15A NCAC 05H .XX17 PERMANENT WELL CLOSURE REQUIREMENTS

(a) All lost holes, dry holes, wells incapable of production, and wells identified by the Department as having an environmental impact on air, water, soil or biological resources or impacting health and safety shall be plugged and abandoned. In addition to the requirements detailed within paragraph (a)(1) through (a)(4) and paragraphs (b) through (j) of this Rule, the permittee shall ensure that plugging and abandonment activities meet the standards delineated in API Recommended Practice 51-R "Environmental Protection for Onshore Oil and Gas Production Operations and Leases," and API Bulletin E3 "Environmental Guidance Document: Well Abandonment and Inactive Well Practices for U.S. Exploration and Production Operations" which are incorporated by reference, including subsequent amendments and editions. These documents, published by API, may be viewed online at no charge at http://publications.api.org/default.aspx or may be purchased at a cost of fifty two dollars ($52.00) at http://www.techstreet.com/api/products/1633286 and one hundred forty two dollars ($142.00) at http://www.techstreet.com/api/products/25463 respectively or by mail at Techstreet, 3916 Ranchero Drive, Ann Arbor, MI 48108.

(1) The permittee shall complete and submit Form 001, Notice of Intent to Plug, to the Department for approval prior to commencement of all plugging and abandonment operations, replugging, or to plug-back a formation. The permittee shall include the following with the completed Form 001:

(i) A fee in accordance with §113-395(c);

(ii) Wellbore diagrams depicting the current well configuration; and

(iii) Diagrams depicting the proposed well configuration with cement plugs.

(2) Pursuant to §113-420(b), the permittee shall provide notice of plugging and abandonment operations, for existing wells incapable of production, to any surface owner(s) of the property on which the well has been constructed 30 days prior to commencement of these operations. The notice shall include the following:

(i) A description of the proposed well closure activities;

(ii) The date on which the proposed well closure activities will commence;

(iii) An offer from the permittee to consult with the surface owner to discuss the proposed well closure activities; and

(iv) The name, address, telephone number, and title of a contact person representing the permittee.

(3) The permittee shall notify the Department 72 hours prior to commencement of plugging operations for all existing wells and eight hours for lost and dry holes; and

(4) The permittee shall plug and abandon lost holes and dry holes prior to releasing the drilling rig from the well pad.

(b) Non-drillable material that would prevent re-entry of a well shall not be placed in any wellbore.

(c) Trash or refuse shall not be placed in any wellbore during plugging and abandonment operations.

Comment [RC1]: 30 day notice for existing wells incapable of production.

Comment [RC2]: Description of the notice is from SL 2012-143.

(d) Conductor casing or surface casing shall not be removed from any wellbore during plugging and abandonment operations.

(e) If intermediate casing has been installed in accordance with Section .XXX8 (well installation) paragraph (k)(1), the non-cemented section shall be removed from the wellbore or perforated at a depth required by the Department and cement placed into the annulus. To ensure the annulus is filled with cement, cement placed into the annulus shall be returned to the surface.

(f) Non-cemented sections of the production casing shall be removed from the wellbore or perforated at a depth(s) required by the Department and cement placed into the annulus.

(g) All pits or tanks utilized during well plugging and abandonment operations to contain waste shall conform to 15A NCAC 05H .XXX4 (construction requirements for waste management infrastructure).

(h) Cement or mechanical bridge plugs shall be placed within the wellbore to isolate hydrocarbon bearing zones, prevent migration of fluids in the wellbore, protect freshwater aquifers, and prevent surface water from entering the wellbore.

(1) All cement used to plug a well shall conform to Section .XXX7 (cement standards – well construction rule);

(2) Cement plugs shall be placed using a circulation method through tubing, casing, or drill pipe;

(3) All intervals between the cement and mechanical bridge plugs shall be filled with a bentonite-based mud that has a minimum weight of nine and one half pounds per gallon;

(4) Vertical wellbores shall have cement plugs placed in the following intervals:

(i) From either the total depth, or a minimum of 50 feet below the base of the lowest hydrocarbon bearing zone penetrated, to a minimum of 100 feet above the top of the lowest hydrocarbon bearing zone;

(ii) From a minimum of 50 feet below to a minimum of 100 feet above each succeeding hydrocarbon bearing or freshwater zone, not isolated by intermediate or surface casing;

(iii) From a minimum of 100 feet below to a minimum of 100 feet above the base of intermediate and surface casing strings;

(iv) From a minimum of 200 feet below ground elevation to three feet below ground elevation;

(v) All casing remaining in the wellbore shall be cut off three feet below ground elevation; and

(vi) The top of the wellbore shall be sealed with a steel plate welded in place and the API number for the well shall be identifiable on the steel plate.

(5) Horizontal wellbores shall have cement plugs placed in accordance with paragraph (h)(4)(i) through (h)(4)(vi) of this rule with the exception that the bottom plug, as outlined in paragraph (h)(4)(i), shall be placed at the depth of the well curve kick-off point and extend above that point a minimum of 200 feet; and

(6) If mechanical bridge plugs are used, the plug shall be set immediately above each zone identified in paragraph (h)(4)(i) through (h)(4)(vi) of this rule and covered with a minimum of 50 feet of cement.

