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(2) You may use a set of hydraulically-operated combination rams for the blind rams and shear rams.

(3) You may use a set of hydraulically-operated combination rams for the hydraulic two-way slip rams and the hydraulically-operated pipe rams.

(4) You must attach a dual check valve assembly to the coiled tubing connector at the downhole end of the coiled tubing string for all coiled tubing well-workover operations. If you plan to conduct operations without downhole check valves, you must describe alternate procedures and equipment in Form BSEE-0124, Application for Permit to Modify and have it approved by the District Manager.

(5) You must have a kill line and a separate choke line. You must equip each line with two full-opening valves and at least one of the valves must be remotely controlled. You may use a manual valve instead of the remotely controlled valve on the kill line if you install a check valve between the two full-opening manual valves and the pump or manifold. The valves must have a working pressure rating equal to or greater than the working pressure rating of the connection to which they are attached, and you must install them between the well control stack and the choke or kill line. For operations with expected surface pressures greater than 3,500 psi, the kill line must be connected to a pump or manifold. You must not use the kill line inlet on the BOP stack for taking fluid returns from the wellbore.

(6) You must have a hydraulic-actuating system that provides sufficient accumulator capacity to close-open-close each component in the BOP stack. This cycle must be completed with at least 200 psi above the pre-charge pressure, without assistance from a charging system.

(7) All connections used in the surface BOP system from the tree to the uppermost required ram must be flanged, including the connections between the well control stack and the first full-opening valve on the choke line and the kill line.

(g) The minimum BOP-system components for well-workover operations with the tree in place and performed by moving tubing or drill pipe in or out of

a well under pressure utilizing equipment specifically designed for that purpose, *i.e.*, snubbing operations, shall include the following:

(1) One set of pipe rams hydraulically operated, and

(2) Two sets of stripper-type pipe rams hydraulically operated with spacer spool.

(h) An inside BOP or a spring-loaded, back-pressure safety valve and an essentially full-opening, work-string safety valve in the open position shall be maintained on the rig floor at all times during well-workover operations when the tree is removed or during well-workover operations with the tree installed and using small tubing as the work string. A wrench to fit the work-string safety valve shall be readily available. Proper connections shall be readily available for inserting valves in the work string. The full-opening safety valve is not required for coiled tubing or snubbing operations.

§ 250.616 Blowout preventer system testing, records, and drills.

(a) *BOP pressure tests.* When you pressure test the BOP system you must conduct a low-pressure test and a high-pressure test for each component. You must conduct the low-pressure test before the high-pressure test. For purposes of this section, BOP system components include ram-type BOP's, related control equipment, choke and kill lines, and valves, manifolds, strippers, and safety valves. Surface BOP systems must be pressure tested with water.

(1) *Low pressure tests.* All BOP system components must be successfully tested to a low pressure between 200 and 300 psi. Any initial pressure equal to or greater than 300 psi must be bled back to a pressure between 200 and 300 psi before starting the test. If the initial pressure exceeds 500 psi, you must bleed back to zero before starting the test.

(2) *High pressure tests.* All BOP system components must be successfully tested to the rated working pressure of the BOP equipment, or as otherwise approved by the District Manager. The annular-type BOP must be successfully

tested at 70 percent of its rated working pressure or as otherwise approved by the District Manager.

(3) *Other testing requirements.* Variable bore pipe rams must be pressure tested against the largest and smallest sizes of tubulars in use (jointed pipe, seamless pipe) in the well.

(b) *Times.* The BOP systems shall be tested at the following times:

(1) When installed;

(2) At least every 7 days, alternating between control stations and at staggered intervals to allow each crew to operate the equipment. If either control system is not functional, further operations shall be suspended until the nonfunctional, system is operable. The test every 7 days is not required for blind or blind-shear rams. The blind or blind-shear rams shall be tested at least once every 30 days during operation. A longer period between blowout preventer tests is allowed when there is a stuck pipe or pressure-control operation and remedial efforts are being performed. The tests shall be conducted as soon as possible and before normal operations resume. The reason for postponing testing shall be entered into the operations log.

(3) Following repairs that require disconnecting a pressure seal in the assembly, the affected seal will be pressure tested.

(c) *Drills.* All personnel engaged in well-workover operations shall participate in a weekly BOP drill to familiarize crew members with appropriate safety measures.

(d) *Stump tests.* You may conduct a stump test for the BOP system on location. A plan describing the stump test procedures must be included in your Form BSEE-0124, Application for Permit to Modify, and must be approved by the District Manager.

