

1 ENERGY AND ENVIRONMENT CABINET

2 Department for Natural Resources

3 Division of Oil and Gas

4 (Amendment)

5 805 KAR 1:130. [~~Deep well~~] Administrative regulation relating to casing, cementing, plugging,  
6 gas detection and blow-out prevention in oil and gas wells.

7 RELATES TO: KRS 353.520

8 STATUTORY AUTHORITY: KRS [~~Chapter 13A,~~] 353.540, 353.550, 353.560

9 NECESSITY, FUNCTION, AND CONFORMITY: KRS 353.550 requires the Department  
10 for Natural Resources to regulate the drilling and casing of all wells. This administrative regulation  
11 establishes the requirements for the drilling and casing of a [~~deep~~] well.

12 Section 1. Definitions. [~~The definitions in KRS 353.510 and the following additional~~  
13 ~~definitions shall apply to this administrative regulation:~~]

14 (1) "Abnormal pressure" means a reservoir pressure that exceeds the hydrostatic pressure of  
15 fresh water extending from the reservoir to the surface.

16 (2) "Annulus" means the space between two (2) strings of casing or between a string of  
17 casing and the bore hole wall.

18 (3) "Blow-out preventer (BOP)" means a device installed on the surface or intermediate  
19 casing to prevent the escape of pressure either in the annulus between casing and drill pipe or in the  
20 open hole without drill pipe and which is used during drilling operations.

1 (4) "Casing (casing string)" means steel tubes or pipes installed in a well.

2 (5) "Cement" means hydraulic cement properly mixed with water or with additives  
3 approved by the director, and which is used to fill the annulus of casing string [~~string(s)~~] or to plug  
4 the well.

5 (6) "Deep well" is defined by KRS 353.510(16) [~~means any well drilled and completed~~  
6 ~~below the depth of 4,000 feet or, in the case of a well located east of longitude line eighty four (84)~~  
7 ~~degrees thirty (30) minutes, a well drilled and completed at a depth below 4,000 feet or below the~~  
8 ~~base of the lowest member of the Devonian Brown Shale, whichever is deeper~~].

9 (7) [~~"DES" means the state Disaster and Emergency Services Office under authority of the~~  
10 ~~Department of Military Affairs in Frankfort, Kentucky with regional offices throughout the~~  
11 ~~Commonwealth.~~

12 (8) "Intermediate casing" means one (1) or more strings of pipes installed in a well in  
13 addition to the surface casing in which each string is smaller in diameter than the previous.

14 (8) "KYEM" means the state Kentucky Emergency Management office under authority of  
15 the Department of Military Affairs in Frankfort, Kentucky with regional offices throughout the  
16 Commonwealth.

17 (9) "Long casing string" means the last casing installed in a well to be used for production  
18 or injection purposes.

19 (10) "Shallow well" is defined by KRS 353.510(15)

20 (11) "Surface casing" means the first and largest diameter casing installed in a well and its  
21 primary uses are to make the bore hole stand up and to protect the fresh water zones.

22 (12) [(H)] "Zone" means a layer of strata capable of producing or receiving fluids.

1           Section 2. When an application for a shallow well proposed to be drilled to a depth of less  
2 than 4,000 feet or above the base of the lowest member of the Devonian Brown Shale is submitted  
3 to the department, the application shall comply with all requirements of 805 KAR 1:020 and shall  
4 be exempt from Sections 3 and 4 of this administrative regulation.

5           Section 3. (1) When an application for a [deep] well permit proposed to be drilled below a  
6 depth of 4,000 feet or the base of the lowest member of the Devonian Brown Shale whichever is  
7 deeper, is submitted to the department, the operator shall prepare and submit with the permit  
8 application a detailed drilling and casing plan on Form ED-7, incorporated by reference in 805  
9 KAR 1:140 Section 7(1)(b), for the review by and approval of the department. [~~This casing and~~  
10 cementing form dated August 1, 1991 is filed and incorporated herein by reference. Copies of this  
11 form may be obtained from the Department for Natural Resources, P.O. Box 14090, Lexington,  
12 Kentucky 40512-4090, Monday through Friday, 8 a.m. to 4:30 p.m.]

