



C

END OF DOCUMENT

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

☒ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

☒ Blowout Preventer (BOP) System Requirements

→ § 250.440 What are the general requirements for BOP systems and system components?

You must design, install, maintain, test, and use the BOP system and system components to ensure well control. The working-pressure rating of each BOP component must exceed maximum anticipated surface pressures. The BOP system includes the BOP stack and associated BOP systems and equipment.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.440, 30 CFR § 250.440

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

C

Effective: September 14, 2009

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.441 What are the requirements for a surface BOP stack?

(a) When you drill with a surface BOP stack, you must install the BOP system before drilling below surface casing. The surface BOP stack must include at least four remote-controlled, hydraulically operated BOPs, consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind or blind-shear rams.

(b) Your surface BOP stack must include at least four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams. The blind-shear rams must be capable of shearing the drill pipe that is in the hole.

(c) You must install an accumulator system that provides 1.5 times the volume of fluid capacity necessary to close and hold closed all BOP components. The system must perform with a minimum pressure of 200 psi above the precharge pressure

without assistance from a charging system. If you supply the accumulator regulators by rig air and do not have a secondary source of pneumatic supply, you must equip the regulators with manual overrides or other devices to ensure capability of hydraulic operations if rig air is lost.

(d) In addition to the stack and accumulator system, you must install the associated BOP systems and equipment required by the regulations in this subpart.

[74 FR 46908, Sept. 14, 2009]

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.441, 30 CFR § 250.441

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters
END OF DOCUMENT

C

Effective: August 14, 2006

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.442 What are the requirements for a subsea BOP stack?

(a) When you drill with a subsea BOP stack, you must install the BOP system before drilling below surface casing. The District Manager may require you to install a subsea BOP system before drilling below the conductor casing if proposed casing setting depths or local geology indicate the need.

(b) Your subsea BOP stack must include at least four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams.

(c) You must install an accumulator closing system to provide fast closure of the BOP components and to operate all critical functions in case of a loss of the power fluid connection to the surface. The accumulator system must meet or exceed the provisions of Section 13.3, Accumulator Volumetric Capacity, in API RP 53, Recommended Practices for Blowout Prevention Equipment Systems for Drilling Wells

(incorporated by reference as specified in § 250.198). The District Manager may approve a suitable alternative method.

(d) The BOP system must include an operable dual-pod control system to ensure proper and independent operation of the BOP system.

(e) Before removing the marine riser, you must displace the riser with seawater. You must maintain sufficient hydrostatic pressure or take other suitable precautions to compensate for the reduction in pressure and to maintain a safe and controlled well condition.

[71 FR 46399, Aug. 14, 2006]

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.442, 30 CFR § 250.442

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.443 What associated systems and related equipment must all BOP systems include?

All BOP systems must include the following associated systems and related equipment:

(a) An automatic backup to the primary accumulator-charging system. The power source must be independent from the power source for the primary accumulator-charging system. The independent power source must possess sufficient capability to close and hold closed all BOP components.

(b) At least two BOP control stations. One station must be on the drilling floor. You must locate the other station in a readily accessible location away from the drilling floor.

(c) Side outlets on the BOP stack for separate kill and choke lines. If your stack does not have side outlets, you must install a drilling spool with side outlets.

(d) A choke and a kill line on the BOP stack. You must equip each line with two full-opening valves, one of which must be remote-controlled. For a sub-sea BOP system, both valves in each line must be remote-controlled. In addition:

(1) You must install the choke line above the bottom ram;

(2) You may install the kill line below the bottom ram; and

(3) For a surface BOP system, on the kill line you may install a check valve and a manual valve instead of the remote-controlled valve. To use this configuration, both manual valves must be readily accessible and you must install the check valve between the manual valves and the pump.

(e) A fill-up line above the uppermost BOP.

(f) Locking devices installed on the ram-type BOPs.

(g) A wellhead assembly with a rated working pressure that exceeds the maximum anticipated surface pressure.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.443, 30 CFR § 250.443

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters
END OF DOCUMENT

C

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.444 What are the choke manifold requirements?

(a) Your BOP system must include a choke manifold that is suitable for the anticipated surface pressures, anticipated methods of well control, the surrounding environment, and the corrosiveness, volume, and abrasiveness of drilling fluids and well fluids that you may encounter.

(b) Choke manifold components must have a rated working pressure at least as great as the rated working pressure of the ram BOPs. If your choke manifold has buffer tanks downstream of choke assemblies, you must install isolation valves on any bleed lines.

