

SUBCHAPTER 05H – OIL AND GAS CONSERVATION

SECTION .0100 – TERMS OF REFERENCE

15A NCAC 05H .0101 PURPOSE AND SCOPE

The rules of this Subchapter regulate the management of oil or gas exploration and development to protect public health, welfare, and the environment.

History Note: Authority G.S. 113-391(a);
Eff. March 17, 2015.

15A NCAC 05H .0102 TERMS OF REFERENCE AND DEFINITIONS

The terms as used in this Subchapter shall have the definitions as specified in G.S. 113-389. In addition, the following terms shall have the following meaning:

- (1) "7Q10," when used in reference to surface water, refers to the minimum average flow for a period of seven consecutive days that has an average occurrence of once in 10 years.
- (2) "Abandon" means to temporarily or permanently cease production from an oil or gas well or to cease further drilling operations.
- (3) "Additive(s)" means any chemical substance or mixture of substances.
- (4) "Affected reach" means the portion of a stream channel where the hydrology may be significantly affected by the cumulative effects of the proposed water withdrawal in combination with existing water withdrawals and point source discharges.
- (5) "Annular flow" means the flow of formation fluids from the formation into a space or pathway in an "annulus" within an oil or gas well.
- (6) "Annulus" means the space around a pipe in a wellbore, sometimes termed the annular space.
- (7) "API number" means the unique and permanent, American Petroleum Institute numeric identifier assigned by the North Carolina Geological Survey to each well drilled for oil or gas production.
- (8) "Applicant" means the person who submits an Oil or Gas Well Permit Application.
- (9) "Barrel" means 42 U.S. gallons at 60° F at atmospheric pressure.
- (10) "Blowout" means an uncontrolled flow of gas, oil, or other wellbore fluids from the oil or gas well.
- (11) "Blowout preventer (BOP)" means one or more valves installed at the wellhead to prevent the escape of pressure from the annular space or the escape of pressure from the wellbore:
 - (a) "Annular blowout preventer" means a large valve that forms a seal in the annular space between the pipe and wellbore.
 - (b) "Shear ram blowout preventer" means a closing element fitted with hardened tool steel blades designed to cut the drill pipe when closed.
- (12) "Brine" means a liquid solution with a concentration of dissolved salts greater than 35 grams of dissolved constituents per kilogram of water.
- (13) "Bull plug" means a threaded or flanged pipe designed to seal an open-ended pipe.
- (14) "Casing" means pipe placed in a wellbore to provide hole stability, isolate and protect groundwater, enhance wellbore integrity, isolate oil and gas formations, and provide pressure integrity.
- (15) "Casing string" means the entire length of all the connected joints of casing inserted into the wellbore.
- (16) "Cellar" means an excavated area below the drill rig floor that allows placement of wellhead components at or below ground level.
- (17) "Cement basket" means a slip-on style device made of high strength, flexible steel staves, mounted on a steel slip-on ring with heavy-duty canvas liners riveted to staves.
- (18) "Cement bond log (CBL)" means an acoustic or sonic-logging method run inside casing that measures the transmissibility of sound between cemented casing and the formation.
- (19) "Centralizer" means a mechanical device used to position the casing concentrically in the wellbore.
- (20) "Chemical(s)" means any element, chemical compound, or mixture of elements or compounds that has its own specific name or identity, such as a Chemical Abstracts Service Registry Number.
- (21) "Chemical Abstracts Service" is a division of the American Chemical Society.

- (22) "Chemical Abstracts Service Registry Number" or "CAS Registry Number" means the unique identification number assigned to a chemical by the Chemical Abstracts Service.
- (23) "Chemical classification" means a grouping that relates a chemical to others with similar features, functions, or reactive properties.
- (24) "Chemical disclosure registry" means the chemical registry website known as <http://fracfocus.org> developed by the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission.
- (25) "Christmas tree" means a set of valves, spools, gauges, and fittings connected to the top of the well to direct and control the flow of formation fluids from the well.
- (26) "Conductor casing" means a casing string used to support unconsolidated surface deposits.
- (27) "Completion" means the activities that render an oil or gas well capable of producing oil or gas through the wellhead equipment from a producing zone after the production casing string has been set.
- (28) "Containment system" means a synthetic liner, coating, storage structure, other material, or structure used in conjunction with a primary container that prevents any spills onto the ground or spills from leaving the drilling site.
- (29) "Contaminant" means any substance occurring in groundwater, surface water, or soil in concentrations that exceed the standards specified in 15A NCAC 02B, 15A NCAC 02L .0202, or 15A NCAC 02L .0411, which are incorporated by reference, including subsequent amendments and editions.
- (30) "Conventional reservoir" means an accumulation of hydrocarbons that are localized in structural or stratigraphic traps.
- (31) "Deepen" means an operation where an oil or gas well is drilled beyond the originally permitted depth of the oil or gas well.
- (32) "Deviated well" means an oil or gas well that is purposely deviated from the vertical using directional drilling methods to reach the objective location other than directly below the surface location.
- (33) "Director" means the Director of the Division of Energy, Mineral, and Land Resources of the Department of Environmental Quality.
- (34) "DLIS" means Digital Log Information Standard.
- (35) "Drill pipe" means the pipe used to rotate the drill bit and circulate the drilling fluid.
- (36) "Drill stem test" means a method of formation testing consisting of a packer or packers, valves, or ports that may be opened or closed from the surface, and two or more pressure recording devices.
- (37) "Drilling unit" means an area established by the Commission that can be efficiently and economically drained by one or more oil or gas wells.
- (38) "Dry hole" means any oil or gas well that does not produce oil or gas in commercial quantities.
- (39) "Emergency responder" means an emergency medical technician, fire fighter, law enforcement officer, public works employee, emergency manager, fire marshal, HAZMAT coordinator, technical specialist, incident commander, fire chief, or a member of State Emergency Management who provides, plans, or directs emergency health or safety services.
- (40) "Exploration and Production (E & P) waste" means wastes associated with the exploration, development, and production of oil or gas, which are not regulated by the Subtitle C of the Federal Resource Conservation and Recovery Act as set forth in 40 CFR Parts 260-299, which is incorporated by reference, including subsequent amendments and editions, which can be accessed at http://www.ecfr.gov/cgi-bin/text-idx?SID=13be85c0df8971509a2531a778d1c87f&tpl=/ecfrbrowse/Title40/40tab_02.tpl for no charge, and may include the following:
 - (A) produced brine, sand, and water;
 - (B) drill cuttings;
 - (C) water-based drilling fluids;
 - (D) flowback fluids;
 - (E) stormwater in secondary containment and pits at the well site; and
 - (F) any other deposits or residuals from exploration and production activities.
- (41) "Float collar" means a component that is installed near the bottom of the casing string on which wiper plugs land during the primary cementing operation.

- (42) "Float shoe" means a rounded profile component attached to the down hole end of the production casing string to prevent reverse flow of cement slurry into the casing string.
- (43) "Flowback fluid" means liquids, and mixtures thereof, consisting of drilling fluid, silt, sand and other proppants, debris, water, brine, oil, paraffin, produced water, or other materials that are removed from the wellbore during the completion or recompletion of an oil or gas well, other additives that flow from an oil or gas well following well stimulation, or during production of an oil or gas well.
- (44) "Floodplain" is defined in 44 CFR 59.1, which is incorporated by reference, including subsequent amendments and editions, which can be accessed at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title44/44cfr59_main_02.tpl for free.
- (45) "Floodway" is defined in 44 CFR 59.1, which is incorporated by reference, including subsequent amendments and editions, which can be accessed at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title44/44cfr59_main_02.tpl for free.
- (46) "Flow rate" means the volume per unit of time of a fluid moving past a fixed point.
- (47) "Formation Integrity Test (FIT)" means a pressure test applied to the formation directly below the base of the casing string to determine the maximum pressure that may be applied without risk of formation breakdown.
- (48) "Fresh groundwaters" means those groundwaters having a chloride concentration less than or equal to 250 milligrams per liter.
- (49) "FRO" means Financial Responsibility Ownership, as set forth in Rule .1302 of this Subchapter.
- (50) "Green completion" means an oil or gas well completion following stimulation or restimulation where gas flowback that is otherwise vented is captured, cleaned, and routed to the flow line or collection system, re-injected into the oil or gas well or another oil or gas well, used as an on-site fuel source, or used for other purpose that a purchased fuel or raw material would serve, with no direct release to the atmosphere.
- (51) "Groundwaters" means those waters occurring in the subsurface under saturated conditions.
- (52) "Hazardous chemicals" is defined in 29 CFR 1910.1200(c), which is incorporated by reference, including subsequent amendments and editions and can be accessed at <http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=29:6.1.1.1.1.1.1.36> for no charge.
- (53) "Health professional" means a licensed physician, physician's assistant, industrial hygienist, toxicologist, epidemiologist, nurse, nurse anesthetist, nurse practitioner, or a local health director.
- (54) "High occupancy building" means any operating public school, nursing facility, hospital, life care institution, or correctional facility, provided that the facility or institution that has the capacity to serve 50 or more persons, or an operating child care center as defined in G.S. 110-86.
- (55) "Hydraulic fracturing" means oil or gas well stimulation by the application of hydraulic pressure using fluids, proppants, and additives under pressure to create artificial fractures or to open existing fracture networks in the formation for the purpose of improving the capacity to produce hydrocarbons.
- (56) "Hydraulic fracturing stage" means the portion of a wellbore that is isolated by setting packers or plugs during well stimulation operations.
- (57) "Intermediate casing" means a casing string that is set in place after the surface casing and before the production casing.
- (58) "Intermittent stream" is determined by North Carolina Division of Water Quality Methodology for Identification of Intermittent and Perennial Streams and Their Origins, Version 4.11, Effective Date: September 1, 2010, including subsequent amendments and editions, which can be accessed for free at <http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations>.
- (59) "Joint" means a length of drill pipe or casing.
- (60) "Kelly bushing" means a device that is fitted to the rotary table through which the kelly passes and the means by which the torque of the rotary table is transmitted to the kelly and the drill string.
- (61) "Kickoff point" means the depth in a vertical wellbore in which a deviation is initiated.
- (62) "LAS" means Log ASCII Standard.
- (63) "Licensed geologist" means a person who has been duly licensed as a geologist in accordance with the requirements of G.S. 89E.
- (64) "LiDAR" means Light Detection And Ranging.
- (65) "LIS" means Log Information Standard.

- (66) "Lost hole" means an oil or gas well that could not be drilled to the originally permitted total depth.
- (67) "Master valve" means a large valve located on the wellhead and used to control the flow of oil or gas from a well.
- (68) "Mechanical bridge plug" means a down hole tool, composed primarily of slips, a plug mandrel, and a sealing element, that is run and set in casing to isolate that portion of the well below the plug.
- (69) "Mousehole" means a shallow boring under the drilling rig floor, lined with casing, in which joints of drill pipe are temporarily suspended for future connection to the drill string.
- (70) "NC UCC" means the North Carolina Uniform Commercial Code found in G.S. 25, Article 5.
- (71) "Occupied dwelling" means a private residence, existing inhabited structure, or a public building that may be used as a place of assembly, education, entertainment, lodging, trade, manufacture, repair, storage, or occupancy by the public, including any outdoor recreational facility, State Park as defined in G.S. 113-44.9, or historic property acquired by the State pursuant to G.S. 121-9 or listed in the North Carolina Register of Historic Places pursuant to G.S. 121-4.1. This definition does not apply to a building or other structure that is incidental to agricultural use of the land on which the building or other structure is located, unless the building or other structure is used as an occupied private dwelling or for retail trade.
- (72) "Packer" means a piece of down hole equipment that consists of a sealing device, a holding or setting device, and may contain an inner passage for fluids.
- (73) "Perennial stream" means a channel that contains water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year as indicated on the most recent versions of U.S.G.S 1:24,000 (7.5 minute) scale topographic maps.
- (74) "Permittee" means a person to whom the Department has issued an Oil or Gas Well Permit.
- (75) "Pit" means any natural or man-made depression in the ground used for storage of liquids.
- (76) "Plug and abandon" means to place a series of cement plugs into a wellbore, cut casing strings and remove the wellhead and Christmas tree to permanently decommission the well.
- (77) "Plug back" means to place cement in or near the bottom of an oil or gas well to sidetrack or to produce from a formation higher in the oil or gas well.
- (78) "Produced water" means the water that exists in subsurface formations and is brought to the surface during oil or gas production.
- (79) "Production casing" means a casing string that is set to allow completion and installation of down hole production equipment for production of an oil or gas well.
- (80) "Production facility" means all storage, separation, treating, dehydration, artificial lift, power supply, compression, pumping, metering, monitoring, flowline, and other equipment directly associated with production at oil or gas wells.
- (81) "Production zone" means the rock stratum that will yield hydrocarbons.
- (82) "Professional engineer" means a person who is presently registered and licensed pursuant to G.S. 89C.
- (83) "PSI" means pounds per square inch.
- (84) "Rathole" means a hole in the drilling rig floor that is lined with casing into which the kelly is temporarily placed.
- (85) "Reclamation" means the process of returning or restoring disturbed land to its condition prior to the commencement of oil or gas operations.
- (86) "Reenter" means accessing a previously completed or plugged wellbore.
- (87) "Residuals" means any solid, semisolid, or liquid waste, other than effluent or residues from agricultural products and processing, generated from a wastewater treatment facility, water supply treatment facility, or air pollution control facility permitted under the authority of the Environmental Management Commission.
- (88) "Rotating diverter system" means equipment normally associated with air drilling operations that provides an annular seal around the drill pipe during drilling operations that routes recovered fluids and solids away from the drilling rig.
- (89) "Safety data sheet" means written or printed materials containing all the information specified in 29 CFR 1910.1200(g), which is incorporated by reference including subsequent amendments, which can be accessed at <http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=29:6.1.1.1.1.1.1.36> for no charge, for regulated hazardous substances.

- (90) "Service company" means a person contracted by the permittee who conducts work onsite related to the drilling, completion, or production of an oil or gas well.
- (91) "Setback" means the horizontal separation distance, in feet, between the surface location of well site structures and adjacent structures and land features.
- (92) "Shut-in" means to stop flow from a well.
- (93) "Sidetrack" means to use a down hole motor to drill around the original planned path of the oil or gas well.
- (94) "SPCA" means the Sediment Pollution Control Act of 1973 found in G.S. 113A, Article 4.
- (95) "Spud" means to start the oil or gas well drilling process by removing rock, dirt, and other sedimentary material with the drill bit.
- (96) "Sub-base" means the layer of material laid on the subgrade.
- (97) "Subgrade" means the native material at the bottom of a sub-base.
- (98) "Surface casing" means a large diameter casing string set in shallow, yet competent, formations used to protect groundwaters, provide sufficient structural integrity to bear the weight of subsequent casing strings, and pressure integrity to contain the pressures anticipated to the next casing point.
- (99) "Surface use agreement" means any agreement in the nature of a contract or other form of document binding on the permittee, including any lease, damage agreement, waiver, or local government approval or permit, which governs the permittee's activities on the surface in relation to locating a well, production facility, pipeline, or any other oil or gas facility that supports oil and gas development located on the surface owner's property.
- (100) "Tank" means a stationary vessel constructed of non-earthen materials used to contain fluids.
- (101) "Tank battery" means a group of tanks that are connected to receive production fluids from an oil or gas well or a producing lease.
- (102) "Tracer technology" means technology used to trace well stimulation fluid back to the oil or gas well where fluid was injected.
- (103) "Trade name" means the common name given by industry or a manufacturer to a chemical or product.
- (104) "Trade secret" is defined in G.S. 66-152(3).
- (105) "Treating healthcare provider" means a licensed physician, physician's assistant, industrial hygienist, toxicologist, epidemiologist, emergency medical technician, nurse, nurse anesthetist, nurse practitioner, or local health director.
- (106) "Unconventional reservoir" means a resource whose porosity, permeability, fluid trapping mechanism, or other characteristics differ from conventional reservoirs.
- (107) "Vendor" means a company that sells or provides a substance or product for use in oil or gas exploration or production.
- (108) "Water source" means any of the following:
 - (a) waters of the State;
 - (b) a source of water supply used by a water purveyor;
 - (c) mine pools and discharges; and
 - (d) any other waters that are used for drilling, completing, and stimulating an oil or gas well.
- (109) "Water supply well" is defined in G.S. 87-85(13).
- (110) "Waters" or "Waters of the State" is defined in G.S. 143-212.
- (111) "Well" is defined in G.S. 87-85(14).
- (112) "Wellbore" means a borehole drilled by a bit.
- (113) "Wellhead" means the upper terminal of the oil or gas well, including adapters, ports, valves, seals, and other attachments.
- (114) "Well pad" means the area that is cleared or prepared for the drilling of one or more oil or gas wells.
- (115) "Well site" means the areas that are directly disturbed during the drilling and subsequent operation of any oil or gas well and its associated well pad.
- (116) "Well spacing" means the minimum distance from any wellbore in the drilling unit to the boundary of the drilling unit.
- (117) "Well stimulation" means any of several operations or processes to initiate or increase the production of oil or gas from a well, including acidizing, hydraulic fracturing, or other methods.

- (118) "Wetland" is defined in 40 CFR 230.3, which is incorporated by reference, including subsequent amendments and editions, which can be accessed at <http://www.ecfr.gov/cgi-bin/text-idx?SID=7977290449ab243f2865159951305a77&node=40:25.0.1.3.24&rgn=div5> for free.
- (119) "Wiper plug" means a rubber plug used to separate the cement slurry from other fluids.
- (120) "Wireline log" means the recording of information about subsurface geologic formations using tools lowered into the wellbore on a wire line.
- (121) "Withdrawal" means the removal of water from a water body, well, or other fluid storage structure.
- (122) "Workover" means the performance of one or more of a variety of operations on a producing oil or gas well to attempt to increase production.

History Note: Authority G.S. 113-391;
Eff. March 17, 2015;
Amended Eff. September 1, 2022.

SECTION .0200 – ADMINISTRATIVE RULES

15A NCAC 05H .0201 FORMS

(a) An applicant or permittee shall use the following forms, as provided by the Department:

- (1) Form 1 – Financial Responsibility Ownership;
- (2) Form 2 – Oil or Gas Well Permit Application;
- (3) Form 3 – Well Construction Design;
- (4) Form 4 – Water Management Plan;
- (5) Form 5 – Waste Management Plan;
- (6) Form 6 – Well Site Reclamation Plan;
- (7) Form 7 – Irrevocable Letter of Standby Credit;
- (8) Form 8 – Surety Bond;
- (9) Form 9 – Assignment of Savings;
- (10) Form 10 – Cash Deposit;
- (11) Form 11 – Required Notifications to the Department;
- (12) Form 12 – Well Drilling Report;
- (13) Form 14 – Plugging and Abandonment;
- (14) Form 15 – Oil or Gas Well Status;
- (15) Form 16 – Mechanical Integrity Test Results;
- (16) Form 17 – Notification of Return of Oil or Gas Well to Active Status;
- (17) Form 18 – Well Stimulation Report;
- (18) Form 19 – Chemical Disclosure Report;
- (19) Form 20 – Confidential Information Claim;
- (20) Form 21 – Water Supply Investigation Request;
- (21) Form 22 – Water Supply Testing Report;
- (22) Form 23 – Annual Water Use Report;
- (23) Form 24 – Annual E & P Waste Management Report;
- (24) Form 25 – Pit Closure Report;
- (25) Form 26 – Spill and Release Report;
- (26) Form 27 – Site Investigation and Remediation Work Plan;
- (27) Form 28 – Monthly Production Report; and
- (28) Form 29 – Well Site Inspection Report.

(b) The use of any forms other than those provided by the Department is prohibited. These forms are available on the Division's Oil and Gas Program webpage at the following address: <http://portal.ncdenr.org/web/lr/oilgas>.

(c) All notice and forms required by the rules in this Subchapter to be submitted to the Department shall be made to: Oil & Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center, Raleigh, NC 27699-1612 and a copy in .pdf form submitted to Oil&Gas@ncdenr.gov. The phone number for the Division is 919-707-9220 and the fax number is 919-715-8801.

History Note: Authority G.S. 113-391;
Eff. March 17, 2015.

15A NCAC 05H .0202 RECORD KEEPING & REPORTING

- (a) The Department shall collect data, retain records, and produce reports pursuant to G.S. 113-391(b).
- (b) If information collected during predrilling exploration activities or geophysical surveys related to oil or gas exploration and development is of a confidential nature, then upon request of the permittee, the State Geologist shall hold such information in confidence until the information is no longer confidential in accordance with Rule .0707 of this Subchapter.
- (c) The permittee shall retain all data, records, reports, logs, and samples associated with oil or gas well drilling, completion, production, and plugging and abandonment until released to the Department. The permittee shall transfer all records or copies within five years of the release of an Oil or Gas Permit in accordance with Rule .1314 of this Subchapter to the State Geologist for permanent public record retention.

History Note: Authority G.S. 113-391(a)(5)(k); 113-391(b); 113-391(b1);
Eff. March 17, 2015.

15A NCAC 05H .0203 INSPECTIONS

- (a) Each permittee shall make available to the Department for inspection the well site, any other area encompassed by the permit, and any records maintained pursuant to the provisions of this Subchapter.
- (b) Authorized representatives of the Department may copy any record required to be kept pursuant to provisions of this Subchapter.
- (c) Any notice of violation resulting from an inspection shall be issued pursuant to Rule .0901 of this Subchapter.

History Note: Authority G.S. 113-391(b);
Eff. March 17, 2015.