(i) All ratholes, mouseholes, and boreholes on or around the rig or drilling operation shall be filled with bentonite or cement to a depth of three feet below ground surface, and then filled to the surface with soil.

(j) All wellheads shall be disconnected from gathering lines.

(k) The permittee shall complete and submit Form 002, Well Plugging Report, to the Department within 90 days of cessation of activities indicating the well has been plugged and abandoned. The permittee shall attach to Form 002 a wellbore diagram depicting; the cement plugs that were set and the casing remaining in the wellbore; wireline logs; cementing tickets; any other job summaries from plugging contractors; and any site or facility maps.

History Note: *Authority 113-391(a)(2); 113-391(a)(5)k; 113-395(c); 113-420(b)*

Eff.

15A NCAC 05H .XX18 SHUT-IN WELL REQUIREMENTS

(a) Wells that are completed according to Section 0XX8 (well installation), are equipped with a wellhead according to Section XX11 (wellhead requirements), and are capable of production may be temporarily closed and approved by the Department as shut-in in accordance with this rule. The master valve on a shut-in well shall be closed.

(1) The permittee shall complete and submit Form 003, Temporary Abandoned Well Status, to the Department for approval of shut-in status;

(2) The Department shall approve a well shut-in if:

(i) The permittee provides a plan to the Department outlining the future utilization of the well;

(ii) The wellhead and well pad meet the requirements of Section .XX11 (Wellhead Requirements) and Section .XX12 (Well Maintenance and Site Security);

(iii) The permittee shall monitor the integrity of the well on an annual basis and report the inspection results to the Department by submitting Form 004, Notice of Continued Temporary Abandonment Status; and

(iv) The permittee maintains bonding requirements (reference bonding rules) until the well is permanently plugged and abandoned.

(b) Once granted shut-in status is valid for a period of one year, with an annual renewal required if the permittee desires to maintain shut-in status beyond one year. A maximum of three renewal periods may be authorized before the well shall be placed into production or temporarily abandoned pursuant to Section XX19 (Temporary Abandonment Requirements);

(c) A variance may be granted by the Department to extend the shut-in status beyond three renewal periods for reasons such as:

Comment [RC3]: [JLR6]: Existing form or are we needing to create them? Shouldn't we indicate what should be on the form?
Ryan Channell: This is not an existing form. I'm just identify the needed forms. Other states reference various forms throughout the rules but the permittee doesn't know the detail of required information being requested by the regulatory agency until reviewing the form.

Comment [AP4]: Review all variance paragraphs once authority and language identified.

(1) Inadequate infrastructure development; or

(2) Sub-economic producing conditions.

(d) If the permittee fails to maintain all of the requirements of the criteria outlined in paragraphs (4)(i) through (4)(iv), the Department may require the permittee, at the permittee's discretion to either put the well into production or plug and abandon the well.

(e) The permittee shall complete and submit Form 005, Request to Commence Production, to the Department for approval prior to producing from a well that has been shut-in.

History Note: Authority113-391(a)(2); 113-391(a)(5)k
Eff.

15A NCAC 05H .XX19 TEMPORARY ABANDONMENT REQUIREMENTS

(a) Wells that are completed according to Section XXX8 (well installation) but are not equipped with a wellhead according to Section XX11 (wellhead standards) and are capable of production may be temporarily abandoned.

(1) The permittee shall complete and submit Form 003, Temporary Abandoned Well Status, to the Department for approval

(2) Wells shall be temporarily abandoned according to section .XX17 paragraph (h)(4)(i) through paragraph (h)(4)(vi) for vertical wellbores and paragraph (h)(5) for horizontal wellbores;

(3) The Department shall approve the temporary abandonment of a well if:

(i) The permittee provides a plan to the Department outlining the future utilization of the well;

(ii) The permittee provides data showing that oil and gas remain in place;

(iii) The permittee plans to commence production prior to the expiration of the suspension period;

(iv) The well pad meets the requirements of Section .XX12 (Well Maintenance and Site Security);

(v) The permittee shall monitor the integrity of the well on an annual basis and report the inspection results to the Department by submitting Form 004, Notice of Continued Temporary Abandonment Status; and

(vi) The permittee maintains bonding requirements (reference bonding rules) until the well is permanently plugged and abandoned.

(4) Temporary abandonment is valid for a period of five years, with a maximum of one renewal period authorized before the well shall be placed into production or permanently plugged and abandoned; and

(b) The permittee shall complete and submit Form 005, Request to Commence Production, to the Department for approval prior to producing from a well that has been temporarily abandoned.

Comment [RC5]: **[JLR10]**: Again, forms – do we need to somewhere state what is on them. And for this one do we need to add requirement that the Department shall approve the request if certain criteria are met? Or is this "Request to Commence Production" captured elsewhere in our regulations?

History Note: *Authority113-391(a)(2); 113-391(a)(5)k*
Eff.