NOTICE OF INTENT

Department of Natural Resources
Office of Conservation

Diverter Systems and Blowout Preventers (BOP) (LAC 43:XIX.111)

In accordance with the provisions of the Administrative Procedure Act (R.S. 49:950, et seq) and Title 30 of the Louisiana Revised Statutes of 1950 (R.S. 30:4 et seq), the Louisiana Office of Conservation hereby gives notice of its intent to amend LAC 43:XIX Subpart 1 (Statewide Order No. 29-B) Chapter 1 (General Provisions).

The amendment includes requirements for diverter systems in areas where drilling hazards are known to exist or anticipated to divert fluids safely away from the facilities and personnel during a blowout event. The District Manager is also given authority to require the use of a diverter system on any well. These diverter systems must meet minimum specifications and have certain characteristics, including the design, type and number of diverter lines, the number and location of control stations, valve types, and anchor and support systems.

The amendment also requires the proper design, installation, use, maintenance, and testing of blowout preventers for all wells during drilling, workover, or other appropriate well operations. The required minimum characteristics for blowout preventer systems and associated auxiliary equipment are specified, including preventer types, the number and location of control stations, valve types and pressure ratings.

The amendment requires inspections, drills, function tests and pressure tests be conducted at specified intervals to ensure diverter systems and blowout preventer systems are maintained and work properly when needed. Inspection, drill and test records are required to be maintained at the well site for review by the Office of Conservation. Well control safety training is also required for employees to ensure that all required equipment is used correctly.

Title 43
NATURAL RESOURCES

Part XIX. Office of Conservation—General Operations

Subpart 1. Statewide Order No. 29-B

Chapter 1. General Provisions

§111. Diverter Systems and Blowout Preventers (BOP)

A. ~~All wells drilling or running casing or tubing are to be equipped with a master gate and a blowout preventer having the correct size rams or plugs installed and in first class condition, together with a flowing valve of the recommended size and working pressure. If a fill up line is connected to the blowout preventer, the line shall be equipped with such valves and fittings of at least the same working pressure as the blowout preventer. If the preventer is hydraulically operated, adequate pressure shall at all times be available for efficient operations.~~

Diverter System - A diverter system shall be required when drilling surface hole in areas where drilling hazards are known or anticipated to exist. The District Manager may, at his discretion, require the use of a diverter system on any well. In cases where it is required, a diverter system consisting of a diverter sealing element, diverter lines, and control systems must be designed, installed, used, maintained, and tested to ensure proper diversion of gases, water, drilling fluids, and other materials away from facilities and personnel. The diverter system shall be designed to incorporate the following elements and characteristics:

1. Dual diverter lines arranged to provide for maximum diversion capability;

2. At least two diverter control stations. One station shall be on the drilling floor. The other station shall be in a readily accessible location away from the drilling floor;

3. Remote-controlled valves in the diverter lines. All valves in the diverter system shall be full-opening. Installation of manual or butterfly valves in any part of the diverter system is prohibited;

4. Minimize the number of turns in the diverter lines, maximize the radius of curvature of turns, and minimize or eliminate all right angles and sharp turns;

5. Anchor and support systems to prevent whipping and vibration;

6. Rigid piping for diverter lines. The use of flexible hoses with integral end couplings in lieu of rigid piping for diverter lines shall be approved by the District Manager.

B. **Diverter Testing Requirements**

1. When the diverter system is installed, the diverter components including the sealing element, diverter valves, control systems, stations and vent lines shall be function and pressure tested;

2. For drilling operations with a surface wellhead configuration, the system shall be function tested at least once every 24-hour period after the initial test;

3. After nippling-up on conductor casing, the diverter sealing element and diverter valves are to be pressure tested to a minimum of 200 psig. Subsequent pressure tests are to be conducted within 7 days after the previous test;

4. Function tests and pressure tests shall be alternated between control stations.

5. Recordkeeping Requirements

a. Pressure and function tests are to be recorded in the driller's report and certified (signed and dated) by the operator's representative.

b. The control station used during a function or pressure test is to be recorded in the driller's report.

c. Problems or irregularities during the tests are to be recorded along with actions taken to remedy same in the driller's report.

d. All reports pertaining to diverter function and/or pressure tests are to be retained for inspection at the wellsite for the duration of drilling operations.

C. **BOP Systems** - The operator shall design, install, use, maintain and test the BOP system to ensure well control during drilling, workover and all other appropriate operations. The surface BOP stack shall be installed before drilling below surface casing. The BOP stack shall consist of an annular preventer and the appropriate number of ram-type preventers necessary to control the well under all potential conditions that might occur during the operations being conducted. The pipe rams shall be of proper size(s) to fit the drill pipe in use.

D. **BOP Working Pressure** - The working pressure rating of any BOP component shall exceed the maximum anticipated surface pressure (MASP) to which it may be subjected.