SECTION .0300 - VARIANCES

15A NCAC 05H .0301 VARIANCE PROCEDURES

- (a) The Commission may grant a variance, grant a variance with conditions, or deny a variance in writing to any Commission rule for which a variance is requested pursuant to this Subchapter. In order for the Commission to grant a variance or grant a variance with conditions, the Commission shall find:
 - (1) the applicant or permittee has made a good faith effort to comply, or is unable to comply, with the specific requirements contained in the rule or rules from which it seeks a variance;
 - (2) the variance, if granted provides equal or greater protection of public health, safety, and the environment; and
 - (3) the requested variance does not violate the basic intent of the Oil and Gas Conservation Act in G.S. 113, Article 27.
- (b) The applicant or permittee shall request the variance by submitting a written request to the Commission, as set forth in Rule .0703 of this Subchapter. A request for a variance shall include the following information:
 - (1) the name and address of the requesting party;
 - (2) the rule authorizing the request for a variance;
 - (3) all information required by the statute or rule authorizing the request for a variance;
 - (4) a statement of whether an oral argument before the Commission is desired, and if so, the reason(s) for requesting such an oral argument;
 - (5) a concise statement of the matter to be presented, including the nature and duration of the variance requested;
 - (6) arguments or data that support the requesting party's position;
 - (7) documents or data that illustrate alternative, mitigating technologies, techniques, or procedures that afford the same or greater protection to public health, safety, and the environment;
 - (8) a statement of the consequences of failure to grant relief in favor of the requesting party; and
 - (9) any other information believed by the applicant or permittee to be pertinent to the request.
- (c) The variance request may be submitted with the Form 2 – Oil or Gas Well Permit Application, which is governed by Rule .1304 of this Subchapter. If the variance request is submitted separate from the application, it shall be submitted no less than 30 days before the next regularly scheduled Commission meeting.
- (d) Any hearing on the variance request shall be denied or conducted in accordance with Section .0700 of this Subchapter.

*History Note: Authority G.S. 113-391(a);
Eff. March 17, 2015.*

SECTION .0400 – DECLARATORY RULING

15A NCAC 05H .0401 PROCEDURE FOR SUBMISSION OF PETITION

- (a) All requests for declaratory rulings shall be filed in writing and electronically as follows:
- (1) with the Director by filing one paper copy for each Commissioner plus five additional copies to the following address: Oil and Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center, Raleigh, NC 27699-1612; and
 - (2) the electronic submission shall be in .pdf format and sent to the Division at Oil&Gas@ncdenr.gov.
- (b) All requests for declaratory rulings shall include the following:
- (1) the name and address of petitioner(s);
 - (2) the statute, rule, or order upon which a ruling is desired;
 - (3) a concise statement as to whether the request is for a ruling on the validity of a rule or on the applicability of a statute, rule, or order to a given factual situation;
 - (4) arguments or data demonstrating that the petitioner is aggrieved by the statute, rule, or order, or by its potential application to the petitioner;
 - (5) a statement of the consequences of failure to issue a declaratory ruling in favor of the petitioner;
 - (6) a statement of the desired outcome; and
 - (7) a statement of whether an oral argument is desired, and if so, the reason(s) for requesting such an oral argument.
- (c) A petitioner may request a declaratory ruling on the applicability of a statute, rule, or order to the petitioner, or on the validity of a Commission rule. The petitioner may request both types of declaratory ruling in a single request. A request on the applicability of a statute, rule, or order shall include a detailed statement of the facts and documentation supporting such facts, in addition to the requirements of Paragraph (b) of this Rule. A request to determine the validity of a Commission rule shall state the petitioner's reason(s) for the request and a written argument, in addition to the requirements of Paragraph (b) of this Rule.
- (d) Any other person may petition to become a party by filing a motion to intervene in the manner provided in G.S. 1A-1, Rule 24. The Chair of the Commission shall determine whether to grant the motion to intervene in accordance with Rule 24 of the North Carolina Rules of Civil Procedure.

*History Note: Authority G.S. 113-391(a)(14); 150B-4;
Eff. March 17, 2015.*

15A NCAC 05H .0402 DISPOSITION OF PETITION

- (a) The Chair of the Commission shall make a determination on the completeness of the request for declaratory ruling based on Rule .0401 of this Section.
- (b) The Chair of the Commission shall make a recommendation to the Commission on whether to issue or decline to issue a declaratory ruling.
- (c) Before deciding the merits of the request, and upon consideration of the complete request for a declaratory ruling, the Commission shall determine if additional information or presentation(s) are needed and if so:
- (1) request additional written submissions from the petitioner(s);
 - (2) request a written response from Division staff or any other person; and
 - (3) hear oral arguments from the petitioner(s), intervenors, and Division staff or their legal counsel.
- (d) The Commission shall decline to issue a declaratory ruling if it finds any of the following:
- (1) that there has been a similar determination in a previous contested case or declaratory ruling;
 - (2) that the matter is the subject of a pending contested case hearing or litigation in any North Carolina or federal court;
 - (3) that no genuine controversy exists as to the application of a statute, order, or rule to the specific factual situation presented; or
 - (4) that the factual situation presented as the subject of the declaratory ruling was specifically considered upon the adoption of the rule being questioned, as evidenced by the rulemaking record.
- (e) The Commission shall keep a record of each request for declaratory ruling, which shall include the following items:

- (1) the request for a ruling;
 - (2) any written submission by a party;
 - (3) the facts on which the ruling was based;
 - (4) any transcripts of oral proceedings, if available, and recordings of oral arguments;
 - (5) any other information such as documents, photographs, recordings, maps, plats, articles, and studies considered by the Commission in making its decision; and
 - (6) the declaratory ruling, or the decision to decline to issue a declaratory ruling, together with the reasons therefore.
- (f) The Commission shall notify the petitioner in writing of the Commission's decision on the request for declaratory ruling, including the basis for the Commission's decision.
- (g) For purposes of this Section, a declaratory ruling shall be deemed to be in effect until:
- (1) the statute or rule interpreted by the declaratory ruling is repealed or the relevant provisions of the statute or rule are amended or altered;
 - (2) any court of the Appellate Division of the General Court of Justice construes the statute or rule that is the subject of the declaratory ruling to be irreconcilable with the declaratory ruling; or
 - (3) any court sets aside the declaratory ruling in litigation between the Commission or the Department and the party requesting the ruling.
- (h) Any Division of the Department may be a party to any request for declaratory ruling upon written request. The request shall be made to the Chair of the Commission within five days of receipt of notice of the request for a declaratory ruling.
- (i) Upon written request, the petitioner(s), intervenors, and the Division each shall be allowed to present oral arguments to the Commission. No party shall offer testimony or conduct cross-examination before the Commission.
- (j) The petitioner may agree to allow the Commission to issue a written ruling to grant or deny consideration of the request beyond 30 days of receipt of the request and may agree to allow the Commission to issue a written ruling on the merits of the request beyond the 45 days allowed by G.S. 150B-4.
- (k) A declaratory ruling, or failure to issue a declaratory ruling, is subject to judicial review as provided in G.S. 150B-4(a1).

History Note: Authority G.S. 113-391(a)(14); 113-391(a4); 150B-4;
Eff. March 17, 2015.

SECTION .0500 – PETITION FOR RULEMAKING

15A NCAC 05H .0501 FORM AND CONTENTS OF PETITION

(a) Any person wishing to request the adoption, amendment, or repeal of a rule of the Commission shall petition the Director by submitting the information required in Paragraph (b) of this Rule. The petitioner shall submit one paper copy of the petition for each Commissioner plus five additional copies and a copy in .pdf form to:

Oil and Gas Program Division of Energy, Mineral, and Land Resources
1612 Mail Service Center
Raleigh, North Carolina 27699-1612
Oil&Gas@ncdenr.gov.

- (b) The petition shall contain the following information:
- (1) the text of the proposed rule(s) for adoption or amendment;
 - (2) a statement of the reasons for adoption or amendment of the proposed rules, or the repeal of an existing rule(s);
 - (3) a statement of the effect on existing rules or orders;
 - (4) any documents and data supporting the proposed rule(s);
 - (5) the name(s) and address(es) of the petitioner(s); and
 - (6) a request to present the petition to the committee in accordance with Rule .0502 of this Section, if desired.
- (c) The petitioner may include the following information within the request:
- (1) the statutory authority for the agency to promulgate the rule(s);
 - (2) a statement of the effect of the proposed rule(s) on existing practices in the area involved, including cost factors for persons affected by the proposed rule(s);
 - (3) a statement explaining the computation of the cost factors; and

- (4) a description, including the names and addresses, if known, of those most likely to be affected by the proposed rule(s).
- (d) Petitions that do not contain the information required by Paragraph (b) of this Rule shall be returned by the Commission to the petitioner.

*History Note: Authority G.S. 113-391; 143B-293.1; 150B-20;
Eff. March 17, 2015.*

15A NCAC 05H .0502 REVIEW BY A COMMITTEE OF THE COMMISSION

- (a) The Chair of the Commission shall refer complete petitions to the appropriate subject area committee of the Commission for review and recommended action. The Chair of the Commission shall distribute copies of petitions for rulemaking to all members of the committee of the Commission.
- (b) Within 10 days of the assignment of the petition, the Chair of the committee assigned to review the submitted petition shall announce the date of a meeting to consider the petition.
- (c) At least 15 days before the committee meeting, notice of the committee meeting shall be sent to the petitioner, members of the Commission, and persons who have requested notice of rulemaking.
- (d) The petitioner shall be afforded the opportunity to present the petition to the committee in accordance with Rule .0501(b)(6) of this Section. The Director, through staff, may make a presentation to the committee.
- (e) The Chair of the committee shall allow one interested person to present the viewpoint of those who oppose initiating rulemaking. The Chair of the committee shall determine whether additional interested persons are permitted to make oral presentations before the committee. Interested persons shall request the opportunity to make a presentation to the committee through the Director. The request shall:
 - (1) state the interest of the person in the petition for rulemaking;
 - (2) state the person's position on the petition; and
 - (3) be accompanied by any supporting materials.
- (f) During the committee review, members of the Commission who are not on the committee may participate as a member of the committee in discussions of the petition but shall not vote on the recommended action on the petition.

*History Note: Authority G.S. 143B-293.1; 150B-20;
Eff. March 17, 2015.*

15A NCAC 05H .0503 PRESENTATION TO THE COMMISSION

- (a) Petitions for rulemaking, following committee review pursuant to Rule .0502 of this Section, shall be presented to the Commission for its consideration and determination at a regularly scheduled meeting of the Commission within 120 days following the date of submission. The Petition for Rulemaking and the committee's recommended action shall be presented by the Chair of the committee or other designated member of the committee during the business session of the Commission. Unless the Chair of the Commission rules otherwise, discussion on the petition shall be limited to the members of the Commission, counsel to the Commission, and the Director.
- (b) Within 120 days following the date of submission of the petition, the Commission shall:
 - (1) initiate rulemaking proceedings in accordance with G.S. 150B-20 and notify the person(s) who submitted the petition of the decision in writing; or
 - (2) deny the petition in writing, stating the reason(s) for the denial, and send the written denial by certified mail with return receipt to the person(s) who submitted the petition.

*History Note: Authority G.S. 143B-293.1; 150B-20;
Eff. March 17, 2015.*

15A NCAC 05H .0504 RECOURSE FOR DENIAL OF PETITION

If the Commission denies the Petition for Rulemaking, or fails to grant or deny the Petition for Rulemaking within 120 days of receiving the petition, the petitioner(s) may seek judicial review of the denial under G.S. 150B, Article 4.

*History Note: Authority G.S. 143B-293.1; 150B-20;
Eff. March 17, 2015.*

SECTION .0600 – RULEMAKING HEARINGS

15A NCAC 05H .0601 PURPOSE AND SCOPE

These Rules:

- (1) authorize the designation of certain employees of the Department to act as hearing officers;
- (2) set out the types of hearings that the designated employees are authorized to conduct; and
- (3) reference the rules of procedure for conducting public rulemaking hearings.

History Note: Authority G.S. 113-391(a); 143B-293.1;
Eff. March 17, 2015.

15A NCAC 05H .0602 PROCEDURES FOR PUBLIC COMMENT FOR RULEMAKING HEARINGS

- (a) Any person desiring to comment on the proposed rulemaking action may do so either in writing during the comment period or by oral presentation at the hearing held to take public comments. Any person may file a written statement or argument concerning the proposed rulemaking action prior to the close of the record on the date indicated in the notice published in the North Carolina Register.
- (b) The hearing officer or panel designated by the Chair of the Commission in accordance with Rule .0603 of this Section shall collect all written and oral submissions and submit recommendations concerning the proposed rulemaking action to the Commission following the close of the record as provided in Paragraph (a) of this Rule.
- (c) Requests for a statement of the Commission's reasons for adoption of the proposed rule or against adoption of the proposed rule shall be responded to in accordance with G.S. 150B-21.2(h).

History Note: Authority G.S. 113-391(a); 113-391(b); 150B-21.2;
Eff. March 17, 2015.

15A NCAC 05H .0603 REQUIREMENTS OF RULEMAKING HEARING OFFICER OR PANEL

The Chair of the Commission shall designate one or more Commission members to serve as hearing officers for rulemaking hearings. The Chair of the Mining Committee shall appoint the hearing officer(s) related to receiving public comments on regulations necessary to administer the provisions of the Mining Act of 1971, G.S. 74, Article 7.

History Note: Authority G.S. 74-63; 113-391(a); 143B-293.2(g);
Eff. March 17, 2015.

SECTION .0700 – HEARINGS FOR DRILLING UNITS, VARIANCES, AND CONFIDENTIAL INFORMATION

15A NCAC 05H .0701 OPPORTUNITY FOR HEARING

- (a) The Commission shall conduct hearings when establishing or modifying drilling units and considering an application for a variance. Such hearings shall be conducted pursuant to the rules of this Subchapter.
- (b) Upon written request, the requesting party and the Division shall be allowed to present oral arguments to the Commission. No party shall offer testimony or conduct cross-examination at the hearing.

History Note: Authority G.S. 113-391(a); 113-391(b); 113-392; 113-393;
Eff. March 17, 2015.

15A NCAC 05H .0702 PARTIES

- (a) Any person authorized by statute or rule to request a hearing before the Commission shall be a party to any hearing granted. The Department also shall be a party to any hearing granted. The Chair of the Commission shall rule on motions by any other persons seeking leave to intervene in the pending proceeding or seeking leave to file amicus curiae briefs. Persons seeking to intervene shall establish through their motion that they qualify for intervention under G.S. 1A-1, Rule 24.
- (b) Upon receipt, the Division shall notify all Division Directors of the Department of a request. Any Division of the Department shall be a party to the hearing upon written request. Such request shall be made to the Chair of the Commission within five days of receipt of notice of the request for hearing.

History Note: Authority G.S. 113-391(a); 113-391.1; 113-393(a);
Eff. March 17, 2015.

15A NCAC 05H .0703 PROCEDURE FOR SUBMISSION

- (a) An application to establish a drilling unit shall be submitted in accordance with Rule .1202 of this Subchapter. All other requests for a hearing shall be submitted in accordance with this Rule.
- (b) All requests for a hearing shall be filed no fewer than 30 calendar days before the next regularly scheduled Commission meeting.
- (c) The requesting party shall submit one paper copy for each Commissioner plus five additional copies to the following address: Oil & Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center, Raleigh, NC 27699-1612 and a copy in .pdf form submitted to Oil&Gas@ncdenr.gov.
- (d) All requests shall include the following:
- (1) the name and address of the requesting party;
 - (2) the rule or statute authorizing the request for a hearing;
 - (3) a statement of whether an oral argument is desired, and, if so, the reason(s) for requesting an oral argument;
 - (4) if requesting a variance, the rule or statute under which a variance is desired;
 - (5) a concise statement of the matter to be presented;
 - (6) arguments or data that support the requesting party's position;
 - (7) a statement of the consequences of failure to grant relief in favor of the requesting party; and
 - (8) all documentation required by Rule .0301 of this Subchapter, if a variance is being requested.

History Note: Authority G.S. 113-391(a)(14); 113-391(a4);
Eff. March 17, 2015.

15A NCAC 05H .0704 COMPLETENESS AND REQUEST FOR ADDITIONAL INFORMATION

- (a) The Chair of the Commission shall make a determination on the completeness of the request for hearing based on the requirements of this Section. The Chair shall return incomplete requests to the requesting party.
- (b) Before deciding the merits of the request, the Commission shall determine if additional information or presentation(s) are needed and if so:
- (1) request additional written submissions from the requesting party;
 - (2) request a written response from the Division staff or any other person; and
 - (3) hear oral arguments from the requesting party, intervenors, and Division staff or their legal counsel.

History Note: Authority G.S. 113-391(b);
Eff. March 17, 2015.

15A NCAC 05H .0705 ORDER AND RECORD OF PROCEEDING

The Commission shall keep a record of each hearing, which shall include the following items:

- (1) the request for a hearing;
- (2) any written submission(s) by a party;
- (3) the facts on which the Commission's decision was based;
- (4) any transcripts of oral proceedings, if available, and recordings of oral arguments;
- (5) any other information, such as documents, photographs, recordings, maps, plats, articles, and studies considered by the Commission in making the decision; and
- (6) the Commission's written decision, which shall include the reasons therefore.

History Note: Authority G.S. 113-391(b);
Eff. March 17, 2015.

15A NCAC 05H .0706 ADMINISTRATIVE AND JUDICIAL REVIEW OF COMMISSION DECISION

The Commission shall notify the requesting party in writing of the Commission's decision, including information about the requesting party's right to a contested case under G.S. 150B.

History Note: Authority G.S. 150B-23;

Eff. March 17, 2015.

15A NCAC 05H .0707 FORM AND CONTENTS OF REQUEST TO MAINTAIN CONFIDENTIAL INFORMATION

(a) Any person wishing to protect information submitted to the Commission or the Department as confidential information shall make a showing to the Commission in accordance with the requirements of G.S. 113-391.1 and Rules .0707 through .0709 of this Section.

(b) The requesting party shall submit one paper copy for each Commissioner plus five additional copies to the following address: Oil & Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center, Raleigh, NC 27699-1612 and a copy in .pdf form submitted to Oil&Gas@ncdenr.gov.

(c) Requests shall be submitted no fewer than 30 calendar days prior to the next regularly scheduled Commission meeting.

(d) The request shall be made on a Form 20 – Confidential Information Claim which shall contain the following information:

- (1) the name and address of the requesting party;
- (2) a description of the information to be afforded confidential treatment;
- (3) a statement of whether an oral presentation is desired, and, if so, the reason(s) for requesting such an oral presentation;
- (4) an affidavit with each of the following elements:
 - (A) a statement of whether the confidential information is in the public domain and information illustrating the extent to which the confidential information is known outside the business;
 - (B) evidence that the information has been treated in the same manner as other confidential information in the company, the manner being detailed in the affidavit;
 - (C) an agreement to notify the Commission if the information loses confidential status;
 - (D) if applicable to the category of information, certification that the chemical for which confidential protection is sought is not regulated under the Federal Safe Drinking Water Act's National Primary Drinking Water Standards or National Secondary Drinking Water Standards found in 40 CFR 141 and 143, which are incorporated by reference, including subsequent amendments and can be accessed for no charge at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr141_main_02.tpl and http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr143_main_02.tpl, or if regulated, is not present in concentrations greater than the EPA-listed maximum contaminant level for that chemical in any fluid inserted into the oil or gas well;
 - (E) if applicable to the category of information, certification and evidence that the chemical for which trade secret protection is sought meets the definition of a trade secret under the N.C. Trade Secrets Protection Act in G.S. 66-152(3), including that the chemical is not "generally known or readily ascertainable through independent development or reverse engineering by persons who can obtain economic value from its disclosure or use;"
 - (F) if applicable which states have issued confidential information status to this specific information;
 - (G) if applicable which states have refused to issue confidential information status to this specific information and why was confidential information status denied;
 - (H) if applicable to the category of information, a list of all chemicals for which the affiant is seeking confidential protection and whether any such chemicals are prohibited in North Carolina; and
 - (I) if applicable to the category of information, certification that the information is protected by Federal statute, including statutory authority.
- (5) if required by G.S. 113-391.1, a statement that the State Geologist has reviewed the confidential information and transmitted the certification to the requestor; and
- (6) the business contact information, including the company name, name of authorized representative, mailing address, and phone number for the business organization claiming entitlement to trade secret protection on Form 20 – Confidential Information Claim.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1(b); 150B, Article 3; Eff. March 17, 2015.

15A NCAC 05H .0708 DISPOSITION OF CONFIDENTIAL INFORMATION REQUEST

(a) The Chair of the Commission shall make a determination on the completeness of the request for confidential information status based on Rule .0707 of this Section. If the request is not complete, the Chair shall return the request to the requesting party.

(b) Before deciding the merits of the request, and upon consideration of the complete request for confidential information status, the Commission shall determine if additional information or presentation(s) are needed to dispose of the confidential information request and if so:

- (1) request additional written submissions from the requesting party;
- (2) request additional information from the State Geologist or other Department staff; and
- (3) hear oral presentations from the requesting party or the Department.

(c) The Commission shall consider the request in a closed session in accordance with G.S. 143-318.11.

(d) The Commission shall consider the merits of the request and either approve or deny the request.

(e) If the Commission determines that the information is not entitled to confidential protection, the Commission shall provide notice in accordance with G.S. 113-391.1(e).

(f) Confidential information so designated by the Commission shall be held by the State Geologist in accordance with G.S. 113-391.1.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1; 150B, Article 3;
Eff. March 17, 2015.

15A NCAC 05H .0709 NOTICE TO THE COMMISSION OF CHANGES TO CONFIDENTIAL STATUS

Any person receiving confidential information status shall provide updated information to the Commission no more than 30 calendar days of the date any of the information described in this Section becomes inaccurate or incomplete.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1;
Eff. March 17, 2015.

SECTION .0800 – PREEMPTION HEARING PROCEDURE

15A NCAC 05H .0801 PURPOSE AND SCOPE

The rules of this Section establish procedures the Commission shall use in reviewing petitions for limited preemption of a local ordinance pursuant to the authority set forth in G.S. 113-415.1.