(c) Valves, pipes, flexible steel hoses, and other fittings upstream of the choke manifold must have a rated working pressure at least as great as the rated working pressure of the ram BOPs.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20,

2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.444, 30 CFR § 250.444

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters
END OF DOCUMENT

C

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.445 What are the requirements for kelly valves, inside BOPs, and drill-string safety valves?

You must use or provide the following BOP equipment during drilling operations:

(a) A kelly valve installed below the swivel (upper kelly valve);

(b) A kelly valve installed at the bottom of the kelly (lower kelly valve). You must be able to strip the lower kelly valve through the BOP stack;

(c) If you drill with a mud motor and use drill pipe instead of a kelly, you must install one kelly valve above, and one strippable kelly valve below, the joint of drill pipe used in place of a kelly;

(d) On a top-drive system equipped with a remote-controlled valve, you must install a strippable kelly-type valve below the remote-controlled valve;

(e) An inside BOP in the open position located on the rig floor. You must be able to install an inside BOP for each size connection in the drill string;

(f) A drill-string safety valve in the open position located on the rig floor. You must have a drill-string safety valve available for each size connection in the drill string;

(g) When running casing, you must have a safety valve in the open position available on the rig floor to fit the casing string being run in the hole;

(h) All required manual and remote-controlled kelly valves, drill-string safety valves, and comparable-type valves (i.e. kelly-type valve in a top-drive system) must be essentially full-opening; and

(i) The drilling crew must have ready access to a wrench to fit each manual valve.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.445, 30 CFR § 250.445

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C**Effective:[See Text Amendments]**

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

☐ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

☐ Blowout Preventer (BOP) System Requirements

→ § 250.446 What are the BOP maintenance and inspection requirements?

(a) You must maintain your BOP system to ensure that the equipment functions properly. BOP maintenance must meet or exceed the provisions of Sections 17.10 and 18.10, Inspections; 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 (incorporated by reference as specified in § 250.198).

(b) You must visually inspect your surface BOP system on a daily basis. You must visually inspect your subsea BOP system and marine riser at least once every 3 days if weather and sea conditions permit. You may use television cameras to inspect subsea equipment.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20,

2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.446, 30 CFR § 250.446

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C**Effective: August 14, 2006**

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.447 When must I pressure test the BOP system?

You must pressure test your BOP system (this includes the choke manifold, kelly valves, inside BOP, and drill-string safety valve):

(a) When installed;

(b) Before 14 days have elapsed since your last BOP pressure test. You must begin to test your BOP system before midnight on the 14th day following the conclusion of the previous test. However, the District Manager may require more frequent testing if conditions or BOP performance warrant; and

(c) Before drilling out each string of casing or a liner. The District Manager may allow you to omit this test if you didn't remove the BOP stack to run the casing string or liner and the required BOP test pressures for the next section of the hole are not greater than the test pressures for the previous BOP test. You must indicate in your APD which casing strings and liners meet these criteria.

[71 FR 46399, Aug. 14, 2006]

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.447, 30 CFR § 250.447

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C**Effective: August 14, 2006**

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.448 What are the BOP pressure tests requirements?

When you pressure test the BOP system, you must conduct a low-pressure and a high-pressure test for each BOP component. You must conduct the low-pressure test before the high-pressure test. Each individual pressure test must hold pressure long enough to demonstrate that the tested component(s) holds the required pressure. Required test pressures are as follows:

(a) Low-pressure test. All low-pressure tests must be between 200 and 300 psi. Any initial pressure above 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 and reinitiate the test.

(b) High-pressure test for ram-type BOPs, the choke manifold, and other BOP components. The high-pressure test must equal the rated working pressure of the equipment or be 500 psi greater than your calculated maximum anticipated surface pressure (MASP) for the applicable section of hole. Be-

fore you may test BOP equipment to the MASP plus 500 psi, the District Manager must have approved those test pressures in your APD.

(c) High pressure test for annular-type BOPs. The high pressure test must equal 70 percent of the rated working pressure of the equipment or to a pressure approved in your APD.

(d) Duration of pressure test. Each test must hold the required pressure for 5 minutes. However, for surface BOP systems and surface equipment of a subsea BOP system, a 3-minute test duration is acceptable if you record your test pressures on the outermost half of a 4-hour chart, on a 1-hour chart, or on a digital recorder. If the equipment does not hold the required pressure during a test, you must correct the problem and retest the affected component(s).

[71 FR 46399, Aug. 14, 2006]

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.448, 30 CFR § 250.448

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters
END OF DOCUMENT

C

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.449 What additional BOP testing requirements must I meet?