13           (2) This plan shall include the following:

14           (a)[(1)] A drafted schematic showing the hole size and depth of each casing string. The  
15 freshwater string shall be set at least thirty (30) feet below the depth recommended by the  
16 department; if fresh water is encountered during drilling operations deeper than such recommended  
17 depth, the freshwater casing shall be set at least thirty (30) feet below the actual freshwater depth.  
18 All freshwater casing strings shall be circulated when they are set before drilling commences;  
19 and[-]

20           (b)[(2)] A description of the type, size and grade of casing to be used and the manner in  
21 which the annulus of the casing string and well bore will be cemented to protect all fresh water,  
22 coal, mineral, and oil and gas producing formation in the area proposed for drilling. The volume,  
23 class, additives and weight of the cement to be used shall also be described.

1           (3) If a production packer assembly is included on the long casing string, the number of  
2 packers shall be included on the plan.

3           (4) If drilling fluid is used, it shall comply with 805 KAR 1:020, Section 2(1)(c).

4           Section 4[3]. (1) The operator shall install a blow-out prevention device capable of:

5           (a) Closing the top of the well;

6           (b) Controlling the release of fluids;

7           (c) Permitting pumping into the well; and

8           (d) Allowing movement of the inner string of drill pipe.

9           (2)(a) The device shall be installed on shallow wells drilled below 4,000 feet or the base of  
10 the lowest member of the Devonian Brown Shale whichever is deeper, capable of withstanding a  
11 working pressure of 1500 psi and a test pressure of 3000 psi.

12           (b) The device shall be installed on deep wells and have a minimum working pressure of  
13 3,500 psi and a test pressure of 5,000 psi. A description of this device and its installation shall be  
14 included with the drilling and casing plan required in Section 3 of this administrative regulation. A  
15 test shall be performed at regular intervals or at the request of the cabinet to ensure the BOP will  
16 operate at its rated capacity, and the results of the test shall be kept at the well site and made  
17 available to cabinet personnel upon request.

18 ~~[withstanding a working pressure of 1500 psi and a test pressure of 3000 psi. A description of this~~  
19 ~~device and its installation shall be included with the drilling and casing plan required in Section 2~~  
20 ~~of this administrative regulation. The BOP equipment shall be in place at such time as the well is~~  
21 ~~drilled past the depth at which it becomes a deep well. A test shall be performed at regular intervals~~  
22 ~~to ensure the BOP will operate at its rated capacity, and the results of such test(s) shall be kept at~~  
23 ~~the drill site and made available to department personnel upon request.]~~

1 Section 5[4]. The director may only waive the requirements for a BOP established in  
2 Section 4[3] of this administrative regulation for shallow wells if the operator submits a written  
3 request for such a waiver that includes:

- 4 (1) The geologic formations to be drilled through; and
- 5 (2) A history of drilling in the vicinity of the proposed well with pressure measurements  
6 that show gas pressures were not encountered at such levels to require the BOP equipment; and
- 7 (3) The maximum anticipated gas pressure in the proposed well.


8 Section 6[5]. The operator shall obtain written instructions from the department prior to  
9 plugging the well and the department shall approve the commencement of plugging operations.  
10 Upon the department's request, the operator shall submit a well log and completion report and any  
11 geophysical logs used for preparing plugging instructions.

12 Section 7[6]. The department shall be notified verbally within forty-eight (48) hours of any  
13 mechanical failure or other difficulty which may jeopardize the plugging operation or mechanical  
14 integrity of the well encountered while conducting any operation or production of a deep well;  
15 provided, however, KYEM [~~DES~~] or the department shall be immediately notified whenever there  
16 are any well failures or blow-outs which pose the likelihood of imminent environmental damage or  
17 danger to the public. The operator shall correct any and all such difficulties with due diligence.

18 Section 8[7]. An operator in noncompliance with the requirements of this administrative  
19 regulation is subject to penalties pursuant to KRS 353.991.