History Note: Authority G.S. 113-415.1; 150B, Article 3;
Eff. March 17, 2015.

15A NCAC 05H .0802 COMMENCEMENT OF PROCEEDINGS

(a) An operator shall commence a proceeding by filing a petition with the Commission by submitting one paper copy for each Commissioner, plus five additional copies to the following address: Oil & Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center, Raleigh, NC 27699-1612 and an electronic copy in .pdf form submitted to Oil&Gas@ncdenr.gov.

(b) The petition shall contain:

- (1) the name, address, and telephone number of the petitioner;
- (2) the city and county in which the oil or gas operation is or is proposed to be located; and
- (3) a statement of facts and issues, which shall include:
 - (A) the action giving rise to the petition;
 - (B) a copy of the ordinance;
 - (C) the effect of the ordinance on the proposed activities;
 - (D) identification of the provisions of the ordinance alleged to prevent the proposed activities;
 - (E) any actions taken to comply with the ordinance or any of its provisions;
 - (F) status of and compliance with all applicable state and federal permits or approvals;
 - (G) any attempts made by the petitioner to resolve the issue with each city and county in which the activities are proposed;
 - (H) opportunities local citizens and elected officials have had to participate in the permitting process;

- (I) documentation that the proposed activities will not pose a health or environmental risk to the applicable jurisdiction. For the purposes of filing this petition, this documentation shall be deemed complete if it includes the information submitted for all applicable state and federal permits or approvals;
- (J) measures the applicant or permittee has taken or consented to take to avoid or manage foreseeable risks and to comply to the maximum extent feasible with any applicable ordinance;
- (K) a metes and bounds description, site plan, maps, or other information describing the facility and its location; and
- (L) all other information the petitioner believes relevant and which constitutes grounds for relief under G.S. 113-415.1.

(c) Within 10 calendar days of receipt of the petition, the Chair of the Commission shall review the petition and determine whether it is complete in accordance with Paragraph (b) of this Rule. If the petition is complete, the Chair of the Commission shall send a notice of proceeding in accordance with Rule .0803 of this Section.

*History Note: Authority G.S. 113-415.1; 150B, Article 3;
Eff. March 17, 2015.*

15A NCAC 05H .0803 NOTICE OF PROCEEDING

(a) Within five days after a petition is found complete by the Chair of the Commission, the Chair of the Commission shall serve a notice of proceeding on the petitioner and the governing board of each city and county in which the activities are proposed. The petitioner shall be a party to the proceeding and each governing board of each city may send written notice within 14 calendar days to request to be a party to the proceeding.

(b) The notice of proceeding shall contain:

- (1) a statement that a complete petition has been received;
- (2) a statement that a public hearing on the petition will be held on a specific date and at a specific place in accordance with G.S. 113-415.1;
- (3) a request that within 30 days of receipt, the city or county that adopted the ordinance respond to the petition. The response shall include all information within its possession regarding the factors in G.S. 113-415.1 and any other information as to why this ordinance should not be preempted;
- (4) the name of the proceeding and the date of filing;
- (5) the address and telephone number of the Division;
- (6) a citation to the relevant statutes or rules involved;
- (7) a statement of the factual allegations or issues to be determined;
- (8) a brief description of the procedure to be followed at the hearing in accordance with Rule .0805 of this Section;
- (9) a statement of how interested persons may participate in the hearing and where additional information can be obtained; and
- (10) the date and time for the presentation of evidence to the Commission.

*History Note: Authority G.S. 113-415.1; 150B, Article 3;
Eff. March 17, 2015.*

15A NCAC 05H .0804 NOTICE OF PUBLIC HEARING

(a) The Commission shall publish notice of public hearing in accordance with G.S. 113-415.1(d).

(b) The Commission shall serve the parties to the proceeding with a notice of public hearing no less than 30 calendar days before the hearing.

(c) The notice of public hearing shall contain the following:

- (1) the name of proceeding and the date of filing;
- (2) the date, time, and place of the hearing;
- (3) the name, address, and telephone number of the Clerk of the Commission;
- (4) a citation to the relevant statutes or rules involved;
- (5) a statement of the factual allegations or issues to be determined;
- (6) a brief description of the procedure to be followed at the hearing; and
- (7) a statement of how persons may participate in the hearing and where the information can be obtained.

*History Note: Authority G.S. 113-415.1;
Eff. March 17, 2015.*

15A NCAC 05H .0805 CONDUCT OF THE HEARING

- (a) In accordance with information provided in the notice of hearing, any non-party may appear before the Commission at the hearing to offer testimony or submit written evidence for its consideration.
- (b) The Commission shall set the order of presentation and place limits on the testimony of each person who appears before the Commission at the hearing.
- (c) Commission members may ask questions of any person who appears before the Commission at the hearing.
- (d) The Commission shall hold the record open for 20 days after the termination of the hearing for the receipt of written comments.
- (e) All parties shall have the right to present evidence, rebuttal testimony, and argument relevant to the issues.
- (f) A party shall have all oral or written evidence to be presented available on the date of the hearing. In cases when the hearing time is expected to exceed one day, the parties shall be prepared to present their evidence at the date and time ordered by the Commission.
- (g) The Commission shall serve copies of all orders or decisions on all parties simultaneously. Any party sending a letter, exhibit, brief, memorandum, or other document to the Commission shall simultaneously serve a copy on all other parties.
- (h) A party need not be represented by an attorney. If a party has notified other parties of that party's representation by an attorney, all communications shall be directed to that attorney.
- (i) Any non-party offering testimony or other evidence may be questioned by parties to the case and by the Commission.

*History Note: Authority G.S. 113-415.1;
Eff. March 17, 2015.*

15A NCAC 05H .0806 WITNESSES

Any party may be a witness and may present witnesses on the party's behalf at the hearing. Fourteen days in advance of the public hearing, parties shall serve on the Commission a witness list, a synopsis of testimony, and an estimate of the time required to hear each witness in accordance with Rule .0802(a) of this Section. A party may make reasonable amendments to its witness list up to 48 hours prior to the hearing. No more than 10 witnesses may be added with this change. All oral testimony by witnesses at the hearing shall be under oath or affirmation and shall be recorded.

*History Note: Authority G.S. 113-415.1; 150B, Article 3;
Eff. March 17, 2015.*

15A NCAC 05H .0807 COMMISSION'S DECISION

- (a) The Commission shall determine whether or to what extent to preempt the ordinance to allow for the construction or operation of oil or gas exploration, development, or production activities in accordance with G.S. 113-415.1. In the event the Commission makes all four findings required by G.S. 113-415.1(d) and determines that the provisions of the ordinance are severable, the Commission may determine that a specific provision, rather than the entire ordinance, is preempted.
- (b) A decision shall be based on:
 - (1) admissible evidence and arguments presented during the hearing and made part of the official record;
 - (2) stipulations of fact;
 - (3) matters officially noticed; and
 - (4) other items in the official record.
- (c) A decision shall dispose of all issues required to resolve the case and shall contain:
 - (1) a caption;
 - (2) the appearance of the parties;
 - (3) a statement of the issues;
 - (4) references to the specific provisions of the ordinance at issue;
 - (5) findings of fact, with specific reasons given for findings on disputed facts;

- (6) conclusions of law based on the findings of fact and applicable constitutional principles, statutes, rules, or regulations;
- (7) a final determination that the challenged ordinance, or specific parts thereof, is or is not preempted with respect to the proposed activity; and
- (8) a statement that each party has the right to appeal the final decision.

History Note: Authority G.S. 113-415.1; 150B, Article 3;
Eff. March 17, 2015.

SECTION .0900 - ENFORCEMENT

15A NCAC 05H .0901 ENFORCEMENT

- (a) A violation of any provision of the Oil and Gas Conservation Act, G.S. 113 Subchapter V, Article 27 or any rule in this Subchapter may result in a notice of violation, an assessment of a civil penalty pursuant to G.S. 113-410, suspension or revocation of a permit, injunctive action, or any other remedy afforded by law.
- (b) The Department shall issue a written notice of violation to the permittee for violations of any provision of the Oil and Gas Conservation Act, any rule of this Subchapter, terms and conditions of the permit, or order of the Commission.
 - (1) The written notice shall specify the facts constituting the violation, corrective actions that are required to address the violation, a timeframe to implement such corrective actions, and a statement that failure to comply with the specified corrective action may result in additional enforcement actions.
 - (2) The Department may extend the timeframe for corrective actions upon written request of the permittee demonstrating that the corrective action cannot be completed in the time specified in the notice of violation.
- (c) Civil penalties shall be assessed in accordance with G.S. 113-410 and Section .1000 of this Subchapter.
- (d) Permits shall be suspended or revoked in accordance with G.S. 150B-3 and Rule .1313 of this Subchapter.
- (e) The Department shall request the Attorney General to institute an action in the North Carolina General Courts of Justice seeking injunctive relief pursuant to G.S. 113-408.
- (f) The Department shall require the permittee to restore waters and land affected by a violation of any provision of the Oil and Gas Conservation Act, any rule of this Subchapter, terms and conditions of the permit, or order of the Commission so as to protect the quality of the water, air, soil, or any other environmental resource against injury, damage, or impairment.

History Note: Authority G.S. 113-391(a)(4); 113-391(a)(14); 113-391(a4); 113-391(b); 113-408; 113-410;
Eff. March 17, 2015.

SECTION .1000 – CIVIL PENALTIES

15A NCAC 05H .1001 PURPOSE AND SCOPE

The rules of this Section govern the Commission, the Division, and their delegates in assessment of civil penalties. They also govern permittee remission and appeal of those penalties.

History Note: Authority G.S. 113-410(b); 143B-293.6;
Eff. March 17, 2015.

15A NCAC 05H .1002 NOTICE OF ASSESSMENT

For all violations for which a penalty is assessed, a notice of such action shall be sent to the violator by the Department by U.S. mail, certified mail, or other means calculated to provide actual notice. The notice shall describe the violation, advise that the penalty is due, and provide the violator of the right of appeal as specified in G.S. 150B, Article 3 and the right to request remission in G.S. 143B-293.6 and Rule .1004 of this Section.

History Note: Authority G.S. 113-410(a); 113-410(c); 143B-293.6;
Eff. March 17, 2015.

15A NCAC 05H .1003 PAYMENT OF ASSESSMENT

An assessed penalty shall be paid within 60 days of service of notice, unless the violator files a contested case pursuant to G.S. 150B, Article 3 or requests remission pursuant to G.S. 113-410(d) and Rule .1004 of this Section.

History Note: Authority G.S. 113-410(d);
Eff. March 17, 2015.

15A NCAC 05H .1004 ADMINISTRATIVE REMEDIES

A person who has received a civil penalty assessment may request remission of the civil penalty.

- (1) A request for a civil penalty remission shall be submitted in writing to the Director at the following address: 1612 Mail Service Center, Raleigh, NC 27699-1612.
- (2) The request shall be considered only if the person requesting remission of a civil penalty stipulates that no facts are in dispute and waives his or her right to an administrative hearing.
- (3) In determining whether to approve the remission request, the Commission shall consider the factors in G.S. 143B-293.6.

History Note: Authority G.S. 113-410(d); 143B-293.6;
Eff. March 17, 2015.

15A NCAC 05H .1005 REPORT TO THE COMMISSION

The Department shall report any action taken under this Section to the Commission at the Commission's next regularly scheduled meeting. The reports shall include the following information:

- (1) the person(s) issued letter(s) of proposed assessment;
- (2) the person(s) assessed a civil penalty;
- (3) the person(s) who paid a penalty as assessed, requested remission, or requested an administrative hearing;
- (4) the person(s) who failed to pay; and
- (5) cases referred to the Attorney General for collection.

History Note: Authority G.S. 113-391(a); 113-391(a4); 113-410(d);
Eff. March 17, 2015.

SECTION .1100 – EXPLORATION AND GEOPHYSICAL SURVEYS

15A NCAC 05H .1101 EXPLORATION AND GEOPHYSICAL SURVEYS

- (a) Any person conducting predrilling exploration activities or geophysical surveys related to oil or gas exploration and development shall act in accordance with 15A NCAC 05C.
- (b) Notification of exploration activities shall be made in accordance with G.S. 113-420(b2).

History Note: Authority G.S. 113-391(a)(1);
Eff. March 17, 2015.

SECTION .1200 – DRILLING UNITS AND WELL SPACING

15A NCAC 05H .1201 PURPOSE AND SCOPE

The rules of this Section establish the requirements for petitioning the Commission for permission to create or modify a drilling unit. These Rules also set forth oil or gas well spacing requirements for conventional and unconventional reservoirs.

History Note: Authority G.S. 113-391(a)(12); 143B-293.1(b);
Eff. March 17, 2015.

15A NCAC 05H .1202 DRILLING UNIT APPLICATION AND REVIEW

- (a) An application shall be submitted to the Commission for permission to:
 - (1) create a drilling unit; or
 - (2) modify an existing drilling unit.

(b) Applications submitted to the Commission no fewer than 60 calendar days before the next regularly scheduled Commission meeting shall be considered for hearing provided the docket has not been filled. The Commission shall notify the applicant once the hearing date has been set. Upon receipt the applicant shall begin the notice process set out in Rule .1203 of this Section.

(c) The applicant shall submit the original application and one paper copy for each Commissioner plus five additional copies to the following address: Oil & Gas Program, Division of Energy, Mineral, and Land Resources, 1612 Mail Service Center Raleigh, NC 27699-1612. In addition, the applicant shall submit an electronic copy in .pdf format to the Commission at Oil&Gas@ncdenr.gov.

(d) Applicants or permittees petitioning the Commission for the creation of drilling units or modifications of existing drilling units shall be persons who own or have leased an interest in the mineral estate underlying the tract or tracts and have the right to use the surface land for development activities within the drilling unit.

(e) The application for the creation of a drilling unit or modification of an existing drilling unit shall include the following information:

- (1) a statement describing the intent of the application;
- (2) a list of mineral rights owners within the land area of the proposed drilling unit. The list of mineral rights owners shall include the name, physical address, and mailing address for each owner;
- (3) a map of the proposed or current drilling unit boundary, along with all property boundaries that occur within the land area of the proposed or current drilling unit, as well as locations of existing oil or gas wells within the proposed drilling unit boundary;
- (4) copies of lease agreements, affidavits, or other documents showing that the applicant has obtained legal rights to recover oil or gas resources within the proposed drilling unit;
- (5) documentation showing that all mineral rights owners were notified by the applicant of the applicant's intent to establish the proposed drilling unit pursuant to Rule .1203(a)(2) of this Section;
- (6) at least one subsurface geological map showing the structural configuration of the top of the objective formation within the proposed drilling unit and at least one geological cross-section derived from the geological map showing the stratum or strata from which the applicant expects to extract hydrocarbon resources;
- (7) a written statement signed by the applicant, supported by geological and engineering data, that the proposed drilling unit would result in optimal and efficient recovery of hydrocarbons;
- (8) documentation from the applicant(s) or their representative(s) demonstrating prior work experience in the exploration, drilling, and production of oil or gas relevant to the application; and
- (9) copies of surface use agreement(s) or equivalent documentation granting the applicant or permittee the right to use the surface.

(f) The applicant shall provide to the Commission within seven days after the hearing any additional information requested by the Commission at the hearing.

(g) The Commission shall assign a new docket number to each application submitted.

(h) The Commission shall approve, deny, or modify drilling units pursuant to G.S. 113-392(b) within 30 calendar days after conducting the hearing pursuant to Rule .0701 of this Subchapter on the application for creating or modifying a drilling unit.

(i) If the Commission approves an application, a drilling unit number shall be issued to the applicant. The drilling unit number shall be used to meet the requirement of Rule .1304(a)(5) of this Subchapter.

(j) The Commission approved drilling units shall expire 36 months after the approval date, if the applicant has not spud the first oil or gas well on the well pad.

History Note: Authority G.S. 113-391(a)(12); 113-392(b);
Eff. March 17, 2015.

15A NCAC 05H .1203 DRILLING UNIT PUBLIC NOTIFICATION REQUIREMENTS

(a) The applicant or permittee shall circulate public notice of each drilling unit at least 30 calendar days prior to the meeting date set by the Commission in accordance with Rule .1202(b) of this Section. The notice shall be circulated by:

- (1) publishing the notice one time in newspaper(s) having general circulation in the county or counties where the drilling unit, either proposed or existing, is located;

- (2) providing actual notice to all surface owners and mineral rights owners within the land area of the proposed or existing drilling unit;
 - (3) providing actual notice to all local governments in the county or counties where the drilling unit, either proposed or existing, is located; and
 - (4) providing actual notice to any state, federal, or tribal agencies owning land within the area of the proposed or existing drilling unit.
- (b) The notice shall include the following:
- (1) the name, address, and telephone number, fax number, and email address of applicant or permittee;
 - (2) a description of the intent of the application;
 - (3) the date the Commission is scheduled to review the application; and
 - (4) the location and time of the Commission meeting.
- (c) The applicant or permittee shall submit a newspaper certified copy of the public notice published in each newspaper, as certified by the newspaper, to the Department at least 15 calendar days prior to the next regularly scheduled Commission meeting for which the applicant proposes the application to be docketed.

History Note: Authority G.S. 113-392;
Eff. March 17, 2015.

15A NCAC 05H .1204 DENIAL OR MODIFICATION OF DRILLING UNIT APPLICATION

- (a) The Commission shall deny a request for the creation of a drilling unit or a request to modify an existing drilling unit on finding that the proposed or existing drilling unit is in violation of any of the rules contained in this Subchapter or that establishment or modification would result in a violation of this Subchapter or other applicable law or rule.
- (b) The Commission shall also deny a request according to these criteria:
- (1) the application is incomplete pursuant to Rule .1202(e) of this Section;
 - (2) the application contains erroneous information; or
 - (3) the surface use agreement or equivalent documentation fails to meet requirements of the rules of this Subchapter.
- (c) The Commission may modify a drilling unit application based on geologic, geographic, and environmental factors or to satisfy conflicting interests between adjacent drilling unit applicants or permittees.

History Note: Authority G.S. 113-391(a)(12); 113-392(b); 143B-293.1(b);
Eff. March 17, 2015.

15A NCAC 05H .1205 WELL SPACING REQUIREMENTS FOR RESOURCES IN UNCONVENTIONAL RESERVOIRS

- (a) The drilling of a new oil or gas well in an unconventional reservoir, the reopening of an oil or gas well temporarily abandoned pursuant to Rule .1621 of this Subchapter, the deepening, plugging back, or sidetracking of an existing oil or gas well shall conform to the requirements of this Section.
- (b) In unconventional reservoirs, no portion of the wellbore recovering hydrocarbons shall be less than 500 horizontal feet from the boundary of the drilling unit.
- (c) A variance may be granted by the Commission to reduce the distance from the boundary of the drilling unit based on reservoir characteristics including permeability, porosity, and surrounding production history to optimize production and minimize waste. The variance, if granted, shall provide equal or greater protection of public health, safety, and the environment.

History Note: Authority G.S. 113-391(a)(12); 143B-293.1(b);
Eff. March 17, 2015.

15A NCAC 05H .1206 WELL SPACING REQUIREMENTS FOR RESOURCES IN CONVENTIONAL RESERVOIRS

- (a) The drilling of a new oil or gas well in a conventional reservoir, the reopening of an oil or gas well temporarily abandoned pursuant to Rule .1621 of this Subchapter, the deepening, plugging back, or sidetracking of an existing oil or gas well shall conform to the requirements in this Section.

(b) In conventional reservoirs, no portion of the wellbore shall be less than 200 horizontal feet from the boundary of the drilling unit.

(c) A variance may be granted by the Commission to reduce the distance from the boundary of the drilling unit based on reservoir performance to optimize production and minimize waste of the reservoir. The variance, if granted, shall provide equal or greater protection of public health, safety, and the environment.

History Note: Authority G.S. 113-391(a)(12); 143B-293.1(b);
Eff. March 17, 2015.

SECTION .1300 - PERMITTING

15A NCAC 05H .1301 PURPOSE AND SCOPE

The rules of this Section set forth the registration and permitting requirements for new oil or gas wells. These Rules also establish procedures for review, modification, transfer, expiration, suspension or revocation, and release of an Oil or Gas Well Permit.

History Note: Authority G.S. 113-391; 113-391(a)(6); 113-391(a6); 113-395;
Eff. March 17, 2015.

15A NCAC 05H .1302 OIL OR GAS OPERATIONS FINANCIAL RESPONSIBILITY OWNERSHIP

(a) The applicant or permittee, and all service companies who are conducting oil or gas exploration or development activities, shall either be incorporated under the laws of North Carolina or, if a foreign corporation, obtain a certificate of authority from the North Carolina Secretary of State in accordance with G.S. 55-15-01. If the applicant or permittee is a partnership or other person engaging in a business in this State under an assumed name, the applicant or permittee shall have filed a certificate of assumed name in the county where it is doing business.

(b) The applicant or permittee, and any person providing financial assurance for oil or gas operations, shall submit the completed Form 1 – Financial Responsibility Ownership (FRO) with the Department. The Form 1 – FRO shall include:

- (1) the applicant's or permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the lease name and the oil or gas well name and number;
- (5) the Commission-issued drilling unit number;
- (6) the approximate date that land disturbing activity will commence;
- (7) the total acreage of disturbed or uncovered areas;
- (8) the name and telephone number of the person to contact onsite if any problems occur with erosion control, stormwater, and any well site operations;
- (9) the name, address, telephone number, fax number, and email address for person(s) who are financially responsible for the oil or gas operations;
- (10) a copy of the certificate of assumed name if the financially responsible party is a partnership or other person engaging in business under an assumed name in accordance with G.S. 66-68;
- (11) the signature of the financially responsible party; and
- (12) the seal of a Notary Public of North Carolina.