E. **BOP Auxiliary Equipment -** All BOP systems shall be equipped and provided with the following:

1. A hydraulically actuated accumulator system which shall provide 1.5 times volume of fluid capacity to close and hold closed all BOP components, with a minimum pressure of 200 psig above the pre-charge pressure without assistance from a charging system.

2. A backup to the primary accumulator-charging system, supplied by a power source independent from the power source to the primary, which shall be sufficient to close all BOP components and hold them closed.

3. Accumulator regulators supplied by rig air without a secondary source of pneumatic supply shall be equipped with manual overrides or other devices to ensure capability of hydraulic operation if the rig air is lost.

4. At least one operable remote BOP control station in addition to the one on the drilling floor. This control station shall be in a readily accessible location away from the drilling floor. If a BOP control station does not perform properly, operations shall be suspended until that station is operable.

5. A drilling spool with side outlets, if side outlets are not provided in the body of the BOP stack, to provide for separate kill and choke lines.

6. Choke and kill lines each equipped with two full-opening valves. At least one of the valves on the choke line and the kill line shall be remotely controlled. In lieu of remotely controlled valves, two readily-accessible manual valves may be installed provided that a check valve is placed between the manual valves and the pump.

7. A valve installed below the swivel (upper kelly cock), essentially full-opening, and a similar valve installed at the bottom of the kelly (lower kelly cock). A wrench to fit each valve shall be stored in a location readily accessible to the drilling crew.

8. An essentially full-opening drill-string safety valve in the open position on the rig floor shall be available at all times while drilling operations are being conducted. This valve shall be maintained on the rig floor to fit all connections that are in the drill string. A wrench to fit the drill-string safety valve shall be stored in a location readily accessible to the drilling crew.

9. A safety valve shall be available on the rig floor assembled with the proper connection to fit the casing string being run in the hole.

10. Locking devices installed on the ram-type preventers.

F. **BOP Maintenance and Testing Requirements**

1. The BOP system shall be visually inspected on a daily basis.

2. Pressure tests (low and high pressure) of the BOP system are to be conducted at the following times and intervals:

a. During a shop test prior to transport of the BOPs to the drilling location.

b. Immediately following installation of the BOPs.

c. Within 14 days of the previous BOP pressure test.

d. Before drilling out each string of casing or liner (The District Manager may require that a Conservation Enforcement Specialist witness the test prior to drilling out each casing string or liner).

e. Before a well is drilled to a depth that is within 1000 feet of a hydrogen sulfide zone (The District Manager may require that a Conservation Enforcement Specialist witness the test prior to drilling to a depth that is within 1000 feet of a hydrogen sulfide zone).

f. When the BOP tests are postponed due to well control problem(s), the BOP test is to be performed on the first trip out of the hole, and reasons for postponing the testing are to be recorded in the driller's report.

3. Low pressure tests (200-300 psig) of the BOP system (choke manifold, kelly valves, drill-string safety valves, etc.) are to be performed at the times and intervals specified in LAC 43:XIX.111.F.2. in accordance with the following provisions:

a. Test pressures are to be held for a minimum of 5 minutes.

b. Variable bore pipe rams are to be tested against the largest and smallest sizes of pipe in use, excluding drill collars and bottom hole assembly.

c. Bonnet seals are to be tested before running the casing when casing rams are installed in the BOP stack.

4. High pressure tests of the BOP system are to be performed at the times and intervals specified in LAC 43:XIX.111.F.2 in accordance with the following provisions:

a. Test pressures are to be held for a minimum of 5 minutes.

b. Ram-type BOP's, choke manifolds, and associated equipment are to be tested to the rated working pressure of the equipment or 500 psi greater than the calculated MASP for the applicable section of the hole.

c. Annular-type BOPs are to be tested to 70% of the rated working pressure of the equipment.

5. The annular and ram-type BOPs with the exception of the Blind-shear rams are to be function tested every 7 days between pressure tests. All BOP test records should be certified (signed and dated) by the operator's representative.

a. Blind-shear rams are to be tested at all casing points and at an interval not to exceed 30 days.

G. **BOP Record Keeping -** The time, date and results of pressure tests, function tests, and inspections of the BOP system are to be recorded in the driller's report and are to be retained for inspection at the wellsite for the duration of drilling operations.

H. **BOP Well Control Drills -** Weekly well control drills with each drilling crew are to be conducted during a period of activity that minimizes the risk to drilling operations. The drills must cover a range of drilling operations, including drilling with a diverter

(if applicable), on-bottom drilling, and tripping. Each drill must be recorded in the driller's report and is to include the time required to close the BOP system, as well as, the total time to complete the entire drill.

