



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

As required by
the Washington State Administrative Procedures Act
Chapter 34.05 RCW

CONCISE EXPLANATORY STATEMENT
AND
RESPONSIVENESS SUMMARY
FOR THE ADOPTION OF
Chapter 173-160-381(3) WAC, Standards for
Decommissioning a Dug Well

February 21, 2007
Publication: 07-11-005

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Decommissioning a Dug Well

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Water Resource Program

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CONCISE EXPLANATORY STATEMENT

Introduction

Ecology is making a technical correction to Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells that was adopted on November 21, 2006. In particular, Ecology is amending WAC 173-160-381 (3)(c), 3(d), 3(e), and 3(f), the Standards for Decommissioning a Dug Well, by removing the word “otherwise” and including the phrase “the remainder of the” in these subsections. The error needs to be corrected to avoid confusion by those who will use the rule.

Purpose of Rulemaking

The purpose of this rulemaking is to amend Chapter 173-160-381(3)(c), (3)(d), (3)(e) and (3)(f), Standards for Decommissioning a Dug Well. An error was discovered in these subsections which need to be corrected to make them easier to understand and to avoid confusion by those who use the rule.

Statutory Authority for the Rulemaking – Chapter 18.104 RCW, Water Well Construction Act (1971)

The statutory authority for this rulemaking is Chapter 18.104 RCW, the Water Well Construction Act (1971), which authorizes Ecology to adopt rules governing well construction and licensing of well drillers, as appropriate to carry out the purposes of the chapter.

In addition, Ecology worked with the Technical Advisory Group (TAG) on this change. The TAG was formed by the legislature to assist Ecology in rulemaking activities and consists of 12 members representing the drilling profession, technical and environmental interests, local and state government, and engineering and scientific communities.

Adoption Date

The rule amendment is adopted on February 21, 2007 and will become effective on March 24, 2007.

II. Describe Differences Between Proposed and Final Rule

There is no difference between the text of the proposed rule as published in the Washington State Register and the text of the final rule as adopted.

III. Summarize Comments

There were three comments received on this amendment. One comment was in support of the change; one comment was neutral; and one comment recommended a clarification

that was out of the scope of this revision. There were no comments in opposition to this change.

IV. Summary of public involvement opportunities

Ecology sent a mass mailing to 1928 interested parties including drillers and related industries. The mass mailing explained the reason for the amendment and the need to make this change to avoid confusion. The mailing announced that Ecology would use the expedited rulemaking process and explained how this process could be appealed.

V. Appendices

- Appendix A - The mass mailing memo to interested parties sent on December 28, 2006.
- Appendix B - A copy of the final rule amendment text.

Appendix A: The mass mailing memo to interested parties sent on December 28, 2006.

December 28, 2006

TO: Interested Parties

FROM: Dick Szymarek, Well Drilling Coordinator
Water Resources Program

SUBJECT: Expedited Rulemaking for WAC 173-160, Standards for Construction and Maintenance of Wells

The Department of Ecology (Ecology) is proposing to make a technical correction to Chapter 173-160 WAC, Minimum Standards for Construction and Maintenance of Wells, adopted on November 21, 2006.

In particular, Ecology is changing WAC 173-160-381(3)(c), (3)(d), (3)(e), and (3)(f), the Standards for Decommissioning Dug Wells, by removing the word “Otherwise” and including the phrase “The remainder of the” in these subsections. The language needs to be corrected to avoid confusion by those who will use the rule for technical guidance.

The new language is as follows:

Chapter 173-160-381 WAC

(3) Dug wells -

(a) The following criteria are required for the decommissioning of all dug wells:

(i) Remove all debris and obstructions that impede decommissioning or that may contaminate the aquifer from within the dug well.

(ii) Dug wells may have a maximum of three feet of soil cover from top of sealing material to land surface.

(iii) Dug wells shall be sealed with either unhydrated bentonite, neat cement, neat cement grout, or concrete. The use of controlled density fill (CDF), bentonite slurry, or fly ash is prohibited.

(iv) Dug wells that are not cast-in-place must have a minimum of three feet of sealing material in contact with native soil below land surface. Bentonite slurry shall not be used to decommission dug wells.

(b) Dug wells that are dry at any time during the year and that are less than twenty feet in depth shall be sealed from the bottom to within three feet of land surface.

(c) Dug wells that have a static water level of ten feet from land surface or less and a depth of less than twenty feet may be decommissioned by installing clean chlorinated sand or pea gravel to a maximum depth of ten feet below land surface. ~~((Otherwise,))~~ The remainder of the well shall be filled with either unhydrated bentonite, neat cement, neat cement grout, or concrete.

(d) Dug wells that have a static water level over ten feet and a depth of less than twenty feet from land surface may be decommissioned by installing clean chlorinated sand or pea gravel to the static level. ~~((Otherwise,))~~ The remainder of the well shall be filled with either unhydrated bentonite, neat cement, neat cement grout, or cement.

(e) Dug wells with static levels twenty feet or less from the land surface and that are greater than twenty feet deep may be decommissioned by placing chlorinated sand or pea gravel to twenty feet below land surface. ~~((Otherwise,))~~ The remainder of the well, to a maximum of three feet below land surface, shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete.

(f) Dug wells with static levels below twenty feet from land surface, may be decommissioned by placing chlorinated sand or pea gravel to the static level and then placing alternating layers of sealing material and chlorinated sand or pea gravel to within twenty feet of land surface. The alternating layers of sand or pea gravel must be a maximum of five feet thick. The minimum thickness of the sealing material layers must be five feet. ~~((Otherwise,))~~ The remainder of the dug well shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete to a maximum of three feet below land surface.