(c) The applicant or permittee shall list all employees approved to submit documents on behalf of the applicant or permittee on a completed Form 1 – FRO. A person other than the applicant or permittee may be designated as an agent of the financially responsible party, and those representatives shall be listed on the completed Form 1 – FRO.

(d) If the applicant or permittee is not a resident of North Carolina, the applicant or permittee shall designate a North Carolina agent for the purpose of receiving notices from the Commission or the Department.

(e) All changes in the contact information for the parties required to submit a Form 1 – FRO shall be reported within 14 calendar days of the change by submitting a new Form 1 – FRO. All changes to the agent information shall be reported within 14 calendar days of the change by submitting a Form 1 – FRO.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6);
Eff. March 17, 2015.

15A NCAC 05H .1303 OIL OR GAS WELL PERMIT APPLICATION

(a) The applicant or permittee shall submit Form 2 – Oil or Gas Well Permit Application to the Department in accordance with Rule .0201(c) of this Subchapter prior to commencement of the following operations:

- (1) drilling;
- (2) recompleting;
- (3) restimulating;
- (4) deepening;
- (5) reentering;
- (6) sidetracking;
- (7) plugging and abandoning;
- (8) plugging back; or
- (9) revising the location of any oil or gas well.

(b) The applicant or permittee shall submit the fee for a new Oil or Gas Well Permit as indicated on Form 2 – Oil or Gas Well Permit Application in accordance with Rule .1306 of this Section.

(c) The applicant or permittee shall submit an environmental compliance history to the Department in accordance with G.S. 113-395.3.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395; 113-395.3;
Eff. March 17, 2015.

15A NCAC 05H .1304 CONTENTS OF OIL OR GAS WELL PERMIT APPLICATION

(a) All applications to drill, recomplete, restimulate, deepen, reenter, sidetrack, plug and abandon, plug back, or revise a location shall be submitted using a Form 2 – Oil or Gas Well Permit Application. The Form 2 – Oil or Gas Well Permit Application shall include:

- (1) the applicant's or permittee's name, address in accordance with G.S. 113-408, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is proposed to be located or is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the proposed or existing well pad;
- (4) the lease name and the oil or gas well name and number for the proposed or existing oil or gas well;
- (5) the drilling unit number issued by the Commission pursuant to Rule .1202 of this Subchapter;
- (6) any variance request(s) approved by the Commission;
- (7) the latitude and longitude (in decimal degrees) of the proposed or existing oil or gas well location(s) with a minimum of five decimal places of accuracy and precision using the North American Datum (NAD) of 1983. The location coordinates shall be a field measurement and not a calculated or conversion measurement;
- (8) the name of any incorporated city, town, village, or respective extra-territorial jurisdiction, if the oil or gas well is proposed to be located or is located within its limits;
- (9) if known, the names of the proposed drilling contractor, cementing service company, and well stimulation company at the time of application submittal;
- (10) an indication that the local emergency management coordinator has received an emergency response plan in accordance with Rule .1305 of this Section;
- (11) an indication that the applicant or permittee will scan all equipment at the well site to measure for methane emissions;
- (12) an indication that the applicant or permittee will address methane emissions detected;
- (13) an indication that the applicant or permittee is submitting an estimate of the number and type of engine(s) to be used onsite, the size of engine(s), and the fuel source of engine(s) that will be used during drilling or completion activities;
- (14) an indication that the applicant or permittee has a proppant-related dust management and mitigation plan; and
- (15) an indication of whether pits are to be constructed and, if so, for what purpose.

(b) The following plat(s) and maps shall be attached to Form 2 – Oil or Gas Well Permit Application:

- (1) A plat showing:

- (A) the subject drilling unit where the oil or gas well will be drilled and the property lines with surface and mineral owner name(s);
 - (B) the location of the proposed oil or gas well in the drilling unit, based on a field survey showing the distances in feet from the proposed well site to the boundary lines of the drilling unit;
 - (C) the location and distances of the nearest buildings, public roads, railroads, private water supply wells, public water supply sources, surface water bodies, utility rights-of-way, and drilling or producing oil or gas wells from the proposed oil or gas well in accordance with Rules .1205 or 1206 and .1601 of this Subchapter; and
 - (D) any areas with known environmental contamination within the area of influence in accordance with Rule .1901 of this Subchapter.
- (2) All plats submitted as a part of the application for a Form 2 – Oil or Gas Well Permit Application shall contain the following identifying information and be signed and sealed by a Professional Land Surveyor (PLS) or Professional Engineer (PE) licensed by the North Carolina Board of Examiners for Engineers and Surveyors pursuant to G.S. 89C:
- (A) the name of the applicant or permittee;
 - (B) the oil or gas well name and number;
 - (C) a north arrow;
 - (D) the county;
 - (E) a map scale of 1 inch equals 50 feet to 1 inch equals 500 feet with two foot topographic contours, depending on the total disturbed area;
 - (F) a legend with symbols used and corresponding names;
 - (G) the date the plat or map was prepared and revised; and
 - (H) the name and title of person preparing the plat.
- (3) A topographic and site overlay on a base color aerial map for the well site based on a LiDAR derived map showing the location of the well site, corners of well pad, oil or gas wells, tank battery, pits, access roads, all other proposed production equipment, and any other existing structures and features onsite; and
- (4) The total estimated true vertical and measured depths of the wellbore and proposed well path report showing inclination and azimuth every 100 feet with the North American Vertical Datum of 1988 (NAVD88) as the vertical control.
- (c) The applicant or permittee shall submit the following attachments with Form 2 – Oil or Gas Well Permit Application:
- (1) Form 3 – Well Construction Design that includes the following:
 - (A) the applicant's or permittee's name, address, telephone number, fax number, and email address;
 - (B) the county and nearest city or town where the oil or gas well is located;
 - (C) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (D) the lease name and the oil or gas well name and number;
 - (E) the planned diameter of each wellbore segment;
 - (F) the main design parameters for each casing string, including the maximum anticipated pressure, compressive and tensile loads, and drilling or completion fluid density;
 - (G) the casing grade, weight, outside diameter, and setting depth for each proposed casing string;
 - (H) the method of drilling, including the fluids that will be used during the drilling for each proposed casing string;
 - (I) the cement type, additives, density, yield, and volume for each proposed casing string;
 - (J) a list of the blowout prevention equipment and other wellhead equipment and the pressure rating of each that is to be installed before drilling out of each casing string;
 - (K) a wellbore diagram or other documentation detailing the proposed oil or gas well construction design; and
 - (L) the method of well stimulation for the oil or gas well, the proposed number of well stimulation stages, the proposed maximum surface treating pressures, and the estimated true vertical depth to the top of fractures.

- (2) a Well Site Development Plan that includes the Sedimentation and Erosion Control and Stormwater Management Plans as a part of the site construction sheets and details for review in accordance with Section .1500 of this Subchapter;
- (3) Form 4 – Water Management Plan, including documentations and maps in accordance with Section .1900 of this Subchapter;
- (4) Form 5 – Waste Management Plan, including documentations and maps in accordance with Section .2000 of this Subchapter;
- (5) Form 6 – Well Site Reclamation Plan showing reclamation phases in accordance with Section .2100 of this Subchapter;
- (6) Form 1 – FRO filled out in its entirety;
- (7) any variance request(s) approved by the Commission;
- (8) a road impact plan that mitigates damage to roads by truck traffic and heavy equipment. Plans shall include:
 - (A) procedures to restore roads to their condition that existed prior to the drilling activity undertaken by the permittee or applicant;
 - (B) identification of trucking routes that minimize road surface travel; and
 - (C) route travel hours that avoid otherwise heavy traffic volume, including avoidance of hours during which school buses will be traveling on the roads.
- (9) documentation that the local emergency management coordinator has received emergency response plan information in accordance with Rule .1305 of this Section;
- (10) a statement of how often the permittee intends to scan all equipment at the well site to measure for methane emissions;
- (11) a statement that if methane emissions are detected the time period during which the permittee intends to repair any leaks discovered;
- (12) an estimate of the engine(s) to be used onsite during exploration and development including the following information:
 - (A) the number and type of engine(s), such as compression ignition, two stroke lean burn ignition, four stroke lean burn ignition, rich burn spark ignition;
 - (B) the size of engine(s) (maximum site-rated horsepower); and
 - (C) the fuel source of engine(s).
- (13) a plan that manages and mitigates proppant-related dust.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a)(5)b ; 113-391(a)(5)c; 113-391(a)(5)i; 113-391(a)(5)j; 113-391(a)(5)l; 113-391(a)(8); 113-391(a6); 113-395; 114-408; Eff. March 17, 2015.

15A NCAC 05H .1305 EMERGENCY RESPONSE PLANNING

In order for State and local governments to effectively plan for emergency incidents, the applicant or permittee shall provide the following information to the local emergency management coordinator:

- (1) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad. If nearest street address is used, "nearest address" shall be designated and the latitude and longitude (in decimal degrees) with a minimum of five decimal places of accuracy and precision using the North American Datum (NAD) of 1983 of the proposed access road entrance at the ingress or egress point;
- (2) the location of nearby occupied dwellings, high occupancy buildings, streams, rivers, watercourses, ponds, lakes, or other natural and artificial bodies of water, and transportation corridors necessary for the development of the plans required by Item (6) of this Rule;
- (3) the emergency contacts for the well site that include the telephone numbers of the applicant or permittee, which can be accessed 24-hours per day;
- (4) identification of the types and quantities of chemicals, fuels, and wastes that will be used at a production facility in accordance with Section .1700 of this Subchapter;
- (5) identification of an emergency well control response contractor, the contractor's contact information, and the estimated time of arrival after dispatch;
- (6) plans for the following minor to catastrophic scenarios:
 - (a) Level 4: A spill onsite that requires a cleanup company to be contracted;

- (b) Level 3: A spill on other property that requires a cleanup company to be contracted, or an uncontrolled fire adjacent to the site impacting normal operations due to smoke or chemical dispersal;
- (c) Level 2: A spill onsite that requires a full site evacuation or an uncontrolled explosion or fire onsite that does not involve any wellhead onsite, or loss of well control not involving an explosion or fire; and
- (d) Level 1: Loss of well control involving an explosion or fire, or incidents requiring the immediate evacuation of the site.

*History Note: Authority G.S. 113-391(a)(5)j; 113-391(5)i;
Eff. March 17, 2015.*

15A NCAC 05H .1306 FEES

- (a) The applicant or permittee shall remit the fees in the amounts prescribed under G.S. 113-395, 113A-54.2, and 143-215.3D(e).
- (b) Payment of fees shall be made payable to the "North Carolina Department of Environmental Quality." The payment shall refer to the new permit or the plugging and abandonment of the oil or gas well. The payment shall include a reference to the oil or gas well name listed on the application or the API number.

*History Note: Authority G.S. 113-395;
Eff. March 17, 2015;
Amended Eff. September 1, 2022.*

15A NCAC 05H .1307 APPLICATION REVIEW PROCESS

- (a) The Department shall review applications. The Department shall send written notice to an applicant or permittee if an application is incomplete, stating each deficiency. The applicant or permittee shall have 60 calendar days from the date the letter was sent to submit the required information to the Department or the application shall be denied.
- (b) Upon receipt of a complete Form 2 – Oil or Gas Well Permit Application for a new permit or for a modification of an existing permit, the Department shall send a notice of the application to each of the following agencies with a request that each agency review and provide written comment on the application, including whether the reviewing agency has concerns regarding the items in Rule .1405(c) of this Subchapter, within 30 calendar days of the date on which the request is made:
 - (1) Division of Air Quality, Department of Environmental Quality;
 - (2) Division of Parks and Recreation, Department of Natural and Cultural Resources;
 - (3) Division of Water Resources, Department of Environmental Quality;
 - (4) North Carolina Geological Survey, Division of Energy, Mineral, and Land Resources, Department of Environmental Quality;
 - (5) Natural Heritage Program, Department of Natural and Cultural Resources;
 - (6) North Carolina Wildlife Resources Commission;
 - (7) Office of Archives and History, Department of Cultural Resources;
 - (8) United States Fish and Wildlife Service, United States Department of the Interior;
 - (9) Any other Federal or State agency that the Department determines to be appropriate based on the location of the proposed well site, including the Division of Coastal Management, Department of Environmental Quality; the Division of Marine Fisheries, Department of Environmental Quality; the Division of Waste Management, Department of Environmental Quality; Division of Public Health; and the Department of Transportation; and
 - (10) The county and municipality in which the permit application is located.
- (c) Public notice of the receipt of a complete oil or gas well applications(s) submitted pursuant to this Rule shall be given prior to permit issuance.
 - (1) Such notice shall:
 - (A) be posted on the Division's website;
 - (B) provide 30 calendar days for public comments to be submitted to the Department; and
 - (C) include the permit application.
 - (2) After the public comment period has ended the Department shall:
 - (A) consider the comments submitted; and
 - (B) post notice on the Division website as of the final permitting action.

- (d) Pursuant to the SPCA and 15A NCAC 04, the Department shall review the erosion control plan for approval, approval with modifications, or disapproval.
- (e) The Department shall have 180 calendar days from receipt of the complete application, to review and approve, approve with conditions, or deny the application. The Department shall consider all input submitted by the reviewing agencies outlined in Paragraph (b) of this Rule and public comment received pursuant to Paragraph (c) of this Rule when approving, approving with conditions, or denying any application.
- (f) If the Department receives a written comment from an agency listed in Paragraph (b) of this Rule, indicating that the reviewing agency has concerns regarding an environmentally sensitive area under Rule .1405(c) of this Subchapter, the Department shall notify the Chair of the Commission within 10 days. The Chair shall notify the applicant or permittee and reviewing agencies in Paragraph (b) of this Rule that the Commission will determine the environmental damage bond during a scheduled meeting.
- (g) If the Department denies an application for a permit pursuant to Rule .1309 of this Section, the Department shall notify the applicant or permittee in writing and stating the reasons for the denial. The applicant or permittee may thereupon modify and resubmit the application or file an appeal in accordance with 150B, Article 3; the Department shall have 60 calendar days from receipt of the resubmitted application to complete the review process.
- (h) The Department shall set the amount of the bond or other security required pursuant to Rules .1403. .1404, and .1405 of this Subchapter, and mail notice of the required bond to the applicant or permittee. The applicant or permittee shall have 60 calendar days after the Department mails the notice to provide the required bond or security instrument to the Department. The Oil or Gas Well Permit shall not be issued until receipt of this instrument.
- (i) Following approval of a Form 2 – Oil or Gas Permit Application for a new oil or gas well, the North Carolina Geological Survey shall assign an API number for the oil or gas well.
- (j) The permittee shall not commence any operation at the well site prior to receiving an Oil or Gas Permit and meeting the requirements of this Rule.

History Note: Authority G.S. 113-391(a)(5); 113-391(a6); 113-421(a3)(2);
Eff. March 17, 2015;
Amended Eff. September 1, 2022.

15A NCAC 05H .1308 PERMIT CONDITIONS

A Form 2 – Oil or Gas Well Permit Application may be approved with conditions based on the individual well site. These conditions may require the permittee to:

- (1) create or construct additional erosion control measures to be installed during oil and gas well operations;
- (2) create or construct a natural buffer to be left between any stream and the disturbed land;
- (3) create or construct visual screening, such as existing natural vegetation, vegetated earthen berms, tree plantings at staggered spacing, to be installed and maintained between any disturbed land and any adjoining property containing occupied buildings or public access within view of the disturbed land;
- (4) create or construct erosion control measures to be implemented during the construction and operation of all roads to minimize off-site damage from sediment; or
- (5) comply with other conditions as determined by the Department based on the well site geography, geology, and the recommendations of other Divisions in order to safeguard public health, welfare, and the environment.

History Note: Authority G.S. 113-391(a)(5); 113-391(a6);
Eff. March 17, 2015.

15A NCAC 05H .1309 DENIAL OF APPLICATION

(a) The Department shall have the authority to deny a permit application to any person on finding that the well site for which a permit is requested is in violation of any of the rules contained in this Subchapter, the issuance of the permit would result in a violation of any rule of this Subchapter or other applicable law or rule, or for any of the following factors:

- (1) the permit application is incomplete and the time has lapsed for resubmission in accordance with Rule .1307 of this Subchapter;
- (2) the requirements of Section .1400 of this Subchapter have not been met;

- (3) the operation will have significant adverse effects on surface water, groundwaters, wildlife, habitats of rare and endangered flora and fauna and other critical communities; or freshwater, estuarine, or marine fisheries;
 - (4) the operation will constitute a physical hazard to public health and safety or to a neighboring occupied dwelling, school, church, hospital, commercial or industrial building, public road, or other public property;
 - (5) the operation will have a significant adverse effect on the uses of a publicly-owned park, forest, recreation area, or historical and archeological sites listed on the Federal or State list of historic places;
 - (6) previous experience with similar operations indicates a substantial possibility that the operation will result in deposits of sediment in stream beds or lakes in violation of the Sediment Pollution Control Act of 1973 and 15A NCAC 02L .0202 and 15A NCAC 02B, landslides, or acid water pollution in violation of 15A NCAC 02L .0202 and 15A NCAC 02B, which are incorporated by reference, including subsequent amendments and editions; or
 - (7) the Department finds that the applicant, permittee, or any parent, subsidiary, or other affiliate of the applicant or permittee has not been in compliance with the Oil or Gas Conservation Act, rules of this Subchapter, other laws or rules of this State for the protection of the environment administered by the Department, any plan approval, permit, or order issued by the Department, or has not corrected all violations that the applicant, permittee, or any parent, subsidiary, or other affiliate of the applicant, permittee, or parent has committed under this Act or rules adopted under the Act that resulted in:
 - (A) the revocation of a permit;
 - (B) the forfeiture of part of all of a bond or other security;
 - (C) a conviction of a misdemeanor or any other court order; or
 - (D) the final assessment of a civil penalty.
- (b) In the absence of any finding set out above, or if adverse effects are mitigated by the applicant or permittee as approved by the Department, a permit shall be granted.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395;
Eff. March 17, 2015.

15A NCAC 05H .1310 PERMIT MODIFICATIONS

- (a) Any permittee may apply at any time for a modification of the permit. The application shall be in writing on Form 2 – Oil or Gas Well Permit Application in accordance with Rule .1304 of this Section. The Department may review, approve, approve with conditions, or deny the application for modification in accordance with the rules of this Section.
- (b) The permittee shall provide any additional information required by the Department to satisfy application requirements in accordance with Rule .1307 of this Section. The permittee shall not be required to resubmit information that remains unchanged since the time of the prior application.
- (c) If a proposed modification of the permit affects the land area covered by the permit or the approved Reclamation Plan, then the permittee shall propose a modification to the Reclamation Plan that meets the requirements of Rule .2102 of this Subchapter.
- (d) No modification of a permit shall become effective until any required change has been made in the bond or other security posted under the provisions of G.S. 113-378, 113-391, and 113-421, so as to assure the performance of obligations assumed by the permittee under the permit and Reclamation Plan.
- (e) If at any time it appears to the Department from its inspection of the disturbed land that the activities under the Reclamation Plan and other terms and conditions of the permit are failing to achieve the purposes and requirements of this Subchapter, the Department shall give the permittee written notice of that fact and request the permittee to modify the permit in accordance with Rule .1307 of this Section.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395; 113-410(a);
Eff. March 17, 2015.

15A NCAC 05H .1311 PERMIT TRANSFERS

- (a) A permit transfer may result from a sale, assignment by a court, a change in operating agreement, or other transaction.

(b) The new owner shall send written notice to the Department of the transfer within 30 calendar days of the transfer. The notice shall include:

- (1) the names, address, and telephone numbers of the former owner(s) and new owner(s), and the agent if applicable. The new permittee information shall be attached to the notice on Form 1 – FRO;
- (2) the Oil or Gas Well Permit and assigned API number;
- (3) the effective date of the transfer of ownership; and
- (4) an affidavit from the new owner verifying that the information on the original application is still accurate and complete. If the information on the original application is no longer accurate or complete, a new Form 2 – Oil or Gas Well Application shall be submitted to the Department for review and approval.

(c) The new owner shall secure the required bond prior to the Department approving the permit transfer.

(d) A permit transfer may be denied by the Department based on previous revocation or unaddressed or outstanding violations on a previous permit by the transferee in accordance with Rule .1309(a) of this Section.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395;
Eff. March 17, 2015.

15A NCAC 05H .1312 PERMIT EXPIRATION

(a) A permittee shall have 12 months from the date of issuance of the permit to spud an oil or gas well or the permit shall expire.

(b) A permittee may request a one time, one-year renewal of the permit. The permittee shall provide an affidavit affirming that the information on the original Form 2 – Oil or Gas Well Permit Application is still accurate and complete and that the oil or gas well location restrictions are still in effect. Any change in information from the original application shall be treated as a request for a permit modification pursuant to Rule .1310 of this Section. The permittee shall submit the request so that it is received by the Department at least 30 calendar days prior to the expiration of the original permit.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395;
Eff. March 17, 2015.

15A NCAC 05H .1313 PERMIT SUSPENSION OR REVOCATION

(a) The Department may suspend or revoke a permit if:

- (1) the permittee fails to meet the conditions specified in the permit;
- (2) the permittee falsified or otherwise withheld information required in the application; or
- (3) if the Department issued the permit in error because the submitted information was incorrect and the error was not identified during the Department's review but came to light after the permit was issued and the correct information affected the validity of the issued permit.

(b) After any of the requirements in Paragraph (a) of this Rule are satisfied, the Department shall have the ability to suspend or revoke the permittee's permit in the following circumstances:

- (1) if the permittee does not comply with a notice of violation issued by the Department; or
- (2) an emergency situation creating a threat to public health, safety or the environment.