I. **Well Control Safety Training -** Operators are required to ensure that all drilling personnel understand and can properly perform their duties prior to drilling wells which are subject to the jurisdiction of the Office of Conservation. Well control training plans shall include class room instruction, computer-based learning, films, or their equivalents. This training shall be reinforced by appropriate demonstrations and "hands-on" training. The operator shall be responsible for ensuring that contract drilling companies provide and/or implement the following:

1. Periodic training for drilling contractor employees which ensures that employees maintain an understanding of, and competency in, well control practices;

2. Procedures to verify adequate retention of the knowledge and skills that the contract drilling employees need to perform their assigned well control duties.

AUTHORITY NOTE:Promulgated in accordance with R.S. 30:4 et seq.
HISTORICAL NOTE:Adopted by the Department of Conservation (August 1943), amended by the Department of Natural Resources, Office of Conservation, LR 34: (2008).

Family Impact Statement
LAC 43:XIX.111, Diverter Systems and Blowout Preventers (BOP)

In accordance with LSA-RS 49:972, the following statements are submitted after consideration of the impact of the proposed rule amendment at LAC 43:XIX.111, Diverter Systems and Blowout Preventers (BOP) on family as defined therein.

1. The proposed rule amendment will have no effect on the stability of the family.
2. The proposed rule amendment will have no effect on the authority and rights of parents regarding the education and supervision of their children.
3. The proposed rule amendment will have no effect on the functioning of the family.
4. The proposed rule amendment will have no effect on family earnings and family budget.
5. The proposed rule amendment will have no effect on the behavior and personal responsibility of children.
6. Family or local government are not required to perform any function contained in the proposed rule amendment.

A public hearing will be held on August 26, 2008 at 9:00 a.m. in the LaSalle Building, LaBelle Hearing Room, 617 N. Third Street, Baton Rouge, LA 70802. Interested persons are invited to attend and submit oral comments on the proposed amendments. If accommodations are required under the Americans With Disabilities Act, please advise the Office of Conservation, Engineering Division at P.O. Box 94275, Baton Rouge, LA 70804-9275 in writing within ten (10) working days of the hearing date. Two hours of free parking are allowed in the Welcome Center parking garage with a validated parking ticket.

All interested persons are invited to submit written comments on the proposed regulation. Persons commenting should reference "Proposed Amendment of LAC 43:XIX.111". Such comments must be received no later than Monday, August 11, 2008, at 4:30 p.m., and should be sent to Mr. Chris Sandoz, Office of Conservation, Engineering Division, P. O. Box 94275, Baton Rouge, LA 70804-9275; hand delivered to 617 North Third Street, 9th Floor, Baton Rouge, LA 70802; by email to chris.sandoz@la.gov; or by fax to (225) 342-2584.

This proposed regulation is available on the Internet at http://dnr.louisiana.gov/cons/conserv.ssi and is available for inspection at the following DNR office locations from 8 a.m. until 4:30 p.m.: 617 N. Third Street, Ninth Floor, Baton Rouge, LA 70802; Brandywine III, Suite 220, 825 Kaliste Saloom Road, Lafayette, LA 70508; State Office Building, Suite 668, 1525 Fairfield Avenue, Shreveport, LA 71101; 122 St. John Street, Room 228, Monroe, LA 71201.

James H. Welsh
Commissioner of Conservation

FISCAL AND ECONOMIC IMPACT STATEMENT FOR ADMINISTRATIVE RULES
RULE TITLE: Diverter Systems and Blowout Preventers (BOP)

I. ESTIMATED IMPLEMENTATION COSTS (SAVINGS) TO STATE OR LOCAL GOVERNMENT UNITS (Summary)

There are no implementation costs or savings to State or Local government units anticipated due to the proposed rule amendments.

II. ESTIMATED EFFECT ON REVENUE COLLECTIONS OF STATE OR LOCAL GOVERNMENTAL UNITS (Summary)

There is no effect on revenue collections of state or local government units anticipated due to the proposed rule amendments.

III. ESTIMATED COSTS AND/OR ECONOMIC BENEFITS TO DIRECTLY AFFECTED PERSONS OR NONGOVERNMENTAL GROUPS (Summary)

The primary groups affected by these rules changes will be Exploration and Production companies, Drilling and Workover contractors, and Drilling Services Equipment Rental companies. Many Exploration and Production companies have already implemented internal policies which incorporate similar safety equipment and design specifications and, as a result, the majority of contractors already include the required equipment, training and testing in their bids and rates.

Minor cost increases are estimated in some cases due to the blowout preventer requirements and testing requirements. Cost increases due to the diverter system requirements and the training requirements are estimated to be negligible. The additional documentation requirements do not result in any additional paperwork or forms.

Any cost increases resulting from the proposed rules will be partially offset by reductions in insurance premiums due to the additional safety equipment and are negligible when compared to the potential costs of a blowout.

IV. ESTIMATED EFFECT ON COMPETITION AND EMPLOYMENT (Summary)

There is no anticipated effect on competition and employment.