805 KAR 1:130 approved for filing.  
Pages (1-5)

4/2/15  
Date

  
\_\_\_\_\_  
Leonard K. Peters, Secretary  
Energy and Environment Cabinet

**PUBLIC HEARING AND PUBLIC COMMENT PERIOD:** A public hearing on this administrative regulation shall be held on May 26, 2015 at 10:00 A.M. (Eastern Time) at Conference Room D-16 of the Department for Natural Resources at #2 Hudson Hollow, Frankfort, Kentucky. Individuals interested in being heard at this hearing shall notify this agency in writing by May 19, 2015, five workdays prior to the hearing, of their intent to attend. If no notification of intent to attend the hearing is received by that date, the hearing may be cancelled. This hearing is open to the public. Any person who wishes to be heard will be given an opportunity to comment on the proposed administrative regulation. A transcript of the public hearing will not be made unless a written request for a transcript is made. If you do not wish to be heard at the public hearing, you may submit written comments on the proposed administrative regulation. Written comments shall be accepted until June 1, 2015. Send written notification of intent to attend the public hearing or written comments on the proposed administrative regulation to the contact person.

**CONTACT PERSON:** Michael Mullins, Regulation Coordinator, #2 Hudson Hollow, Frankfort, Kentucky 40601, phone (502) 564-6940, fax (502) 564-5698, email Michael.Mullins@ky.gov.

REGULATORY IMPACT ANALYSIS  
AND TIERING STATEMENT

Administrative Regulation No.: 805 KAR 1:130  
Contact Person: Michael Mullins, Regulation Coordinator

(1) Provide a brief summary of:

- (a) What this administrative regulation does: This administrative regulation establishes the requirements for the drilling and casing of a well.
- (b) The necessity of this administrative regulation: This administrative regulation is necessary to establish the criteria for drilling and casing a well in the Commonwealth.
- (c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. This administrative regulation establishes the criteria necessary for an owner or operator to meet.
- (d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The administrative regulation provides details to owners and operators related to drilling and casing a well. This includes information on blow out preventers, requirements to submit the proper forms for casing and cementing, and pressures wells are to withstand depending on the depth.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

- (a) How the amendment will change this existing administrative regulation: Due to the definitional change to the terms deep and shallow wells (SB 186) the blow out preventer pressure requirements were changed to address the pressure differences for shallow wells and the increased drilling depths that will be encountered in deep wells. The cabinet believes the increased depths at which wells will be drilled will provide increased pressures and the administrative regulation needed to be amended in order to address safety concerns.
- (b) The necessity of the amendment to this administrative regulation: This amendment is necessary to amend the pressure requirements for shallow and deep wells due a definitional change and the possibility of increased drilling depths.
- (c) How the amendment conforms to the content of the authorizing statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The amendments to this administrative regulation changed pressure requirements related to drilling and casing wells.



(d) How the amendment will assist in the effective administration of the statutes: KRS 353.550 requires the Department for Natural Resources to regulate the drilling and casing of all wells. The amendments assist in the administration of the statutes by altering the pressure requirements for wells drilled within the Commonwealth.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: This administrative regulation will impact approximately 1,000 oil and gas operators within the Commonwealth.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: The entities listed above will be required to meet altered pressure requirements when drilling deep and shallow wells.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): The cabinet is unable to determine the cost to each permit applicant. The cost to each entity will depend on the depth to which they are drilling. However, most drillers are currently meeting these requirements.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): The benefits for those owners and operators that are not already meeting these requirements will be increased safety for their workers and the surrounding area.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: These amendments will not increase the costs of the agency to implement.

(b) On a continuing basis: These amendments will not increase the costs of the agency on a continuing basis.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: A combination of general funds and restricted funds will be used.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: There will not be a need to increase fees or funding related to the proposed amendments.

(8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees: The amendments to this administrative regulation do not increase or establish any fees.

(9) TIERING: Is tiering applied? (Explain why or why not) No. All entities that drill a shallow or deep well will be treated in the same manner.

## FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

Admin. Regulation No. 805 KAR 1:130

Contact Person: Michael Mullins, Regulation Coordinator

1. What units, parts or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation? The Division of Oil and Gas.

2. Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation. KRS 353.550.

3. Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year? This new administrative regulation will not generate any new revenue for the state or local government.

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years? This new administrative regulation will not generate revenue in subsequent years.

(c) How much will it cost to administer this program for the first year? There will not be a cost increase associated with the amendments to this administrative regulation.

(d) How much will it cost to administer this program for subsequent years? Future costs would remain essentially unchanged related to this amendment.

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-): NA

Expenditures (+/-): NA

Other Explanation: NA