(c) The Department shall send written notice of suspension or revocation of the permit, including specific justification for the revocation. The permittee shall temporarily abandon the oil or gas well pursuant to Rule .1621 of this Subchapter until final disposition of the appeal. If the revocation is upheld, the permittee shall permanently plug and abandon the oil or gas well pursuant to Rule .1618 of this Subchapter.

History Note: Authority G.S. 113-391(a)(5)a; 113-391(a6); 113-395;
Eff. March 17, 2015.

15A NCAC 05H .1314 PERMIT RELEASE

(a) The permittee may request the Department to release the oil or gas well and all affected areas associated within the well site and return any remaining bond in accordance with Rule .1406 of this Subchapter.

(b) The Department shall not approve an oil or gas well permit release unless the requirements for Rule .1406 of this Subchapter have been met and all oil or gas well plugging and abandonment fees and notices have been received.

(c) The Department shall release any remaining bond to the permittee after finding that that the well site has been reclaimed as stated in the Reclamation Plan.

History Note: Authority G.S. 113-391(a6);
Eff. March 17, 2015.

SECTION .1400 – FINANCIAL ASSURANCE

15A NCAC 05H .1401 PURPOSE AND SCOPE

Each applicant or permittee for a permit, modification, or transfer of an Oil or Gas Well Permit shall file and maintain in force one or more bonds in favor of the State of North Carolina or surface owner, executed by a surety approved by the Commissioner of Insurance, based on the requirements set forth in the rules of this Section.

History Note: Authority G.S. 113-391(a)(5)l; 113-421(a3);
Eff. March 17, 2015.

15A NCAC 05H .1402 BONDING REQUIREMENTS

(a) After an application for a permit, modification, or transfer of an Oil or Gas Well Permit is considered complete by the Department, the applicant or permittee shall provide an approved financial assurance instrument listed in Paragraph (b) of this Rule to the Department or each surface owner, as applicable in accordance with Rules .1403, .1404, and .1405 of this Section. The applicant or permittee shall not commence operations to drill, recomplete, restimulate, deepen, reenter, sidetrack, plug and abandon, plug back, or revise the location of any oil or gas well prior to providing one of the approved financial assurance instruments listed in Paragraph (b) of this Rule to the Department or surface owner(s).

(b) The permittee shall submit financial assurance to the Department using one of the following forms:

- (1) Form 7 – Irrevocable Letter of Standby Credit, which shall include the following information:
 - (A) the applicant's or permittee's name, address, telephone number, fax number, and email address;
 - (B) the letter of credit number, effective date, and amount;
 - (C) the name and address for the issuing institution;
 - (D) the date of expiration and date and frequency of renewals; and
 - (E) the issuing institution's representative's dated and notarized signature.
- (2) Form 8 – Surety Bond, which shall include the following information:
 - (A) the applicant's or permittee's name, address, telephone number, fax number, and email address;
 - (B) the name and the principal and local address of the issuing surety company;
 - (C) the bond number as assigned by the surety company;
 - (D) the amount of bond to be held by the State of North Carolina;
 - (E) the seal of the surety company;
 - (F) the signatures by the secretary or assistant secretary; principal; president, vice president, partner, or owner of the surety company;
 - (G) the signature of the resident agent of North Carolina and the agent or attorney in fact.
- (3) Form 9 – Assignment of Savings Account, which shall include the following information:
 - (A) the applicant's or permittee's name, address, telephone number, fax number, and email address;
 - (B) the name, address, and county of the bank;
 - (C) the dollar amount to be held to be payable to the Department on demand of the Department;
 - (D) the method and a copy of the instrument of assignment such as a passbook or deposit book;
 - (E) the notarized signature and date for the applicant or permittee; and
 - (F) an acknowledgement of the bank on the assignment that includes the date of assignment, signature of authorized agent of the bank, date of signature, and notarization.
- (4) Form 10 – Cash Deposit, which shall include the following information:
 - (A) the applicant's or permittee's name, address, telephone number, fax number, and email address;

- (B) the county and nearest city or town where oil or gas well is located;
- (C) the lease name and the oil or gas well name and number;
- (D) the Commission issued drilling unit number; and
- (E) a cashier's or certified check made payable to the North Carolina Department of Environmental Quality.

(c) The amount of the bond shall be determined by the Department or the Commission consistent with Rules .1403, .1404, and .1405 of this Section.

- (1) If the Oil or Gas Well Permit is modified to increase the total depth of the oil or gas well or the total disturbed land acreage increases, the bond shall be increased in accordance with Rules .1403 and .1404 of this Section, respectively; and
- (2) As areas at a well site are reclaimed in accordance with the Reclamation Plan required by Section .2100 of this Subchapter and approved and released by the Department, the permittee may substitute a new bond for the bond previously filed in an amount covering the remaining oil or gas wells and disturbed land acreage at the site.

(d) The bond herein provided shall be continuous in nature and shall remain in force until cancelled by the surety. Cancellation by the surety shall be effectuated only after 60 days written notice thereof to the Department or surface owner and to the permittee.

(e) The bond shall be conditioned on the faithful performance of the requirements set forth in the rules of this Subchapter. After filing the bond with the Department, the permittee shall lose all right, title, and interest in the bond while the bond is held by the Department. Liability under the bond shall be maintained as long as reclamation is not completed in compliance with the approved Reclamation Plan or acceptance by the Department of a substitute bond. In no event shall the liability of the surety exceed the amount of the surety bond required by this Section.

(f) In lieu of the surety bond required by this Section, the permittee may file with the Department a cash deposit, an irrevocable letter of credit, a guaranty of payment to the Department and held by a financial institution consistent with the Uniform Commercial Code of North Carolina (NC UCC). Alternatively, a permittee may file with the Department an assignment of a savings account in a financial institution consistent with the NC UCC. Cash deposits, irrevocable letters of credit, guaranties of payment, and assignments of savings accounts shall be filed using forms in accordance with Paragraph (b) of this Rule. Security shall be subject to the release provisions of Rule .1406 of this Section.

(g) If the Commissioner of Insurance suspends or revokes the license to do business in North Carolina of any surety on a bond filed pursuant to this Subchapter, the permittee shall, within 60 calendar days after receiving notice thereof, substitute for the surety a corporate surety authorized to do business in this State. On failure of the permittee to substitute sufficient surety within this time, the permit shall be revoked.

*History Note: Authority G.S. 113-391(a)(5)l; 113-421(a2); 113-421(a3);
Eff. March 17, 2015;
Amended Eff. September 1, 2022.*

15A NCAC 05H .1403 OIL OR GAS WELL PLUGGING AND ABANDONMENT BOND

(a) The applicant or permittee shall submit an oil or gas well plugging and abandonment bond in the amount of five thousand dollars (\$5,000) plus one dollar (\$1.00) per linear foot of the permitted oil or gas well pursuant to G.S. 113-378.

(b) The oil or gas well plugging and abandonment bond may be submitted as a separate bond or as an aggregate bond amount with the environmental damage bond required by Rule .1405 of this Section.

(c) The permittee may request that this bond be released by the Department when final site reclamation is completed in accordance with Section .2100 of this Subchapter and for which the oil or gas well is permanently plugged and abandoned in accordance with Rule .1618 of this Subchapter.

*History Note: Authority G.S. 113-378; 113-391(a)(5)l; 113-421(a2);
Eff. March 17, 2015.*

15A NCAC 05H .1404 DISTURBED LAND BOND

(a) The applicant or permittee shall provide to each surface owner a disturbed land bond that is sufficient to cover the cost of completing the requirements of the approved Reclamation Plan in accordance with Rule .2102 of this Subchapter and any reclamation conditions of the approved permit.

(b) The Commission shall set the disturbed land bond amount by calculating the costs for corrective actions(s), using the Reclamation Cost Table and calculations specified in Paragraphs (c) and (d) of this Rule, to return the land to the conditions set out in the approved Reclamation Plan in accordance with Rule .2102 of this Subchapter and any reclamation conditions of the approved permit.

(c) The Commission shall use the Reclamation Cost Table to calculate the amount for the disturbed land bond. The Reclamation Cost Table set by the Commission shall include the following:

- (1) stone removal for access road and well pad in cubic yards;
- (2) spreading stockpiles and berms to prepare for fine grading in cubic yards;
- (3) filling of pits in cubic yards;
- (4) fine grading per acre;
- (5) seed and mulch, repair seeding, and fertilizing per acre;
- (6) matting for soil cover per acre;
- (7) matting permanent soil reinforcement per acre;
- (8) drainage ditch excavation; and
- (9) borrow excavation.

(d) The disturbed land bond shall be calculated by multiplying the affected area for each item listed in Paragraph (c) of this Rule and the unit cost for each item as determined by the Commission based on market value of each item. The Reclamation Cost Table is available on the Division's Oil and Gas Program webpage at the following address: <http://portal.ncdenr.org/web/lr/oilgas>.

(e) If the applicant, permittee, or surface owner disagrees with the disturbed land bond amount determined by the Commission, the applicant, permittee, or surface owner may appeal the bond amount pursuant to G.S. 113-421(a3)(1).

History Note: Authority G.S. 113-391(a)(5)l; 113-391(a)(13a); 113-421(a3)(1); 150B-43; Eff. March 17, 2015.

15A NCAC 05H .1405 ENVIRONMENTAL DAMAGE BOND

(a) The applicant or permittee shall submit an environmental damage bond in the amount of one million dollars (\$1,000,000), unless the Commission sets a higher amount pursuant to G.S. 113-421(a3)(2).

(b) The environmental damage bond may be submitted as a separate bond or as an aggregate bond amount with the oil or gas well plugging and abandonment bond, as required by Rule .1403 of this Section.

(c) In identifying environmentally sensitive areas, the Commission shall consider the following:

- (1) renewable resources, which may include:
 - (A) watersheds or aquifers that are present sources of public water supply, as identified by the Department or the Environmental Management Commission at <http://swap.ncwater.org/website/swap/viewer.htm>; and
 - (B) prime forestry land (sites capable of producing 85 cubic feet per acre-year, or more, of marketable timber).
- (2) environmental or natural resources, which may include:
 - (A) existing national or State parks or forests, wilderness areas, the State Nature and Historic Preserve, or public recreation areas;
 - (B) present sections of the natural and scenic rivers system;
 - (C) stream segments that have been classified for scientific or research uses by the Environmental Management Commission at <http://portal.ncdenr.org/web/wq/ps/csu>, or that are proposed to be so classified in a rulemaking proceeding that is pending before the Environmental Management Commission pursuant to G.S.143-214.1 at the time of the designation of the area of environmental concern;
 - (D) existing wildlife refuges, preserves or management areas found at <http://www.fws.gov/refuges/refugelocatomaps/NorthCarolina.html> and game lands identified by the Wildlife Resources Commission found at <http://ncpaws.org/wrcmapbook/>;
 - (E) areas that sustain rare and endangered botanical or animal species; and
 - (F) areas containing unique geological formations, as identified by the State Geologist.
- (3) natural-hazard areas, which may include:
 - (A) the shoreline of estuarine and public trust waters;
 - (B) floodways and floodplains; and

- (C) areas where geologic and soil conditions are such that there is a substantial possibility of landslides or seismic activity, as identified by the State Geologist, at <http://portal.ncdenr.org/web/lr/geologic-hazards>.
 - (4) Outstanding Resource Waters as designated by the Division of Water Resources at <http://nc.maps.arcgis.com/apps/webappviewer/index.html?id=5f5cce7640a1499b83a7b7efaf5524a4> and such contiguous land for the purpose of maintaining the exceptional water quality and outstanding resource values identified in the designation; and
 - (5) Primary Nursery Areas as designated by the Marine Fisheries Commission at <http://portal.ncdenr.org/web/mf/primary-nursery-areas>.
- (d) After the Commission determines that an operation would be sited in an environmentally sensitive area, the Commission may increase the bond amount pursuant to G.S. 113-421(a3)(2). In making the determination, the Commission shall consider factors such as the following:
- (1) the proximity of the oil or gas well or well site to the environmentally sensitive area;
 - (2) the character of the environmentally sensitive area;
 - (3) the topography of the environmentally sensitive area; and
 - (4) special soil or geologic conditions in the environmentally sensitive area.

History Note: Authority G.S. 113-391(a)(5)l; 113-421(a3)(2);
Eff. March 17, 2015.

15A NCAC 05H .1406 INSPECTION AND APPROVAL OF RECLAMATION FOR BOND RELEASE OR FORFEITURE

- (a) The permittee shall proceed with reclamation as scheduled in the approved Reclamation Plan pursuant to Rule .2102 of this Subchapter.
- (b) The permittee shall notify the Department in writing that it has completed reclamation of an area of disturbed land in accordance with Rule .2103 of this Subchapter.
- (c) After receipt of the notice as required by Paragraph (b) of this Rule, the Department shall conduct an inspection to determine whether the permittee has complied with the Reclamation Plan in accordance with Rule .2102 of this Subchapter and the reclamation conditions of the Oil or Gas Well Permit.
 - (1) If the Department determines from its inspection of the area in accordance with this Rule that reclamation has been properly completed, it shall notify the permittee in writing.
 - (2) If the Department determines from its inspection of the area that reclamation is deficient based on Rule .2102 of this Subchapter, then the Department shall notify the permittee in writing of all such deficiencies. The permittee shall commence action within 30 days to rectify these deficiencies and shall take corrective actions until the deficiencies have been corrected. The Department shall conduct follow-up site inspections in accordance with this Subparagraph and Rule .0203 of this Subchapter to ensure the permittee has taken the corrective actions.
- (d) The Department shall initiate enforcement actions if it finds any of the following conditions in accordance with Rule .0901 of this Subchapter:
 - (1) the reclamation of the disturbed land within the permitted area is not proceeding in accordance with the Rule .2103 of this Subchapter or the Reclamation Plan;
 - (2) the permittee has failed within 30 days after notice to commence corrective action; or
 - (3) the final reclamation has not been properly completed in conformance with the Reclamation Plan and G.S. 113-421(a3).

History Note: Authority G.S. 113-391(a)(5)l; 113-391(b); 113-410; 113-421(a3);
Eff. March 17, 2015.

15A NCAC 05H .1407 BOND FORFEITURE PROCEEDINGS

- (a) If the Department determines there is a violation necessitating bond forfeiture or the revocation of a permit, it shall send the permittee and surety a written notice of violation. Upon receipt of the written notice of violation, the permittee shall have 60 calendar days to complete corrective action. If the permittee does not correct the violation within the 60 day period, the Department shall request the Attorney General to initiate forfeiture proceedings against the bond or other security filed by the permittee in accordance with Rule .0901 of this Subchapter.
- (b) Such proceedings shall be brought in the name of the State of North Carolina for the face amount of the bond or other security, less any amount already released by the Department, and these sums shall be subject to forfeiture.

(c) If the amount of the bond or other security filed pursuant to this Section proves to be insufficient to complete the required final reclamation pursuant to the approved Reclamation Plan, the permittee shall be liable to the Department for any excess above the amount of the bond or other security that is required to defray the cost of completing the required final reclamation.

(d) If a permit is revoked by the Department, the Department shall proceed with efforts to collect the bond(s) or other financial assurance that was submitted to the Department at the time of permitting for oil or gas well plugging and abandonment and environmental damage in accordance with the rules of this Section.

History Note: Authority G.S. 113-391(a)(5)l; 113-421(a3);
Eff. March 17, 2015.

SECTION .1500 – SITE INFRASTRUCTURE AND CONSTRUCTION STANDARDS

15A NCAC 05H .1501 PURPOSE AND SCOPE

The rules in this Section establish requirements for well site construction standards.

History Note: Authority G.S. 113-391(a)(4); 113-391(a)(5)c;
Eff. March 17, 2015.

15A NCAC 05H .1502 WELL SITE CONSTRUCTION STANDARDS

(a) The applicant or permittee shall submit a Well Site Development Plan to the Department pursuant to Rule .1304(c)(2) of this Subchapter. The Well Site Development Plan shall be signed and sealed by a North Carolina Professional Engineer and shall include the following information:

- (1) the name, address, telephone number, fax number, and email address of applicant or permittee;
- (2) the lease name and the oil or gas well name and number;
- (3) the name and address of surface and mineral owners;
- (4) the latitude and longitude (in decimal degrees) of the proposed access road entrance, corners of the well pad, wellhead(s), tank battery, pits, and all other production equipment reported to five decimal places of accuracy and precision using the North American Datum of 1983 (NAD83);
- (5) a well site location map depicting the well pad and access road using a scale of one inch equals 2,000 feet;
- (6) maps, plan sheets, and details depicting the proposed well site, well pad, tank battery, pits, access road, and topsoil stockpiles along with existing roads, surface water bodies, wetlands, and other surface features affected by the construction using a scale ranging between one inch equals 50 feet to one inch equals 500 feet with two foot topographic contours, depending on the total disturbed area;
- (7) the details of the leak detection system, either electrical or piped, that will be installed on any proposed pit, including a plan of action to mitigate leakage;
- (8) the proposed cut and fill areas with two foot grading contours depicting slope ratios and identifying elevation at the top and bottom of slopes using the North American Vertical Datum of 1988 (NAVD88);
- (9) the cross-sections of the length and width of the well site, well pad, and access road that include cut and fill volumes posted in cubic yards;
- (10) a description of proposed well site construction sequence and stabilization techniques;
- (11) the erosion and sedimentation control measures that are designed and constructed to prevent sedimentation to water bodies and adjacent properties from any land disturbing activities related to the construction of the well site in accordance with the SPCA and 15A NCAC 04, and the "North Carolina Erosion and Sediment Control Planning and Design Manual," which is incorporated by reference, including subsequent amendments and editions. The North Carolina Erosion and Sediment Control Planning and Design Manual may be viewed online for no charge at <http://portal.ncdenr.org/web/lr/publications>;
- (12) the stormwater management control measures shall be designed and constructed in accordance with 15A NCAC 02H and the "North Carolina Division of Water Quality Stormwater Best Management Practices Manual," which is incorporated by reference, including subsequent amendments and editions. The Stormwater Best Management Practices Manual may be viewed online for no charge at <http://portal.ncdenr.org/web/lr/bmp-manual>;

- (13) the maintenance procedures for the access road and well pad; and
 - (14) the pre-construction conditions at the proposed well site, including aerial photographs, topographic maps, and pre-construction site inspection data.
- (b) The permittee shall notify the Department via telephone or email at least 48 hours prior to the commencement of construction of a new well site or prior to the implementation of an approved permit modification. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email, or fax within five calendar days of the telephone or email notice and shall include the following information:
- (1) the permittee's name, address, telephone number, fax number, and e-mail address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number; and
 - (5) the scheduled date and approximate time of day for commencement of construction activities.
- (c) Well site disturbed areas shall be minimized. Taking into consideration the geologic target, setbacks, and safety, the well site shall be located in accordance with API Recommended Practice 51R "Environmental Protection for Onshore Oil and Gas Production Operations and Leases," and the United States Department of the Interior, Bureau of Land Management (BLM) "Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, the Gold Book," which are incorporated by reference, including subsequent amendments and editions. Recommended Practice 51R, published by API, may be viewed online for no charge at <http://publications.api.org/>. The Gold Book may be viewed online for no charge at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html.
- (d) Well sites shall be designed and located pursuant to the SPCA and in accordance with the North Carolina Erosion and Sediment Control Planning and Design Manual.
- (e) All topsoil shall be stockpiled for reuse during reclamation. Topsoil shall be segregated and stored separately from subsurface materials. Stockpiles shall be located and protected to minimize wind and water erosion in accordance with the North Carolina Erosion and Sediment Control Planning and Design Manual.
- (f) Well pads shall be designed and constructed to support the maximum weight of all vehicles, equipment, and material on the site.
- (g) Well pads shall be designed and constructed using surface or subsurface containment systems that prevent spills or releases of any substances from escaping the well pad.
- (1) containment systems shall be required on the well pad for all equipment used for any phase of drilling, casing, cementing, hydraulic fracturing, or flowback operations and for all substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives, or flowback fluid.
 - (2) containment systems shall have a coefficient of permeability no greater than 1×10^{-10} centimeters per second (cm/sec) and shall be at least 30 millimeters (mils) in thickness.
 - (3) adjoining sections of containment systems shall be sealed together in accordance with the manufacturer's directions to prevent leakage.
 - (4) all components of the containment system that could potentially come into direct contact with any substances shall be compatible with those substances and be resistant to physical, chemical, and other failure during handling, installation and use pursuant to American Society for Testing and Materials (ASTM) D5747/D5747M-08 (2013) e1 "Standard Practice for Tests to Evaluate the Chemical Resistance of Geomembranes to Liquids," which is incorporated by reference, including subsequent amendments and editions. This document, published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428, may be purchased at a cost of forty-three dollars (\$43.00) at <http://www.astm.org/Standards/D5747.htm>.
 - (5) the permittee shall inspect all containment systems to ensure that integrity is maintained. Containment systems shall be maintained in such manner to prevent an impact to public health, welfare, and the environment. Containment system inspection and maintenance records shall be available at the well site for review by the Department.
 - (6) the permittee shall notify the Department if a spill or release occurs at the well site and take necessary remedial actions in accordance with Rule .2005 of this Subchapter.
 - (7) the permittee shall provide primary and secondary containment when storing additives, chemicals, oils, or fuels. The secondary containment shall have the capacity to contain 110 percent of the volume being stored.

(h) Well sites shall be constructed to prevent stormwater runoff from entering the well pad. All stormwater control measures shall be designed and managed in accordance with 15A NCAC 02H and the "North Carolina Division of Water Quality Stormwater Best Management Practices Manual."

(i) All erosion control or stormwater measures shall be maintained according to the approved Well Site Development Plan.