(e) *Coiled tubing tests.* You must test the coiled tubing connector to a low pressure of 200 to 300 psi, followed by a high pressure test to the rated working pressure of the connector or the expected surface pressure, whichever is less. You must successfully pressure test the dual check valves to the rated working pressure of the connector, the rated working pressure of the dual check valve, expected surface pressure,

or the collapse pressure of the coiled tubing, whichever is less.

(f) *Recordings.* You must record test pressures during BOP and coiled tubing tests on a pressure chart, or with a digital recorder, unless otherwise approved by the District Manager. The test interval for each BOP system component must be 5 minutes, except for coiled tubing operations, which must include a 10 minute high-pressure test for the coiled tubing string. Your representative at the facility must certify that the charts are correct.

(g) *Operations log.* The time, date, and results of all pressure tests, actuations, inspections, and crew drills of the BOP system, system components, and marine risers shall be recorded in the operations log. The BOP tests shall be documented in accordance with the following:

(1) The documentation shall indicate the sequential order of BOP and auxiliary equipment testing and the pressure and duration of each test. As an alternate, the documentation in the operations log may reference a BOP test plan that contains the required information and is retained on file at the facility.

(2) The control station used during the test shall be identified in the operations log. For a subsea system, the pod used during the test shall be identified in the operations log.

(3) Any problems or irregularities observed during BOP and auxiliary equipment testing and any actions taken to remedy such problems or irregularities shall be noted in the operations log.

(4) Documentation required to be entered in the operation log may instead be referenced in the operations log. All records including pressure charts, operations log, and referenced documents pertaining to BOP tests, actuations, and inspections, shall be available for BSEE review at the facility for the duration of well-workover activity. Following completion of the well-workover activity, all such records shall be retained for a period of 2 years at the facility, at the lessee's filed office nearest the OCS facility, or at another location conveniently available to the District Manager.

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(h) *Subsea BOPs.* Stump test a subsea BOP system before installation. You must:

(1) Test all ROV intervention functions on your subsea BOP stack during the stump test. You must also test at least one set of rams during the initial test on the seafloor. You must submit test procedures with your APM for District Manager approval. You must:

(i) Ensure that the ROV hot stabs are function tested and are capable of actuating, at a minimum, one set of pipe rams and one set of blind-shear rams and unlatching the LMRP;

(ii) Document all your test results and make them available to BSEE upon request; and

(2) Function test autoshear and deadman systems on your subsea BOP stack during the stump test. You must also test the deadman system during the initial test on the seafloor. You must:

(i) Submit test procedures with your APM for District Manager approval.

(ii) Document the results of each test and make them available to BSEE upon request.

(3) Use water to stump test a subsea BOP system. You may use drilling or completion fluids to conduct subsequent tests of a subsea BOP system.

§ 250.617 What are my BOP inspection and maintenance requirements?

(a) *BOP inspections.* (1) You must inspect your BOP system to ensure that the equipment functions properly. The BOP inspections must meet or exceed the provisions of Sections 17.10 and 18.10, Inspections, described in API RP 53, Recommended Practices for Blowout Prevention Equipment Systems for Drilling Wells (as incorporated by reference in § 250.198). You must document the procedures used, record the results, and make them available to BSEE upon request. You must maintain your records on the rig for 2 years or from the date of your last major inspection, whichever is longer.

(2) You must visually inspect your BOP system and marine riser at least once each day if weather and sea conditions permit. You may use television cameras to inspect this equipment. The District Manager may approve alternate methods and frequencies to inspect a marine riser.

(b) *BOP maintenance.* You must maintain your BOP system to ensure that the equipment functions properly. The BOP maintenance must meet or exceed the provisions of Sections 17.11 and 18.11, Maintenance; and Sections 17.12 and 18.12, Quality Management, described in API RP 53, Recommended Practices for Blowout Prevention Equipment Systems for Drilling Wells (as incorporated by reference in § 250.198). You must document the procedures used, record the results, and make them available to BSEE upon request. You must maintain your records on the rig for 2 years or from the date of your last major inspection, whichever is longer.

§ 250.618 Tubing and wellhead equipment.

The lessee shall comply with the following requirements during well-workover operations with the tree removed:

(a) No tubing string shall be placed in service or continue to be used unless such tubing string has the necessary strength and pressure integrity and is otherwise suitable for its intended use.

(b) In the event of prolonged operations such as milling, fishing, jarring, or washing over that could damage the casing, the casing shall be pressure tested, calipered, or otherwise evaluated every 30 days and the results submitted to the District Manager.

(c) When reinstalling the tree, you must:

(1) Equip wells to monitor for casing pressure according to the following chart:

If you have . . .	you must equip . . .	so you can monitor . . .
(i) fixed platform wells, (ii) subsea wells,	the wellhead, the tubing head,	all annuli (A, B, C, D, etc., annuli). the production casing annulus (A annulus).