§ 250.1624 Blowout prevention equipment.

(a) The BOP system and system components and related well-control equipment shall be designed, used, maintained, and tested in a manner necessary to assure well control in foreseeable conditions and circumstances, including subfreezing conditions. The working pressure of the BOP system and system components shall equal or exceed the expected surface pressure to which they may be subjected.

(b) The minimum BOP stack for well-completion operations or for well-workover operations with the tree removed shall consist of the following:

(1) Three remote-controlled, hydraulically operated preventers including at least one equipped with pipe rams, one with blind rams, and one annular type.

(2) When a tapered string is used, the minimum BOP stack shall consist of either of the following:

(i) An annular preventer, one set of variable bore rams capable of sealing around both sizes in the string, and one set of blind rams; or

(ii) An annular preventer, one set of pipe rams capable of sealing around the larger size string, a preventer equipped with blind-shear rams, and a crossover sub to the larger size pipe that shall be readily available on the rig floor.

(c) The BOP systems for well-completion operations, or for well-workover

§ 250.1623 Well-control fluids, equipment, and operations.

(a) Well-control fluids, equipment, and operations shall be designed, utilized, maintained, and/or tested as necessary to control the well in foreseeable conditions and circumstances, including subfreezing conditions. The well shall be continuously monitored during well-completion and well-workover operations and shall not be left unattended at any time unless the well is shut in and secured;

(b) The following well-control fluid equipment shall be installed, maintained, and utilized:

(1) A fill-up line above the uppermost BOP;

(2) A well-control fluid-volume measuring device for determining fluid volumes when filling the hole on trips, and

(3) A recording mud-pit-level indicator to determine mud-pit-volume gains and losses. This indicator shall

include both a visual and an audible warning device.

(c) When coming out of the hole with drill pipe or a workover string, the annulus shall be filled with well-control fluid before the change in fluid level decreases the hydrostatic pressure 75 psi or every five stands of drill pipe or workover string, whichever gives a lower decrease in hydrostatic pressure. The number of stands of drill pipe or workover string and drill collars that may be pulled prior to filling the hole and the equivalent well-control fluid volume shall be calculated and posted near the operator’s station. A mechanical, volumetric, or electronic device for measuring the amount of well-control fluid required to fill the hole shall be utilized.

§ 250.1624 Blowout prevention equipment.

(a) The BOP system and system components and related well-control equipment shall be designed, used, maintained, and tested in a manner necessary to assure well control in foreseeable conditions and circumstances, including subfreezing conditions. The working pressure of the BOP system and system components shall equal or exceed the expected surface pressure to which they may be subjected.

(b) The minimum BOP stack for well-completion operations or for well-workover operations with the tree removed shall consist of the following:

(1) Three remote-controlled, hydraulically operated preventers including at least one equipped with pipe rams, one with blind rams, and one annular type.

(2) When a tapered string is used, the minimum BOP stack shall consist of either of the following:

(i) An annular preventer, one set of variable bore rams capable of sealing around both sizes in the string, and one set of blind rams; or

(ii) An annular preventer, one set of pipe rams capable of sealing around the larger size string, a preventer equipped with blind-shear rams, and a crossover sub to the larger size pipe that shall be readily available on the rig floor.

(c) The BOP systems for well-completion operations, or for well-workover

§ 250.1623 Well-control fluids, equipment, and operations.

(a) Well-control fluids, equipment, and operations shall be designed, utilized, maintained, and/or tested as necessary to control the well in foreseeable conditions and circumstances, including subfreezing conditions. The well shall be continuously monitored during well-completion and well-workover operations and shall not be left unattended at any time unless the well is shut in and secured;

(b) The following well-control fluid equipment shall be installed, maintained, and utilized:

(1) A fill-up line above the uppermost BOP;

(2) A well-control fluid-volume measuring device for determining fluid volumes when filling the hole on trips, and

(3) A recording mud-pit-level indicator to determine mud-pit-volume gains and losses. This indicator shall
operations with the tree removed, shall
be equipped with the following:

(1) An accumulator system that pro-
vides sufficient capacity to supply 1.5
times the volume necessary to close
and hold closed all BOP equipment
units with a minimum pressure of 200
psi above the precharge pressure with-
out assistance from a charging system.
After February 14, 1992, accumulator
regulators supplied by rig air which do
not have a secondary source of pneu-
matic supply shall be equipped with
manual overrides or alternately other
devices provided to ensure capability of
hydraulic operations if rig air is lost;

(2) An automatic backup to the accu-
mulator system supplied by a power
source independent from the power
source to the primary accumulator sys-
tem and possessing sufficient capacity
to close all BOP’s and hold them
closed;

(3) Locking devices for the pipe-ram
preventers;

(4) At least one remote BOP-control
station and one BOP-control station on
the rig floor; and

(5) A choke line and a kill line each
equipped with two full-opening valves
and a choke manifold. One of the
choke-line valves and one of the kill-
line valves shall be remotely controlled
except that a check valve may be in-
stalled on the kill line in lieu of the re-
motely-controlled valve provided that
two readily accessible manual valves
are in place, and the check valve is
placed between the manual valve and
the pump.

(d) The minimum BOP-stack compo-
nents for well-workover operations
with the tree in place and performed
through the wellhead inside of the sul-
phur line using small diameter jointed
pipe (usually ¾ inch to 1¼ inch) as a
work string; i.e., small-tubing oper-
ations, shall consist of the following:

(1) For air line changes, the well
shall be killed prior to beginning oper-
ations. The procedures for killing the
well shall be included in the descrip-
tion of well-workover procedures in ac-
cordance with §250.1622 of this part.
Under these circumstances, no BOP
equipment is required.

(2) Before drilling out each string of
casing or before continuing operations
in cases where cement is not drilled
out;

(3) At least once each week, but not
exceeding 7 days between pressure
tests, alternating between control sta-
tions. If either control system is not
functional, further drilling operations
shall be suspended until that system
becomes operable. A period of more
than 7 days between BOP tests is al-
lowed when there is a stuck drill pipe
or there are pressure control oper-
ations, and remedial efforts are being
performed, provided that the pressure
tests are conducted as soon as possible
and before normal operations resume.
The time, date, and reason for post-
poning pressure testing shall be en-
tered into the driller’s report. Pressure