*History Note: Authority G.S. 113-391(a)(4); 113-391(a)(5)l; 150B-2(8a)h;
Eff. March 17, 2015.*

15A NCAC 05H .1503 ACCESS ROAD CONSTRUCTION STANDARDS

(a) Prior to construction of the access road, the permittee shall post an identification sign pursuant to Rule .1615 of this Subchapter.

(b) Access roads shall be located, designed, and constructed to minimize environmental impact and meet the requirements of the SPCA, 15A NCAC 04, "North Carolina Erosion and Sediment Control Planning and Design Manual," 15A NCAC 02H, "North Carolina Division of Water Quality Stormwater Best Management Practices Manual," and the North Carolina Department of Transportation "Standard Specifications for Roads and Structures." The Standard Specifications for Roads and Structures, published by the Department of Transportation, may be viewed online for no charge at http://www.ncdot.org/doh/preconstruct/ps/specifications/specifications_provisions.html.

- (1) access roads shall be constructed and maintained to a minimum width of 20 feet and to allow emergency response vehicles to enter the well site at all times;
- (2) public roads shall be kept clear of mud and debris from the well site; and
- (3) turnarounds or pull-off areas shall be installed for single-lane access roads exceeding 150 feet in length.

*History Note: Authority G.S. 113-391(a)(4); 113-391(a)(5)j;
Eff. March 17, 2015.*

15A NCAC 05H .1504 PIT AND TANK CONSTRUCTION STANDARDS

(a) All pits, series of pits, tanks, and tank batteries shall be constructed and maintained to contain all Exploration and Production (E & P) wastes from the drilling, completing, recompleting, producing, servicing, and plugging of an oil or gas well and shall be constructed, operated and maintained to protect public health, safety, and the environment.

(b) The pit, series of pits, tanks, and tank batteries shall be installed and maintained in accordance with the following requirements:

- (1) the location of pit(s) and tanks(s) shall be in accordance with the minimum setbacks as required in Rules .1601 and .1602 of this Subchapter, or in an approved variance pursuant to Rule .1603 of this Subchapter;
- (2) pits shall be located in cut material to the fullest extent possible. Pits shall be constructed adjacent to the high wall for sloping well sites. If the pit cannot be constructed in cut material, at least 50 percent of the pit shall be constructed below original ground level to prevent failure of the pit dike. Pit dikes constructed of fill material shall be compacted according to soil texture and moisture content pursuant to 15A NCAC 02K .0208, which is incorporated by reference, including subsequent amendments and editions;
- (3) all pits and open tanks shall maintain a minimum of three feet of freeboard at all times and be sized so as to contain the projected volume of E&P waste along with the volume of precipitation that would fall within a 25-year 24-hour storm event;
- (4) if Subparagraph (b)(3) of this Rule is violated, the permittee shall notify the Department within two hours of discovery and take the necessary actions to ensure the structural stability of the pit or open tank, prevent spills, and restore the three feet of freeboard; and
- (5) tank design, installation, and use shall comply with API Specifications 12B "Specification for Bolted Tanks for Storage of Production Liquids," Specification 12D "Specification for Field Welded Tanks for Storage of Production Liquids," Specification 12F "Specification for Shop Welded Tanks for Storage of Production Liquids," or Specification 12P "Specification for Fiberglass Reinforced Plastic Tanks," which are incorporated by reference, including subsequent

amendments and editions. These documents, published by API, may be viewed online for no charge at <http://publications.api.org/>.

(c) Any pit that contains E & P waste shall comply with the following standards:

- (1) pits shall have a primary and secondary synthetic liner;
- (2) each synthetic liner shall have a coefficient of permeability no greater than 1×10^{-10} centimeters per second and shall be at least 30 millimeters in thickness for polyvinyl chloride or at least 40 millimeters in thickness for high-density polyethylene;
- (3) each synthetic liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the E & P waste or by ultraviolet light pursuant to ASTM D5747/D5747M-08 (2013) e1 "Standard Practice for Tests to Evaluate the Chemical Resistance of Geomembranes to Liquids";
- (4) the synthetic liner shall be resistant to failures or damage during transportation, handling, installation, and use;
- (5) adjoining sections of synthetic liners shall be sealed together to prevent leakage and tested in accordance with the manufacturer's directions. Testing results shall be maintained by the permittee and provided to the Department upon request in accordance with Rule .0202 of this Subchapter;
- (6) the synthetic liner shall be trenched and anchored into the top of the berm;
- (7) the pit shall be constructed with a leak-detection zone between the upper and lower synthetic liners designed to:
 - (A) reduce the maximum predicted head acting on the lower membrane liner to less than one inch and to detect a leak within 24 hours;
 - (B) function without damaging the liners; and
 - (C) allow permittee to monitor, record, remove, or repair any leakage within the zone;
- (8) the liner sub-base shall be smooth, uniform, and free from debris, rock, and other materials that may puncture, tear, cut, or otherwise cause the liner to fail. The liner sub-base and subgrade shall be capable of bearing the weight of the material above the liner without causing settling that may affect the integrity of the liner;
- (9) the pit shall have a perimeter berm that is a minimum of two feet in width along the crest of the berm, to prevent stormwater runoff from entering the pit;
- (10) the bottom of the pit shall be at least four feet above the seasonal high groundwater table and bedrock;
- (11) fencing in accordance with Rule .2006(a) of this Subchapter; and
- (12) netting, screening, or otherwise render nonhazardous to wildlife in accordance with Rule .2006(b) of this Subchapter.

(d) Monitoring and alarm technology shall be used to continuously verify the integrity of the primary pit liner. If the primary liner failure is discovered at any time, the pit shall be emptied and the liner repaired prior to placing the pit back in service.

(e) The leak detection systems shall be monitored on a monthly basis to determine if the primary liner has failed. The primary liner has failed if the volume of water passing through the primary liner exceeds the action leakage rate, as calculated using accepted procedures, or 1,000 gallons per acre per day, whichever is larger.

(f) If a liner becomes torn or otherwise loses integrity, the pit shall be managed to prevent the pit contents from leaking out of the pit, the pit contents shall be removed, and the liner repaired prior to placing the pit back in service. Pit contents shall be disposed of in accordance with the Waste Management Plan in accordance with Rule .2002 of this Subchapter.

(g) If the liner drops below the three feet of freeboard, the pit shall be managed to prevent the pit contents from leaking from the pit and the three feet of lined freeboard shall be restored.

(h) The permittee shall provide and maintain secondary containment for all tanks and production equipment of sufficient capacity to contain 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater. Secondary containment structures shall be constructed of a material compatible with the fluids being stored and maintained to prevent loss of fluids.

(i) Tanks for the storage of produced hydrocarbons shall not be buried and shall contain the following components:

- (1) activated charcoal filters installed on vent stacks. Activated charcoal filters shall be maintained and replaced according to manufacturer's specifications;
- (2) low-pressure relief valves installed on vent stacks. Relief valves shall remain functioning at all times;

- (3) hatch lids shall have a functioning seal and shall be secured at all times unless the permittee is on-site;
 - (4) lightning arrestors installed on each tank to comply with API Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents," which is incorporated by reference, including subsequent amendments and editions. This document, published by API, may be viewed online for no charge at <http://publications.api.org/>;
 - (5) tanks shall be elevated such that leaks on their sides or bottoms are readily discernible; and
 - (6) tanks shall be installed above a surface impermeable to materials that the tank will contain.
- (j) The Commission may grant or deny a variance from any construction standard of this Rule. The applicant or permittee shall submit a request for a variance in accordance with Rule .0301 of this Subchapter. In granting or denying the request the Commission shall determine that the applicant or permittee has met the following two factors:
- (1) the requested variance to deviate from the standards and rule will provide equal or greater protection of public health, welfare, and the environment; and
 - (2) construction in accordance with the standards of this Rule is not technically or economically feasible.

History Note: Authority 113-391(a)(5)c; 113-391(a)(5)d;
Eff. March 17, 2015.

SECTION .1600 – WELL CONSTRUCTION AND COMPLETION

15A NCAC 05H .1601 SETBACK DISTANCES

- (a) Each oil or gas well, production facility, tank, tank battery, or pit shall comply with the following setback distances as measured from the center of a wellhead and the edge of the pit, production facility equipment, tank, or tank battery closest to the features below:
- (1) occupied dwellings and high occupancy buildings: 650 feet;
 - (2) edge of a public road, highway, utility or railroad track right-of-way, or other right-of-way: 100 feet;
 - (3) a perennial stream, river, watercourse, pond, lake, or other natural and artificial bodies of water, including wetlands and trout stream: 200 feet;
 - (4) intermittent stream: 100 feet;
 - and
 - (5) a public or private water well intended for human consumption or household purpose: 650 feet.
- (b) The permittee shall ensure a minimum setback of 100 feet from the center each oil or gas wellhead, and the closest edge of a tank, tank battery, or pit to the edge of the mapped 100-year floodplain and floodway.
- (c) The permittee shall ensure a minimum setback of 1,500 feet downgrade from each oil or gas wellhead, tank, tank battery, pit, or production facility to the edge of any surface water impoundment that serves as a municipal drinking water supply or to the edge of any river having a drainage area greater than 140 square miles and upstream of a municipal drinking water supply point. For surface water impoundments, the edge shall be measured from the nearest point of the most landward limit of the normal water level or the rooted herbaceous vegetation. For any river upstream of a municipal drinking water supply point, the edge shall be measured from the nearest, most landward limit of the bank or the rooted herbaceous vegetation.
- (d) Nothing in this Rule prohibits a local government exercising its existing authority consistent with G.S. 113-415.1.

History Note: Authority G.S. 113-391(a)(5)d;
Eff. March 17, 2015.

15A NCAC 05H .1602 PRODUCTION FACILITY SAFETY SETBACK DISTANCES

- (a) The closest edge of a pit, tank, or tank battery shall be a minimum of 75 feet from the center of any wellhead.
- (b) A tank edge shall be a minimum of five feet from another edge.
- (c) A mechanical separator or compressor shall be located the minimum distance from any of the following:
- (1) the center of a wellhead: 50 feet; and
 - (2) the closest edge of a tank: 75 feet.

(d) All production facilities, excluding gathering lines, whose contents may be heated shall be located a minimum distance of 75 feet from edge of a tank or the center of a wellhead.

*History Note: Authority G.S. 113-391(a)(5)d;
Eff. March 17, 2015;
Amended Eff. September 1, 2022.*

15A NCAC 05H .1603 VARIANCE FOR SETBACKS

(a) An applicant or permittee may request a variance to reduce the setback distances for an oil or gas wellhead, a tank or tank battery, and a pit from an occupied dwelling required by Rule .1601 of this Section. The variance, if granted, shall provide equal or greater protection of public health, safety, and the environment. Variances from setbacks established for high occupancy buildings are prohibited. The Commission in granting or denying variances shall:

- (1) require additional measures that eliminate, minimize, or mitigate potential adverse impacts to public health, welfare, and the environment, such as the use of non-diesel fuels with lower emissions; and
 - (2) require site-specific mitigation measures to address location specific considerations.
- (b) The Commission shall require the following conditions in any approved variance from an occupied dwelling:
- (1) the wellhead, tank or tank battery, or production facility shall be a minimum of 400 feet from an occupied dwelling; and
 - (2) freshwater storage pits, reserve pits to drill surface casing, and emergency pits shall be a minimum of 400 feet from an occupied dwelling.

The Commission shall not grant a variance for any E & P waste pit setback from an occupied dwelling.

(c) An applicant or permittee may request a variance to reduce the setback distances for an oil or gas wellhead, a tank, or tank battery from an intermittent stream, a pond, or other natural or artificial water body, which is not a water of the State, wholly contained within the drilling unit. The Commission shall determine that the measures proposed to eliminate, minimize or mitigate potential adverse impacts to public health, welfare and the environment are adequate to address all the risks at the well site and justify the reduction of setback distances as requested in the variance and that the variance, if granted, shall provide equal or greater protection of public health, safety, and the environment. The variance shall include the following conditions:

- (1) additional measures that eliminate, minimize, or mitigate potential adverse impacts to public health, welfare, and the environment, such as the use of secondary or backup containment measures;
- (2) the oil or gas wellhead, freshwater storage pit, tank, tank battery, or production facility shall be a minimum of 50 feet from any intermittent stream, pond, or other natural or artificial water body, that is not a water of the State, and that is wholly contained within the drilling unit; and
- (3) oil or gas wellheads, a tank, a tank battery, or pits less than 650 feet from, and up-gradient of, a surface water body shall use tertiary containment, such as an earthen berm.

The Commission shall not grant a variance for any E & P waste pit setback from an intermittent stream.

(d) The Commission shall require green completions in any approved variance, which include:

- (1) flow lines, separators, and sand traps capable of supporting green completions shall be installed;
- (2) prevention of uncontrolled venting; and
- (3) temporary flowback flaring and oxidizing equipment shall include the following:
 - (A) equipment sized to handle one and one half times the largest flowback volume of gas experienced within a 10-mile radius;
 - (B) valves and porting available to divert gas to temporary equipment or to permanent flaring and oxidizing equipment; and
 - (C) auxiliary fuel and heat to sustain combustion or oxidation of the gas mixture when the mixture includes noncombustible gases.

(e) An applicant or permittee may submit a surface use agreement from a surface landowner as justification to request a variance to setback distances for the wellheads, tank or tank battery, and pits from occupied dwellings. The surface use agreement may include additional site-specific mitigation measures. The surface use agreement shall include written consent of the landowner, which may be provided by any of the following:

- (1) a copy of an original lease agreement text filed with the county Registrar of Deeds that shows the reduction of the distance of the location of an oil or gas wellhead, well pad, tank battery, or pit, as applicable, from an occupied dwelling;

- (2) a copy of a deed severing the oil and gas mineral rights, as applicable, from the owner's parcel of land as filed with the county Registrar of Deeds that expressly provides for the reduction of the distance of the location of an oil or gas wellhead, well pad, tank battery, or pit, as applicable, from an occupied dwelling; or
 - (3) a copy of a written surface use agreement signed by the property owner that consents to the proposed location of an oil or gas wellhead, well pad, tank, tank battery, or pit(s), as applicable. An applicant or permittee may submit a copy of a written statement filed with the county Register of Deeds that expressly provides for the reduction of the distance of the location of an oil or gas wellhead, well pad, tank battery, or pit, as applicable, from an occupied dwelling in lieu of a copy of a written surface use agreement.
- (f) Variance requests shall be submitted in accordance with Rule .0301 of this Subchapter. In addition to the information required by Rule .0301 of this Subchapter, any permittee seeking to use surface use agreement as a basis for a variance shall submit a copy of the surface use agreement containing the information in Paragraph (e) of this Rule.

History Note: Authority G.S. 113-391(a)(5)d;
Eff. March 17, 2015.

15A NCAC 05H .1604 PROHIBITED SUBSTANCES

- (a) The Commission incorporates by reference, including subsequent amendments and editions, the "Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels – Draft: Underground Injection Control Program Guidance #84," published by the United States Environmental Protection Agency. Copies of this document may be obtained online for no charge at:
<http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/epa816r14001.pdf>.
- (b) Any substance identified by one or more of the following Chemical Abstract Service Registry Numbers listed in the United States Environmental Protection Agency's "Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels" shall not be used in the subsurface:
- (1) 68334-30-5, Primary Name: Fuels, diesel;
 - (2) 68476-34-6, Primary Name: Fuels, diesel, Number 2;
 - (3) 68476-30-2, Primary Name: Fuel oil Number 2;
 - (4) 68476-31-3, Primary Name: Fuel oil, Number 4; and
 - (5) 8008-20-6, Primary Name: Kerosene.
- (c) Drilling fluids and hydraulic fracturing fluids shall not be formulated to include benzene, toluene, ethylbenzene, or xylene.

History Note: Authority G.S. 113-391(a)(5)g;
Eff. March 17, 2015.

15A NCAC 05H .1605 CASING AND EQUIPMENT REQUIREMENTS

- (a) All casing and tubing installed in oil or gas wells shall be steel, steel alloy, or other material that has been manufactured to meet or exceed the American Petroleum Institute (API) standards. All casing and tubing material shall be manufactured according to API standards; all previously used casing shall comply with design parameters for the oil or gas well, pass a hydrostatic test, a drift test, and a wall thickness test pursuant to API Specification 5CT "Specification for Casing and Tubing," and API Specification 5B "Specification for Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads," which are incorporated by reference, including subsequent amendments and editions. These documents may be viewed online for no charge at <http://publications.api.org/>. The casing shall be marked to verify the test results and the permittee shall provide a copy of the test results to the Department before the casing is installed in the wellbore.
- (1) Casing shall be designed to have a minimum internal yield pressure rating that is 20 percent greater than the maximum anticipated pressure to which the casing may be subjected during drilling, completion, or production operations.
 - (2) Where subsurface reservoir pressure is unknown and cannot be reasonably anticipated by the applicant or permittee, the permittee shall assume a pressure gradient of 0.433 pounds per square inch (psi) per foot in a fully evacuated hole, under shut-in conditions.
 - (3) All casing and tubing connections shall be torqued to the manufacturer's specifications and shall comply with API Recommended Practice 5A3 "Recommended Practice on Thread Compounds for

Casing, Tubing, Line Pipe, and Drill Stem Elements," and API Recommended Practice 5C5 "Recommended Practice on Procedures for Testing Casing and Tubing Connections," which are incorporated by reference, including subsequent amendments and editions. These documents may be viewed online for no charge at <http://publications.api.org/>.

(b) The permittee shall verify casing integrity by pressure testing each cemented casing string greater than 200 feet in length in accordance with the following test method:

- (1) test the casing string, prior to drilling the cement plug or stimulating the oil or gas well, at a minimum pump pressure in psi, that is calculated by multiplying the length of the casing string, in feet, by 0.2. The pressure test shall not exceed 1,500 psi;
- (2) this pressure test shall be conducted for 30 minutes; and
- (3) if the pressure has dropped by more than 10 percent, then the casing string has failed to meet the integrity requirements. The permittee shall not drill the cement plug or stimulate the oil or gas well until the condition has been corrected; or
- (4) if the pressure has dropped by no more than 10 percent, then the casing string has met the integrity requirements. The casing string has met the integrity requirements if the pressure has dropped by no more than 10 percent of testing pressure.

(c) The wiper plug and float collar assembly shall be set with a minimum cement displacement pressure of 500 psi.

(d) All casing shall be centralized to allow the cement to fill the annular space to the surface in order to isolate critical zones including: aquifers, flow zones, voids, lost circulation zones, coal layers, and hydrocarbon production zones. Casing strings shall comply with API Recommended Practice 10D-2 "Recommended Practice for Centralizer Placement and Stop Collar Testing," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.

- (1) All bow-spring centralizers shall comply with API Specification 10D "Specification for Bow-Spring Casing Centralizers," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.
- (2) All rigid centralizers shall comply with API Technical Report 10TR4 "Considerations Regarding Selection of Centralizers for Primary Cementing Operations," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.

(e) All packers and bridge plugs shall comply with API Specification 11D1 "Packers and Bridge Plugs," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.

*History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.*

15A NCAC 05H .1606 CEMENTING STANDARDS

(a) All cement pumped into the wellbore shall consist of cement that is manufactured and tested pursuant to API Specification 10A "Specification for Cements and Materials for Well Cementing" or the American Society for Testing and Materials (ASTM) Standard Specification "C150/C150M Standard Specification for Portland Cement," which are incorporated by reference, including subsequent amendments and editions. Specification 10A, published by API, may be viewed online for no charge at <http://publications.api.org/>. Specification C150/C150M, published by ASTM, may be purchased at a cost of forty-one dollars (\$41.00) at <http://www.astm.org/Standards/C150.htm> or by mail at 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

(b) The permittee, or an authorized representative of the permittee, shall be onsite for all cement mixing and placement operations to monitor the cement mixing equipment and to ensure that cement slurry design parameters are followed.

(c) Cement shall be pumped at a rate and in a flow regime that minimizes channeling of the cement in the annulus.

(d) Cement mixtures for which published performance data are not available shall be tested by the permittee or the service company. The cement test results shall be included with the Form 2 – Oil or Gas Well Permit Application confirming that the cement mixture meets API Specification 10A "Specification for Cements and Materials for Well Cementing."

(e) The Department may require by permit condition a specific cement mixture to be used in any oil or gas based on site-specific situations, such as the salinity of subsurface groundwater zones or the presence of geological hazards.

(f) All cement shall reach a compressive strength of at least 500 pounds per square inch (psi) prior to conducting the casing integrity test required by Rule .1605(b) of this Section.

History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.

15A NCAC 05H .1607 WELL INSTALLATION

(a) The Department may establish by permit conditions additional oil or gas well construction standards that provide greater protection of human health, safety, and the environment based on site-specific conditions such as the geology of the area.

(b) The permittee shall notify the Department at least 48 hours via telephone or email prior to spudding the oil or gas well. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email, or fax within five calendar days of the telephone or email notice and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time for spudding the oil or gas well.

(c) The permittee shall notify the Department at least 48 hours prior to setting and cementing any casing string via telephone or email, in order to allow the Department to participate in pre-job safety and procedural meetings, independently test cement mix water, evaluate casing condition, and observe and document the execution of the cementing operation. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email, or fax within five calendar days of the telephone or email notice and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time for setting and cementing any casing string.

(d) If a mousehole or rathole is used, it shall be constructed of liquid-tight steel pipe with a welded-basal plate.

(e) A wellbore shall be drilled using air, water, water-based drilling fluid, or a combination thereof until all fresh groundwaters have been isolated.

- (1) Drilling fluids that cause a violation of 15A NCAC 02L, which is incorporated by reference including subsequent amendments, shall not be used until all groundwaters have been isolated.
- (2) Only freshwaters shall be used for mixing all drilling fluids.

(f) A wellbore shall be drilled to provide a minimum of a one-inch annulus, as measured from the casing.