You must meet the following additional BOP testing requirements:

- (a) Use water to test a surface BOP system;
- (b) Stump test a subsea BOP system before installation. You must use water to conduct this test. You may use drilling fluids to conduct subsequent tests of a subsea BOP system;
- (c) Alternate tests between control stations and pods;
- (d) Pressure test the blind or blind-shear ram BOP during stump tests and at all casing points;
- (e) The interval between any blind or blind-shear ram BOP pressure tests may not exceed 30 days;
- (f) Pressure test variable bore-pipe ram BOPs

against the largest and smallest sizes of pipe in use, excluding drill collars and bottom-hole tools;

(g) Pressure test affected BOP components following the disconnection or repair of any well-pressure containment seal in the wellhead or BOP stack assembly;

(h) Function test annular and ram BOPs every 7 days between pressure tests; and

(i) Actuate safety valves assembled with proper casing connections before running casing.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.449, 30 CFR § 250.449

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C

Effective:[See Text Amendments]

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

▣ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

▣ Blowout Preventer (BOP) System Requirements

→ § 250.450 What are the record-keeping requirements for BOP tests?

You must record the time, date, and results of all pressure tests, actuations, and inspections of the BOP system, system components, and marine riser in the driller's report. In addition, you must:

- (a) Record BOP test pressures on pressure charts;
- (b) Require your onsite representative to sign and date BOP test charts and reports as correct;
- (c) Document the sequential order of BOP and auxiliary equipment testing and the pressure and duration of each test. For subsea BOP systems, you must also record the closing times for annular and ram BOPs. You may reference a BOP test plan if it is available at the facility;
- (d) Identify the control station and pod used during the test;

(e) Identify any problems or irregularities observed during BOP system testing and record actions taken to remedy the problems or irregularities; and

(f) Retain all records, including pressure charts, driller's report, and referenced documents pertaining to BOP tests, actuations, and inspections at the facility for the duration of drilling.

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70 FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008; 73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.450, 30 CFR § 250.450

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters

END OF DOCUMENT

C

quirements

Effective: August 14, 2006

→ § 250.451 What must I do in certain situations involving BOP equipment or systems?

Code of Federal Regulations Currentness

Title 30. Mineral Resources

Chapter II. Minerals Management Service, Department of the Interior

Subchapter B. Offshore

Part 250. Oil and Gas and Sulphur Operations in the Outer Continental Shelf (Refs & Annos)

☞ Subpart D. Oil and Gas Drilling Operations (Refs & Annos)

☞ Blowout Preventer (BOP) System Re-

The table in this section describes actions that lessees must take when certain situations occur with BOP systems during drilling activities.

If you encounter the following situation:	Then you must ...
(a) BOP equipment does not hold the required pressure during a test	Correct the problem and retest the affected equipment.
(b) Need to repair or replace a surface or subsea BOP system	First place the well in a safe, controlled condition (e.g., before drilling out a casing shoe or after setting a cement plug, bridge plug, or a packer).
(c) Need to postpone a BOP test due to well-control problems such as lost circulation, formation fluid influx, or stuck drill pipe.	Record the reason for postponing the test in the driller's report and conduct the required BOP test on the first trip out of the hole.
(d) BOP control station or pod that does not function properly	Suspend further drilling operations until that station or pod is operable.
(e) Want to drill with a tapered drill-string	Install two or more sets of conventional or variable-bore pipe rams in the BOP stack to provide for the following: two sets of rams must be capable of sealing around the larger-size drill string and one set of pipe rams must be capable of sealing around the smaller-size drill string.
(f) Install casing rams in a BOP stack	Test the ram bonnets before running casing.
(g) Want to use an annular BOP with a rated working pressure less than the anticipated surface pressure.	Demonstrate that your well control procedures or the anticipated well conditions will not place demands above its rated working pressure and obtain approval from the District Manager.
(h) Use a subsea BOP system in an ice-scour area	Install the BOP stack in a glory hole. The glory hole must be deep enough to ensure that the top of the stack is below the deepest probable ice-scour depth.

[71 FR 46399, Aug. 14, 2006]

SOURCE: 53 FR 10690, April 1, 1988; 59 FR 53093, Oct. 21, 1994; 62 FR 27954, May 22, 1997; 63 FR 29479, May 29, 1998; 68 FR 8423, Feb. 20, 2003; 70

FR 49875, Aug. 25, 2005; 73 FR 20168, April 15, 2008;
73 FR 20171, April 15, 2008, unless otherwise noted.

AUTHORITY: 31 U.S.C. 9701, 43 U.S.C. 1334.

30 C. F. R. § 250.451, 30 CFR § 250.451

Current through April 22, 2010; 75 FR 20930

© 2010 Thomson Reuters
END OF DOCUMENT