed by the Division, within 12 months of failing to successfully complete testing under this section the operator shall do one of the following:~~

- (1) Bring the well into compliance, to the satisfaction of the Division;
- (2) Partially plug and abandon the well in accordance with Section 1752;
- (3) Plug and abandon the well in accordance with Public Resources Code section 3208; or
- (4) Schedule the well for plugging and abandonment under an approved Idle Well Management Plan or an approved Testing Waiver Plan.

(c) For wells approved as active observation wells as of April 1, 2019, the operator shall conduct initial testing as described under this section on at least half of them by April 1, 2021, and conduct such testing on all of them by April 1, 2023.

~~(c) For wells that as of the effective date of this section would be overdue for testing under subdivisions (a) or (b), the operator is not required to complete the testing required under those subdivisions until 48 months after the effective date of this section, provided that the operator completes the testing for at least half of those wells within 24 months after the effective date of this section.~~

~~(d) Before conducting any test required under this section, the operator shall give the appropriate district office 24 hours' notice, or a notice acceptable to the district office, so that Division staff may witness the testing.~~

NOTE: Authority cited: Section 3013, Public Resources Code. Reference: Sections 3008 and 3106, Public Resources Code.

1772.4-1772.6. Verification of Production or Injection

For any well for which injection or production has been reported under Public Resources Code section 3227 or 3406, upon request by the Division, the operator shall demonstrate that the well is capable of producing or injecting and did in fact produce or inject as reported. In order to make this demonstration, the Division may require an equipment check, well test, or verifying documentation including, but not limited to:

- (a) Operability of the production or injection equipment;
- (b) Filling of production tanks;
- (c) Field production reports;
- (d) Lease oil inventory at the beginning or end of the month;

(e) Run tickets or automated shipping data, which includes the shipping and/or purchasing company and the volume received;

(f) Lab data, such as gravity, water cut, and/or temperature;

(g) Details of the methods used to allocate production to wells; or

(h) Any other documentation or means by which the Division may reasonably require an operator to verify production.

NOTE: Authority cited: Section 3013, Public Resources Code. Reference: Sections 3008, 3106, 3227 and 3406, Public Resources Code.

1772.7. Idle Wells Penetrating a Gas Storage Reservoir

(a) If an idle well is subject to the mechanical integrity testing requirements of Section 1726.6, then the operator is not required to meet the requirements of Sections 1772.1, 1772.1.1, 1772.1.2, or 1772.5 for that well.

NOTE: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3206.1 and 3403.5, Public Resources Code.