(g) The wellbore shall be conditioned prior to cementing to ensure an adequate cement bond between the casing and the formation by circulating the total volume of drilling fluid in the wellbore a minimum of two times. The drilling fluid rheology shall be adjusted to optimize conditions for displacement of the drilling fluid and to ensure that the wellbore is stable.

(h) All casing strings shall be rotated and reciprocated during the emplacement of cement to circulate the cement surrounding the casing string to fill the annulus.

(i) Stormwater shall be prevented from infiltrating the wellbore by crowning the location around the wellbore to divert fluids as approved in the Well Site Development Plan in accordance with Rule .1502(a) of this Subchapter.

History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.

15A NCAC 05H .1608 WELL INSTALLATION FOR CONDUCTOR CASING

(a) Conductor casing design and setting depth shall be based on the geological conditions at the wellbore location, including the presence or absence of hydrocarbons and potential drilling hazards.

(b) Conductor casing shall be cemented from bottom to top, with return to the surface. If cement does not return to the surface, the permittee shall consult with and obtain approval from the Department to determine the appropriate method to emplace cement.

(c) Conductor casing shall:

- (1) stabilize unconsolidated sediments;
- (2) isolate and seal off shallow groundwater zones;
- (3) isolate any shallow drilling hazards, hydrocarbon bearing zones, or coal formations;
- (4) provide a stable platform for oil or gas well construction; and
- (5) provide solid structural anchorage for a diverter system in air drilling operations.

(d) A mechanical or cement seal shall be installed at the surface to block downward migration of surface pollutants.

*History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.*

15A NCAC 05H .1609 WELL INSTALLATION FOR SURFACE CASING

(a) Surface casing shall be set into competent bedrock to a depth of at least 100 feet below the base of the deepest groundwaters but above any hydrocarbon strata containing fluids or gases that could negatively impact the quality of the cement or proper functioning of the oil or gas well.

(b) Surface casing shall be cemented from bottom to top, with return to the surface. If cement does not return to the surface, the permittee shall consult with and obtain approval from the Department to determine the appropriate method to emplace cement.

(c) Surface casing shall:

- (1) isolate and seal off shallow groundwaters;
- (2) provide a stable platform for oil or gas well construction; and
- (3) contain pressures and fluids from subsequent drilling operations to the next planned casing setting point.

(d) The surface casing shall be set into competent bedrock at a depth sufficient for the permittee to ensure the blowout preventer (BOP) can contain any formation pressure that may be encountered when drilling the next section of the wellbore below the base of the surface casing string.

(e) The permittee shall collect correlation logs, core samples, and drill cutting samples to identify groundwaters, zones of formational instability, and competent bedrock to submit to the Department with the Form 12 – Well Drilling Report required in Rule .1623 of this Section.

(f) Surface casing shall be cemented before drilling through any hydrocarbon-bearing stratum.

(g) If geologic hazards such as heaving shale, abnormal pressure, annular flow or other potential flow zones are encountered, drilling shall stop, and casing shall be set and cemented before drilling continues.

(h) A Formation Integrity Test (FIT) shall be completed after drilling out below the base of the surface casing into at least 20 feet, but not more than 50 feet, of new formation. The FIT shall be completed in accordance with API Standard 65-Part 2 "Isolating Potential Flow Zones During Well Construction," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>. If the formation fails the FIT, the permittee shall consult with the Department to determine remedial or corrective actions necessary before operations continue.

*History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.*

15A NCAC 05H .1610 WELL INSTALLATION FOR INTERMEDIATE CASING

Intermediate casing shall isolate groundwaters that have not been isolated by the surface casing and isolate flow zones, lost circulation zones, or other geologic hazards in accordance with the following:

- (1) if used to isolate groundwaters, the casing shall be set into competent bedrock to a depth of at least 200 feet below the deepest groundwaters. The casing string shall be cemented from the bottom to a minimum of 100 feet above the top of the shallowest groundwaters;
- (2) if used to mitigate geologic hazards, such as heaving shale, abnormal pressure, annular flow or other potential flow zones, the casing shall be set to a depth appropriate to mitigate the hazard. The casing string shall be cemented from across such hazards and from the bottom to 200 feet above the base of the previous casing string;

- (3) the permittee shall collect correlation logs, core samples, and drill cutting samples to identify groundwaters, zones of formational instability, and competent bedrock to submit to the Department with the submission of Form 12 – Well Drilling Report as required in Rule .1623 of this Section;
- (4) if the intermediate wellbore penetrates one or more potential flow zones, the cement used to control annular gas migration from the potential flow zones shall be designed to comply with API Standard 65-Part 2 "Isolating Potential Flow Zones During Well Construction," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>;
- (5) a cement bond log (CBL) for the intermediate casing string shall be completed after cement has reached a compressive strength of 500 psi to demonstrate the cementing operation was completed in accordance with this Rule and to locate casing collars and centralizers. Drilling shall not commence until the CBL is complete;
- (6) if there is a failure to isolate groundwater zones, the permittee shall submit a plan of remediation to the Department for approval and implement such plan by performing remedial operations prior to continuing drilling operations. If the deficiencies cannot be remedied, the oil or gas well shall be plugged and abandoned in accordance with Rule .1618 of this Section;
- (7) a formation integrity test (FIT) shall be completed after drilling out below the base of the intermediate casing, into at least 20 feet, but not more than 50 feet of new formation. The FIT shall be completed in accordance with API Standard 65-Part 2. If the formation fails the FIT, the permittee shall consult with the Department to determine remedial or corrective actions necessary before operations continue; and
- (8) the permittee shall identify the top of the cement and submit a plan of remediation to the Department for approval and implementation if operational parameters, such as fluid returns, lift pressure, and displacement indicate to the permittee inadequate coverage of any flow zones, lost circulation zones, or any strata containing groundwater.

*History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.*

15A NCAC 05H .1611 WELL INSTALLATION FOR PRODUCTION CASING

- (a) Production casing shall be installed and cemented from the bottom to 200 feet above the base of the previous casing string. Notwithstanding the foregoing, a production zone may be completed using a non-cemented production liner in accordance with Paragraph (c) of this Rule.
- (b) Installation of production casing or installation of production liners shall comply with the following:
 - (1) logging of the wellbore shall be performed prior to installation of the production casing to measure and evaluate the rock sections;
 - (2) a CBL shall be completed after the cement has reached a compressive strength of 500 psi to verify the cementing operation was completed and to locate the casing collars and centralizers. Well completion shall not commence until the CBL has been completed;
 - (3) the permittee shall submit a plan of remediation to the Department for approval if the cement evaluation indicates a failure to isolate groundwater zones, and if the plan is approved, implement such plan by performing remedial operations prior to continuing drilling operations. If the Department or the permittee determine the deficiencies cannot be remedied, the oil or gas well shall be plugged and abandoned in accordance with Rule .1618 of this Section; and
 - (4) for cemented well completions, the base of the production casing shall be cemented into or below the production zone. For open-hole well completions, the base of the production casing shall be cemented into or above the production zone.
- (c) A production liner may be used as production casing if the following criteria are met:
 - (1) the surface casing is used as the groundwater isolation casing;
 - (2) the intermediate casing is set for a reason other than isolation of groundwater; and
 - (3) the production liner shall be cemented with a minimum of 200 feet of cement above the base of the previous casing string.
- (d) The production liner top shall be pressure tested to at least 500 psi, for a period of 30 minutes, above the maximum anticipated pressure, as determined by the permittee, in the wellbore during well completion and

production operations. If after 30 minutes the pressure has dropped by more than 10 percent, the permittee shall not resume operations until the condition has been corrected and verified by passing a subsequent pressure test.

History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.

15A NCAC 05H .1612 WELL INSTALLATION VARIANCE

The applicant or permittee may request a variance from Rules .1608, .1609, .1610, or .1611 of this Section by submitting a request pursuant to Rule .0301 of this Subchapter. In granting or denying a variance, the Commission shall ensure the variance provides equal or greater protection for public health, safety, and the environment and consider factors such as:

- (1) increasing the oil or gas well efficiency; and
- (2) minimizing waste.

History Note: Authority G.S. 113-391(a)(5)c;
Eff. March 17, 2015.

15A NCAC 05H .1613 WELL STIMULATION REQUIREMENTS

(a) The applicant or permittee shall indicate on the Form 2 – Oil or Gas Well Permit Application the intent to perform well stimulation operations. If well stimulation was not approved as part of the initial application, the permittee desiring to perform such operations shall submit for approval the information required by this Rule via email, fax or mail to the Department for review at least 30 calendar days prior to commencement of planned well stimulation operations.

(b) The production casing shall withstand the maximum anticipated treating pressure of the proposed well stimulation operations. The maximum anticipated treating pressure shall not exceed 80 percent of the minimum internal yield pressure for such production casing.

(c) Non-cemented portions of the oil or gas well shall be tested prior to well stimulation operations to ensure that the wellbore can meet one of the following conditions:

- (1) 70 percent of the lowest activating pressure for pressure actuated sleeve completions; or
- (2) 70 percent of formation integrity for open-hole completions, as determined by a formation integrity test (FIT).

(d) The permittee shall notify the Department via telephone or email a minimum of 48 hours prior to the commencement of all well stimulation operations at the oil or gas well. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email, or fax within five calendar days of the telephone or email notice and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time for the well stimulation operations.

(e) The permittee shall monitor and record all casing annuli via pressure gauges and by visual discharge for any pressure or flow increases or discharges that would be indicative of a potential loss of wellbore integrity during the well stimulation operations. The permittee shall take remedial action to avoid the loss of wellbore integrity and shall notify the Department within 24 hours of discovery via telephone or email.

(f) If well stimulation treatment design does not allow the surface casing annulus to be open to atmospheric pressure, then the surface casing pressures shall be monitored with a gauge and pressure relief device. The maximum set pressure on the pressure relief device shall be the lower of:

- (1) a pressure equal to: 0.70 times 0.433 times the true vertical depth of the surface casing shoe (expressed in feet);
- (2) 80 percent of the API rated minimum internal yield for the surface casing; or
- (3) 80 percent of the surface casing shoe test pressure, adjusted for fluid density.

The well stimulation treatment shall be terminated if the pressures exceed the limits set in Subparagraphs (f)(1) through (f)(3) of this Rule and the Department shall be notified within 24 hours of the occurrence of an exceeded pressure. Pressures on any casing string other than the surface casing shall not be allowed to exceed 80 percent of the API rated minimum internal yield pressure for such casing string throughout the stimulation treatment. The

permittee shall notify the Department within 24 hours via telephone or email if treatment pressure exceeds 80 percent of the API rated minimum internal yield pressure on any casing string other than surface casing.

(g) The permittee shall monitor and record, at all times, the following parameters during well stimulation operations:

- (1) surface injection pressure, in pounds per square inch (psi);
- (2) fluid injection rate in barrels per minute (BPM);
- (3) proppant concentration in pounds per thousand gallons;
- (4) fluid pumping rate in BPM;
- (5) identities, rates, and concentrations of additives used in accordance with Rule .1702 of this Subchapter; and
- (6) all annuli pressures.

(h) Following the notification in Paragraph (f) of this Rule, the Department may require additional documentation or oil or gas well tests to determine if the well stimulation operations potentially endanger any fresh groundwater zones, if the permittee is unable to assess the wellbore integrity. If either the permittee or the Department determines fresh groundwater zones are endangered, the Department shall require the permittee to perform remedial operations to correct any oil or gas well failure.

(i) The Department shall notify the Commission at its next regularly scheduled meeting of any remedial operations conducted pursuant to Paragraph (h) of this Rule.

History Note: Authority G.S. 113-391(a)(5)k; 113-391(a)(10); 113-391(a)(11); 113-391(b); 113-391(b1);
Eff. March 17, 2015.

15A NCAC 05H .1614 WELLHEAD REQUIREMENTS

(a) All wellheads intended for production shall be installed and maintained in accordance with API Specification 6A "Specification for Wellhead and Christmas Tree Equipment," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.

(b) All other wellheads shall be pressure rated to withstand operating pressures 100 percent above the maximum anticipated operating pressure during drilling, maintenance, remediation, stimulation, and production.

(c) All oil or gas wells shall be equipped so that oil, gas, or condensate does not leak from the wellhead.

(d) All valves shall be installed and be accessible so that pressure readings can be observed on the casing and tubing at any time by the Department. Valves shall be designed to accommodate a one-half (0.5) inch National Pipe Thread pressure connection. The Christmas tree shall also be similarly equipped to allow pressure monitoring of the production tubing.

(e) All intermediate and production casing annuli shall be equipped with a functioning pressure relief valve that is set at 50 percent of the maximum surface pressure recorded during the Formation Integrity Test (FIT) at the base of the previous casing string.

(f) The permittee shall notify the Department within 24 hours if the annular pressure measured at the surface exceeds 0.303 multiplied by the length of the casing string, or upon discovering the activation of the pressure relief valve. The Department shall determine appropriate action to remedy annular over-pressurization.

(g) A check valve shall be installed in the flowline downstream of the Christmas tree to prevent the return of fluids into the oil or gas well.

History Note: Authority G.S. 113-391(a)(5)c; 113-391(a)(5)i;
Eff. March 17, 2015.

15A NCAC 05H .1615 WELL SITE MAINTENANCE AND SECURITY

(a) A functioning blowout preventer (BOP) shall be installed and used during maintenance, remediation, and stimulation operations in accordance with Rule .1616 of this Section.

(b) The permittee shall perform well servicing, excluding workovers, and equipment maintenance operations between the hours of 6:00 a.m. and 9:00 p.m.

(c) The permittee may perform emergency repairs at any time.

(d) A temporary work zone sign, "Authorized Personnel Only Beyond This Point" shall be posted at all ingress and egress points leading from a public road to the well pad at least 200 feet from the activity area during drilling, maintenance, remediation, and stimulation operations.

- (e) Fencing no less than three feet in height shall be installed around the outer boundary of the well pad to restrict unauthorized access to the well pad during drilling and completion operations.
- (f) Equipment that is not used in the production of oil or gas shall not be stored within the well site.
- (g) Equipment, vegetation, and refuse shall be maintained in order to ensure protection of the environment, public health, and safety in accordance with API Recommended Practice 51R "Environmental Protection for Onshore Oil and Gas Production Operations and Leases," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.
- (h) A permanent fence shall be installed around the wellhead, tank battery, separator, and all associated production equipment prior to placing any oil or gas well into production. Fencing shall be:
 - (1) placed no closer than 50 feet to the wellhead or any portion of the tank battery;
 - (2) composed of chain link that is no less than six feet in height and shall be topped with restrictive wire to prevent unauthorized access;
 - (3) securely anchored in the ground; and
 - (4) gated with locks and no less than four feet in width. If there is a tank battery, the permittee shall provide two gates on opposite sides of the production facility.
- (i) The Commission may grant a variance to the permanent fencing requirements in accordance with Rule .0301 of this Subchapter. In granting or denying the variance request, the Commission shall consider factors such as:
 - (1) zoning of the area;
 - (2) land use; and
 - (3) configuration and size of the well pad.
- (j) All gates, electrical boxes, and valves controlling the flow of production fluid for a site under production shall be locked unless in use, under repair, or if the permittee or an authorized representative of the permittee is on-site. The permittee shall provide keys or combinations to the Department and local emergency responders upon request.
- (k) All brine and oil pick-up lines shall be secured by bull plugs.
- (l) All oil or gas wells shall have an identification sign, in accordance with Paragraph (m) of this Rule, posted in a place easily seen or noticed on or near the oil or gas wellhead or the tank battery until final abandonment, in accordance with the following:
 - (1) the identification sign shall be posted within 72 hours after drilling activities cease;
 - (2) if multiple oil or gas wells are produced into a tank battery, each wellhead shall be identified; and
 - (3) any change of ownership shall be shown on the signs at the wellhead or tank battery no later than 60 calendar days after the date of the assignment or approval of the transfer.
- (m) Identification signs shall be constructed of weatherproof and rustproof material and maintained to remain legible at all times. Each sign shall include, at a minimum, the following information in two-inch or larger letters:
 - (1) the permittee's name, address, business telephone number, and emergency telephone number;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad, if nearest street address is used, "nearest address" shall be designated on the sign;
 - (4) the API number, the lease name, and the oil or gas well name and number; and
 - (5) the local emergency response telephone number.
- (n) The identification sign shall be posted at the following locations:
 - (1) the ingress and egress points leading from a public road to the well pad; and
 - (2) the outside of the fence that surrounds the well pad.
- (o) "Danger, Keep Out" and "No Smoking or Open Flame" signs shall be attached to each side of the fencing surrounding the wellhead and tank battery. If fencing has not been installed, the signs shall be attached to the wellhead and tank battery. A "No Smoking Beyond This Point" sign shall be posted at ingress or egress points leading from a public road to the well pad.

*History Note: Authority G.S. 113-391(a)(5)i;
Eff. March 17, 2015.*

15A NCAC 05H .1616 WELL-CONTROL AND BLOWOUT PREVENTION

- (a) During drilling, all oil or gas wells shall be equipped with a well-control system that includes a blowout preventer (BOP). The well-control system shall meet the following requirements:
 - (1) be functional at all times and tested to working pressures at least 50 percent above the hydrostatic pressures anticipated in the oil or gas well;

- (2) BOP equipment shall be in compliance with API Standard 53 "Blowout Prevention Equipment Systems for Drilling Wells," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>;
 - (3) the BOP shall be installed and tested as required in Subparagraph (a)(1) of this Rule prior to drilling the surface-casing cement plug. The BOP shall be retested as required in Subparagraph (a)(1) of this Rule prior to drilling the cement plug in each subsequent casing string; and
 - (4) during drilling operations, the shear-ram BOP shall be tested by closing the BOP at least once weekly in open hole conditions. The annular BOP shall be tested by closing on the drill pipe at least once each week.
- (b) The permittee shall notify the Department via telephone or email at least 48 hours prior to testing the BOP. The contact information is set forth in Rule .0201 of this Subchapter. Test results shall be posted at the well site for review and available to the Department on request. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email, or fax within five calendar days of the telephone or email notice and shall include the following information:
- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number; and
 - (5) the scheduled date and approximate time for the BOP test.
- (c) The quantity of drilling fluid of sufficient weight to maintain well control shall be located on the well site during drilling operations.
- (d) If drilling with mud, the drilling-fluid system shall be designed to maintain control of the oil or gas well to minimize the potential of a hydrostatic pressure surge when the drilling assembly is inserted into or removed from the wellbore.
- (e) A diverter system shall be installed while drilling the surface casing wellbore in geographic areas that have not yet been drilled, unless the requirement is waived by the Department based on prior drilling data that confirms shallow gas and other drilling hazards are not present.
- (f) If drilling with air or drilling into formations where the expected reservoir pressure, as determined by the permittee, exceeds the weight of the drilling fluid column, a diverter system shall be installed to divert any wellbore fluids away from the rig floor to a pit or tank at least 80 feet from the wellbore.
- (g) All diverter systems shall be maintained in working condition and shall be function tested when installed and at regular intervals during drilling operations. There must be two diverter control stations, one on the drilling floor and one located at a safe distance from the drilling operations. No well shall continue drilling operations if a test or other information indicates the diverter system is unable to function or operate as designed.
- (h) The permittee shall have an individual certified from an accredited well control training program, such as the International Association of Drilling Contractors (IADC) WellCAP, onsite during the drilling and completion of an oil or gas well.
- (i) A wellhead shall be installed after drilling operations are complete and the BOP has been removed.

*History Note: Authority G.S. 113-391(a)(5)i;
Eff. March 17, 2015.*

15A NCAC 05H .1617 VISUAL IMPACT MITIGATION

- (a) The permittee shall mitigate visual impacts using visual screening. "Visual Screening" shall include existing natural vegetation, vegetated earthen berms, or tree plantings at staggered spacing to be installed and maintained between any disturbed land and any adjoining property containing occupied dwellings within view of the disturbed land.
- (b) The Commission, upon written request by the applicant or permittee submitted pursuant to Rule .0301 of this Subchapter, may grant a variance to the visual impact mitigation requirements. The Commission shall consider factors such as:
- (1) zoning of the area;
 - (2) surface use agreements;
 - (3) land use;
 - (4) topography; and

- (5) configuration of the well pad.

History Note: Authority G.S. 113-391(a)(4);
Eff. March 17, 2015.

15A NCAC 05H .1618 REQUIREMENTS FOR PERMANENT CLOSURE OF OIL OR GAS WELLS

(a) All lost holes, dry holes, and oil or gas wells incapable of production shall be plugged and abandoned. In addition to the requirements detailed within this Rule, all plugging and abandonment activities shall meet the standards 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 may be viewed online for no charge at <http://publications.api.org/>.

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

(c) Non-drillable material that would prevent re-entry of an oil or gas well shall not be placed in any wellbore.

(d) Trash or refuse shall not be used as plugging and abandonment material.

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

(f) All pits or tanks utilized during oil or gas well plugging and abandonment operations to contain waste shall conform to Rule .1504 of this Subchapter.

(g) Cement or mechanical bridge plugs shall be placed within the wellbore to isolate hydrocarbon bearing zones, prevent migration of fluids in the wellbore, protect fresh groundwater aquifers, and prevent surface water from entering the wellbore. All plugs used for plugging and abandonment shall meet the following requirements:

- (1) all cement used to plug an oil or gas well shall conform to Rule .1606 of this Section;
- (2) cement plugs shall be placed by circulation using 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:
 - (A) from the total depth to a minimum of 100 feet above the top of the deepest hydrocarbon bearing zone or alternatively, from a minimum of 50 feet below the base of the deepest hydrocarbon bearing zone penetrated to a minimum of 100 feet above the top of the deepest hydrocarbon bearing zone;
 - (B) from a minimum of 50 feet below to a minimum of 100 feet above each succeeding hydrocarbon bearing or fresh groundwater zone, not isolated by intermediate or surface casing;
 - (C) from a minimum of 100 feet below to a minimum of 100 feet above the base of intermediate and surface casing strings; and
 - (D) from a minimum of 200 feet below ground surface to three feet below ground surface.
- (5) horizontal wellbores shall have cement plugs placed in accordance with Parts (g)(4)(A) through (g)(4)(D) of this Rule with the exception that the bottom plug, as outlined in Part (g)(4)(A) of this Rule, 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 directly above each zone identified in Parts (g)(4)(A) through (g)(4)(D) of this Rule and covered with a minimum of 50 feet of cement.