The rule amendment will be adopted on February 21, 2007 and will become effective on March 24, 2007. If you have any questions, please call Dick Szymarek at (360) 407-6648 or be Email at: rszy461@ecy.wa.gov.

Appendix B - A copy of the final rule amendment text.

AMENDATORY SECTION (Amending Order 06-08, filed 11/21/06, effective 12/22/06)

WAC 173-160-381 What are the standards for decommissioning a well? Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard shall be decommissioned. The decommissioning procedure (as prescribed by these regulations) must be recorded and reported as required by the department.

(1) Cased wells. Remove all liners, debris, and obstructions from the well casing, except well screens and packers. All cased water wells shall be decommissioned in one of the following ways:

(a) Perforate the casing from the bottom to within five feet of the land surface and pressure seal the casing.

(i) Perforations shall be at least four equidistant cuts per row, and one row per foot. The perforations must be sufficient enough to allow neat cement grout or neat cement, or bentonite slurry to migrate outside the casing and effectively prevent the movement of water.

(ii) Apply enough pressure to force the sealing material through the perforations, filling any voids on the outside of the casing.

(iii) The casing shall be filled completely with neat cement grout, neat cement, or bentonite slurry. The screen and up to five feet of riser pipe may be filled with unhydrated bentonite. The remainder of the riser pipe must be removed.

(iv) The casing may be cut off at a maximum of five feet below land surface. A steel cap shall be welded on the casing; or

(b) Withdraw the casing and fill the bore hole with neat cement grout, neat cement, unhydrated bentonite, or bentonite slurry as the casing is being withdrawn.

(2) Uncased wells - Remove all liners, debris, and obstructions. Seal uncased wells with concrete, neat cement grout, neat cement, or bentonite.

(3) Dug wells -

(a) The following criteria are required for the decommissioning of all dug wells:

(i) Remove all debris and obstructions that impede decommissioning or that may contaminate the aquifer from within the dug well.

(ii) Dug wells may have a maximum of three feet of soil cover from top of sealing material to land surface.

(iii) Dug wells shall be sealed with either unhydrated bentonite, neat cement, neat cement grout, or concrete. The use of controlled density fill (CDF), bentonite slurry, or fly ash is prohibited.

(iv) Dug wells that are not cast-in-place must have a minimum of three feet of sealing material in contact with native soil below land surface. Bentonite slurry shall not be used to decommission dug wells.

(b) Dug wells that are dry at any time during the year and that are less than twenty feet in depth shall be sealed from the bottom to within three feet of land surface.

(c) Dug wells that have a static water level of ten feet from land surface or less and a depth of less than twenty feet may be decommissioned by installing clean chlorinated sand or pea gravel to a maximum depth of ten feet below land surface. ~~((Otherwise,))~~ The remainder of the well shall be filled with either unhydrated bentonite, neat cement, neat cement grout, or concrete.

(d) Dug wells that have a static water level over ten feet and a depth of less than twenty feet from land surface may be decommissioned by installing clean chlorinated sand or pea gravel to the static level. ~~((Otherwise,))~~ The remainder of the well shall be filled with either unhydrated bentonite, neat cement, neat cement grout, or cement.

(e) Dug wells with static levels twenty feet or less from the land surface and that are greater than twenty feet deep may be decommissioned by placing chlorinated sand or pea gravel to twenty feet below land surface. ~~((Otherwise,))~~ The remainder of the well, to a maximum of three feet below land surface, shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete.

(f) Dug wells with static levels below twenty feet from land surface, may be decommissioned by placing chlorinated sand or pea gravel to the static level and then placing alternating layers of sealing material and chlorinated sand or pea gravel to within twenty feet of land surface. The alternating layers of sand or pea gravel must be a maximum of five feet thick. The minimum thickness of the sealing material layers must be five feet. ~~((Otherwise,))~~ The remainder of the dug well shall be filled with unhydrated bentonite, neat cement, neat cement grout, or concrete to a maximum of three feet below land surface.

(4) Flowing artesian wells that are not leaking on the outside of the casing shall be decommissioned by pressure grouting with neat cement or weighted high solids bentonite slurry from the bottom of the well bore to land surface. If the well is leaking on the outside of the casing or if leaking develops while the decommissioning method above is employed, then the casing must be perforated and pressure grouted to replace all confining layers and to stop leakage.

(5) Placement of sealing material.

(a) Sealing material placed below the static water level shall be piped directly to the point of application or placed by means of a dump bailer or pumped through a tremie tube. As the sealing material is placed, the existing well tile may be encapsulated into the seal material. If concrete, neat cement grout, bentonite, bentonite slurry, or neat cement is used to seal below the static water level in the well, the material shall be placed from the bottom up by methods that avoid segregation or dilution of the material. When used to place concrete, neat cement, neat cement grout, or bentonite slurry the discharge end of the tremie tube shall be submerged in the sealing material to avoid breaking the seal while filling the annular space.

(b) All authorized sealing material placed above the static water level or into the dewatered portion of the well may be hand poured above the static water level, provided the material does not dilute or segregate, and result in a seal free of voids.

(c) When decommissioning wells that were originally constructed without casing, unhydrated bentonite chips or pellets may be hand placed, provided it forms a continuous seal.