(h) All casing remaining in the wellbore shall be cut off a minimum of three feet below ground surface.

(i) The top of the wellbore shall be sealed with a steel plate that is welded in place and the API number for the oil or gas well shall be identifiable on the steel plate.

(j) All ratholes and mouseholes shall be filled with bentonite or cement to a depth of three feet below ground surface, and then filled to the surface with soil.

(k) All flowlines shall be flushed with freshwater and the ends of the lines shall be capped and buried at least three feet below the ground surface. All freshwater used to flush lines shall be disposed of in accordance with the approved Waste Management Plan in Rule .2002 of this Subchapter.

History Note: Authority G.S. 113-391(a)(2); 113-395(c);
Eff. March 17, 2015.

15A NCAC 05H .1619 NOTIFICATION AND REPORTING REQUIREMENTS FOR PERMANENT CLOSURE OF OIL OR GAS WELLS

(a) The permittee shall complete and submit the intent to plug and abandon portion of Form 14 – Plugging and Abandonment, at least 30 calendar days prior to the commencement of plugging and abandonment operations. The permittee shall submit a fee in accordance with G.S. 113-395(c) for plugging and abandonment of any oil or gas well. The Department shall approve or deny Form 14 – Plugging and Abandonment in accordance with this Rule. Approved Plugging and Abandonment forms shall remain valid for a period of 12 months. The permittee shall include the following in the completed Form 14 – Plugging and Abandonment:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the reason for abandonment;
- (6) identification of casing that will be removed from wellbore and depth below ground surface at which it will be cut;
- (7) the diameter of each wellbore segment;
- (8) the casing grade, weight, outside diameter, and setting depth for each casing string;
- (9) elevation of cement top and cement bottom for each casing string;
- (10) identification of the cement type, additives, density, yield, and estimated volume to be used for each plug;
- (11) the type of plug if other than cement;
- (12) identification of non-cemented sections of casing that may be perforated;
- (13) the wellbore diagrams depicting the current oil or gas well configuration;
- (14) the wellbore diagrams depicting the proposed oil or gas well configuration with cement plugs;
- (15) the anticipated beginning and ending date for plugging and abandonment activities; and
- (16) identification of wireline and cementing contractors.

(b) The Department shall deny a request to plug and abandon an oil or gas well if the request is in violation of any rule of this Subchapter or any of the following requirements have not been met:

- (1) the Form 14 – Plugging and Abandonment was not complete in accordance with Paragraph (a) of this Rule; or
- (2) the well abandonment fee has not been paid.

(c) The permittee shall notify the Department 72 hours via telephone or email prior to commencement of plugging and abandonment operations for all existing wells and eight hours for lost and dry holes by submitting Form 11 – Required Notifications to the Department. The contact information is set forth in Rule .0201 of this Subchapter. This notification shall be submitted to the Department by mail, email, or fax within five days of the telephone or email notice and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time of day for which the plugging and abandonment will be performed.

(d) No later than 90 days after plugging and abandoning an oil or gas well, the permittee shall complete and submit Form 14 – Plugging and Abandonment, to the Department. The permittee shall include the following in the completed Form 14 – Plugging and Abandonment, confirming that the plugging and abandonment operations were conducted in accordance with the approved plan:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the reason for abandonment;

- (6) the length and type of casing that was removed from the wellbore and the top of each casing string remaining in the wellbore;
- (7) the diameter of each wellbore segment;
- (8) the casing grade, weight, outside diameter, and setting depth for each casing string;
- (9) the elevation of cement top and cement bottom for each casing string;
- (10) the cement type, additives, density, yield, and volume used for each plug;
- (11) the type of plug if other than cement;
- (12) identification of the non-cemented sections of casing that were perforated;
- (13) the wellbore diagrams depicting the pre-plugging oil or gas well configuration;
- (14) the wellbore diagrams depicting the final plugged oil or gas well configuration with cement plugs;
- (15) the date plugging and abandonment activities commenced and were completed;
- (16) identification of wireline and cementing contractors that were used; and
- (17) a copy of wireline logs, cementing tickets, and job summary reports as supplied by the wireline and cementing contractors.

*History Note: Authority G.S. 113-391(a)(2); 113-395;
Eff. March 17, 2015.*

15A NCAC 05H .1620 REQUIREMENTS FOR SHUTTING-IN OIL OR GAS WELLS

- (a) Oil or gas wells completed according to Rule .1607 of this Section, equipped with a wellhead according to Rule .1614 of this Section, and capable of production may be shut-in in accordance with this Rule.
- (b) The permittee shall complete and submit Form 15 – Oil or Gas Well Status to the Department via mail, email or fax within 14 calendar days of closing the master valve on the wellhead. The contact information is set forth in Rule .0201 of this Subchapter. The Form 15 – Oil or Gas Well Status shall include the following information:
 - (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) if the request is for initial shut-in status or an annual extension of shut-in status;
 - (6) the type of oil or gas well;
 - (7) the diameter and length for each casing string;
 - (8) the diameter and length of tubing string(s);
 - (9) the type and amount of cement used for each casing string;
 - (10) the current pressure for tubing and casing strings;
 - (11) the current annulus pressure between tubing and production casing;
 - (12) the current annulus pressure between production casing and surface casing;
 - (13) if any annuli are open to atmosphere;
 - (14) a description of how the current condition of the oil or gas well is capable of the following:
 - (A) preventing damage to the production zone;
 - (B) preventing surface leakage of fluids;
 - (C) protecting groundwaters; and
 - (D) protecting health and safety of persons, property, or the environment;
 - (15) a description of the future utilization of the oil or gas well; and
 - (16) a description of how the oil or gas well is in compliance with the requirements of Rules .1614 and .1615 of this Section.
- (c) The master valve shall remain closed and locked until the oil or gas well is either permanently plugged and abandoned or placed into production.
- (d) The permittee shall maintain bonding required by Section .1400 of this Subchapter until the oil or gas well is permanently plugged and abandoned.
- (e) The permittee shall conduct monthly site inspections of the well site in accordance with Rule .2201 of this Subchapter.
- (f) The permittee shall conduct an annual mechanical integrity test of each shut-in oil or gas well in accordance with Rule .2201(j), (k) and (l) of this Subchapter and submit the test results to the Department using Form 16 – Mechanical Integrity Test Results.

(g) Shut-in status shall be valid for a period of one year with an annual renewal required if the permittee desires to maintain shut-in status beyond one year. The annual renewal application shall demonstrate one of the following:

- (1) inadequate infrastructure development; or
- (2) sub-economic producing conditions.

(h) The Department shall revoke shut-in status of an oil or gas well if the permittee fails to maintain all of the requirements of this Rule. The Department shall require the permittee to either place the oil or gas well into production or plug and abandon the oil or gas well at the permittee's discretion.

(i) The permittee shall complete and submit Form 17 – Notification of Return of Oil or Gas Well to Active Status, to the Department by mail, email, fax within 14 calendar days of producing from an oil or gas well that has been shut-in. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall include the following in the completed Form 17 – Notification of Return of Oil or Gas Well to Active Status:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the date of return to active status.

*History Note: Authority 113-391(a)(2);
Eff. March 17, 2015.*

15A NCAC 05H .1621 REQUIREMENTS FOR TEMPORARY ABANDONMENT OF OIL OR GAS WELLS

(a) Oil or gas wells that are constructed according to Rule .1607 of this Section, but are not completed after being drilled may be temporarily abandoned in accordance with this Rule.

(b) The permittee shall complete and submit Form 15 – Oil or Gas Well Status to the Department 30 calendar days prior to the temporary abandonment operations. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall include the following in the completed Form 15 – Oil or Gas Well Status:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) if the request is for initial temporary abandonment or a renewal of temporary abandonment;
- (6) the type of oil and gas well;
- (7) the diameter and length of each casing string;
- (8) the type and amount of cement that will be used for each casing string;
- (9) a description of how the current condition of the oil or gas well is capable of the following:
 - (A) preventing damage to the production zone;
 - (B) preventing surface leakage of fluids;
 - (C) protecting groundwaters; and
 - (D) protecting health and safety of persons, property or the environment;
- (10) a description of the future utilization of the oil or gas well; and
- (11) a description of how the oil or gas well is in compliance with the requirements of Rule .1614 of this Section.

(c) The permittee shall maintain bonding requirements in Section .1400 of this Subchapter until the oil or gas well is permanently plugged and abandoned.

(d) Temporary abandonment shall be valid for a period of five years, with a maximum of one five-year renewal period before the permittee shall either place the oil or gas well into production or permanently plug and abandon the well in accordance with Rule .1618 of this Section.

(e) The permittee shall complete and submit Form 17 – Notification of Return of Oil or Gas Well to Active Status to the Department within 14 calendar days of producing from an oil or gas well that was temporarily abandoned. The contact information is set forth in Rule .0201 of this Subchapter. The permittee shall include the following in the completed Form 17 – Notification of Return of Oil or Gas Well to Active Status:

- (1) the permittee name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;

- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the date of return to active status.

History Note: Authority G.S. 113-391(a)(5)l;
Eff. March 17, 2015.

15A NCAC 05H .1622 DEFECTIVE CASING, DEFECTIVE CEMENTING, AND WELL BLOWOUT NOTIFICATIONS

- (a) The permittee shall commence corrective actions upon discovery of defective casing or cementing and report the defect to the Department within 24 hours of discovery via telephone or email. The contact information is set forth in in Rule .0201 of this Subchapter.
- (b) The permittee shall take actions in the event of an oil or gas well blowout to comply with the emergency scenarios in Rule .1305 of this Subchapter. Any oil or gas well blowout shall be reported to the Department after the emergency officials and the emergency well control response contractor have been contacted.

History Note: Authority G.S. 113-391(a)(5)i;
Eff. March 17, 2015.

15A NCAC 05H .1623 WELL DRILLING REPORT

Within 30 calendar days after drilling an oil or gas well, the permittee shall submit Form 12 – Well Drilling Report to the Department that includes the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the type of oil or gas well;
- (6) the date the drilling started and was completed;
- (7) the method of drilling;
- (8) the hole diameter and depth wellbore at each casing setting depth and the total depth, both true vertical and measured of the oil or gas well;
- (9) the size and depth of conductor casing, surface casing, intermediate casing, and production casing, if applicable;
- (10) the type and amount of cement and results of cementing procedures, including copies of all cement tickets and the results of cement evaluations completed pursuant to Rule .1606 and Rule .1607 of this Section;
- (11) the location of casing collars, the top of cement for each casing string, and centralizers, and the method used to make such determinations;
- (12) the elevation relative to the kelly bushing and total vertical and measured depth of the wellbore;
- (13) a paper and digital copy of all electrical, radioactive, or other standard industry logs:
 - (a) standard electric log with curve data shall be submitted in LAS digital data format and as a .pdf, .tiff, or .pds;
 - (b) specialty logs with array data shall be submitted in LIS or DLIS digital data format and as a .pdf, .tiff, or .pds; and
 - (c) cement bond logs shall be submitted as a .pdf, .tiff, or .pds; with the casing collars, centralizers, and top of cement located;
- (14) a drilling log that includes the name, depth, and thickness of formations penetrated from the surface to total depth. The drilling log shall also include the depth of oil or gas producing zone(s), depth of groundwater and brines, and the source of the information. The report shall also contain other data recorded about groundwater zones, anomalous pressure zones, zones with corrosive fluids, lost circulation zones, and other zones with fluids capable of annular flow and how the casing and cementing program was modified in response to the information;

- (15) copies of pressure tests and formation integrity tests that were conducted during installation of the surface, intermediate, and production casing strings pursuant to Rule .1605 and .1607 of this Section;
- (16) a statement of whether methane or other hydrocarbons were encountered in other than a target formation and the depths of the intervals, and how the casing and cementing program was modified in response to the information;
- (17) a summary of events reported to the Department in accordance with Rule .1607 and .1616 of this Section;
- (18) a wellbore inclination and directional survey;
- (19) the engines used on-site during exploration and development, including:
 - (a) the number of engines with capacities (maximum site-rated horsepower) less than 750 horsepower by engine type, such as compression ignition, two stroke lean burn ignition, four stroke lean burn ignition, rich burn spark ignition;
 - (b) the number of engines with capacities (maximum site-rated horsepower) greater than or equal to 750 horsepower by engine type, such as compression ignition, two stroke lean burn ignition, four stroke lean burn ignition, rich burn spark ignition; and
 - (c) the average number of hours of operation for engines in each of the categories above.
- (20) any other information as specified as part of the conditions of the permit, such as drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis, and lithologic log or sample description, or other similar data as compiled. No interpretation of the data is required to be filed unless specifically required elsewhere in this Subchapter; and
- (21) the signature of the permittee verifying that the oil or gas well has been constructed in accordance with this Subchapter and any permit conditions imposed by the Department.

History Note: Authority G.S. 113-379; 113-391(a)(5)c; 113-391(a)(5)k; 113-391(a)(7); 113-391(a)(10); 113-391(a)(11); 113-391(b); 113-391(b1);
 Eff. March 17, 2015.

15A NCAC 05H .1624 WELL STIMULATION REPORT

(a) Within 30 calendar days after the conclusion of stimulation operations on an oil or gas well, the permittee shall submit Form 18 – Well Stimulation Report to the Department that includes the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the type of oil or gas well;
- (6) the total volume of the base fluid;
- (7) the total volume of reused water, alternative water, freshwater, or other base fluid that was used in each hydraulic fracturing stage;
- (8) the maximum pump pressure measured at the surface during each stage of the hydraulic fracturing operations;
- (9) the types and volumes of the well stimulation fluid and proppant used for each stage of the well stimulation operations;
- (10) the well stimulation treatment data collected in accordance Rule .1613 of this Section;
- (11) for hydraulic fracture stimulations, the estimated maximum fracture height and length and estimated true vertical depth to the top of the fracture achieved during well stimulation treatments as determined by a three dimensional model using true treating pressures and other data collected during the hydraulic fracturing treatments;
- (12) the well shooting or perforation record detailing the true vertical and measured depths, and total number of shots in the wellbore;
- (13) the wellbore diagram that includes casing and cement data, perforations, and a stimulation summary;
- (14) the initial oil or gas well test information recording daily gas, oil, and water rate, and tubing and casing pressure in accordance with Rule .2201 of this Subchapter;

- (15) the initial gas analysis, performed by a laboratory certified by the State in accordance with 15A NCAC 02H .0800, which is incorporated by reference including subsequent amendments and editions; and
 - (16) the engines used on-site during exploration and development, including:
 - (A) the number of engines with capacities (maximum site-rated horsepower) less than 750 horsepower by engine type, such as compression ignition, two stroke lean burn ignition, four stroke lean burn ignition, rich burn spark ignition;
 - (B) the number of engines with capacities (maximum site-rated horsepower) greater than or equal to 750 horsepower by engine type, such as compression ignition, two stroke lean burn ignition, four stroke lean burn ignition, rich burn spark ignition; and
 - (C) the average number of hours of operation for engines in each of the categories above.
- (b) The permittee may attach to the completed Form 18 – Well Stimulation Report any information received from a service company regarding the well stimulation operations, as used in the normal course of business, to satisfy some or all of the requirements in this Rule.

History Note: Authority G.S. 113-391(a)(5); 113-391(a)(10); 113-391(a)(11); 113-391(b); 113-391(b1);
Eff. March 17, 2015.

SECTION .1700 – CHEMICAL DISCLOSURE

15A NCAC 05H .1701 CHEMICAL DISCLOSURE REQUIREMENTS

The rules of this Section set forth the requirements of chemical disclosures for permittees, service companies, and vendors involved in oil or gas exploration and production. This Section delineates information to be posted to the Chemical Disclosure Registry at <http://fracfocus.org/>. These Rules also specify the conditions under which confidential information protections apply and the conditions under which that information may be disclosed to health professionals or emergency responders.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1;
Eff. March 17, 2015.

15A NCAC 05H .1702 REQUIRED DISCLOSURES

(a) The permittee shall notify the local emergency management office of all hazardous chemicals that may be used for any purpose at the well site no later than 30 calendar days prior to the chemicals entering the well site. This notification shall include a Safety Data Sheet for each chemical and the following information:

- (1) the anticipated quantity (mass or volume);
- (2) the method of containment; and
- (3) the chemical classification.

(b) The permittee, service company, or vendor shall submit to the Department, no less than 30 calendar days prior to the commencement of well stimulation activities, a complete list of all planned base fluids and additives to be used in well stimulation activities. Any information the Commissions determines to be confidential information under G.S. 66-152(3), G.S. 113-391.1, and Rule .0707 of this Subchapter shall be protected as confidential information and shall be maintained in accordance with G.S. 132-7. This notification shall include:

- (1) the trade or common name of each chemical subject to the Safety Data Sheet;
- (2) the CAS registry number;
- (3) the range of anticipated concentrations (by mass or volume) in the mixture for each chemical; and
- (4) the purpose each chemical or mixture will serve in the well stimulation process.

(c) The permittee shall upload all well stimulation data, unless claimed as a trade secret under G.S. 66-152(3), G.S. 113-391.1, and Rule .0707 of this Subchapter and the claim determined as satisfactory by the Commission pursuant to Rule .0708 of this Subchapter to <http://fracfocus.org/> within 15 calendar days following the conclusion of well stimulation. The permittee shall submit a Form 19 – Chemical Disclosure Report and a copy of the FracFocus submission to the Department within 15 calendar days following the conclusion of stimulation. If the permittee amends its FracFocus submission, any subsequent amendments shall be submitted to the Department within 15 calendar days of the amendment. Any information submitted to the Department that the Commission determines is confidential information under G.S. 66-152(3), G.S. 113-391.1, and Rule .0707 of this Subchapter shall be protected as confidential information and shall be maintained as provided in G.S. 132-7. The Form 19 – Chemical Disclosure Report shall include:

- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) the type of oil or gas well;
 - (6) the date well stimulation operations began;
 - (7) the date well stimulation operations ceased;
 - (8) the latitude and longitude of each wellhead reported to five decimal places of accuracy and precision using the North American Datum of 1983 (NAD83);
 - (9) a certified directional survey of the horizontal oil or gas well;
 - (10) the measured depth of the oil or gas well and the true vertical depth of the oil or gas well;
 - (11) the total volume of water used in the well stimulation operations including surface water, groundwater, produced water, reused water, reclaimed or recycled water, or the type and total volume of the base fluid used in the well stimulation operation, if a base substance other than water was used;
 - (12) the amount(s) and percent by volume of surface water or groundwater used in the well stimulation operations and the point(s) of withdrawal of that surface water or groundwater;
 - (13) the source amount(s) and location(s) of recycled water, along with percent by volume of recycled water that is used in well stimulation operations;
 - (14) the trade or common name and CAS registry number of each chemical used in the well stimulation operation;
 - (15) the trade or common name, supplier, and a brief description of the intended use or function of each additive in the well stimulation operation;
 - (16) identification and chemical classification of each chemical and additive that is subject to the Safety Data Sheet requirements of 29 CFR 1910.1200;
 - (17) the actual or maximum concentration of each chemical and additive listed pursuant to Subparagraphs (14) and (15) of this Paragraph expressed in percent by mass;
 - (18) the overall well stimulation mixture; and
 - (19) the chemical classification for each chemical and additive.
- (d) For disclosures required pursuant to Paragraphs (b) and (c) of this Rule, the permittee is not required to disclose:
- (1) chemical mixtures or compounds that occur as a consequence of drilling or well stimulation operations or that may be the incidental result of a chemical reaction or process; or
 - (2) naturally occurring materials that become unintentionally combined with well stimulation substances.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1;
Eff. March 17, 2015.

15A NCAC 05H .1703 CONFIDENTIAL INFORMATION PROTECTION

- (a) If any person asserts any information is entitled to be protected as confidential pursuant to G.S. 113-391.1, the requesting party shall make a showing to the Commission in accordance with Rule .0707 of this Subchapter.
- (b) In addition, any person requesting protection for confidential information that concerns hydraulic fracturing fluid shall request certification by the State Geologist, or the Geologist's designee, in accordance with G.S. 113-391.1.

History Note: Authority G.S. 113-391(a)(5)h; 113-391.1;
Eff. March 17, 2015.

SECTION .1800 – ENVIRONMENTAL TESTING

15A NCAC 05H .1801 PURPOSE AND SCOPE

The rules in this Section establish requirements for the pre-drilling testing of water supplies, the testing of water supplies after production has commenced, and the reporting of data collected.

History Note: Authority G.S. 113-391(a)(5)b;

Eff. March 17, 2015.

15A NCAC 05H .1802 WATER SUPPLY TESTING NOTIFICATIONS

(a) The permittee shall provide written notice to all surface owners or owners of a water supply, as defined in G.S.113-389, prior to all water supply testing within one-half mile of the proposed wellhead. The permittee shall pay the costs involved in testing all water supplies as required by G.S. 113-423(f). In addition to the requirements of G.S.113-420(a), the written notice shall include the following:

- (1) the applicant's or permittee's name, address, telephone number, and email address;
- (2) a statement of the permittee's intent to drill an oil or gas well and as a result, water supplies within one-half mile of the proposed oil or gas well shall be tested;
- (3) the date, time, and location of water supply testing is expected to occur and the estimated number of entries to the property;
- (4) a statement explaining that if the surface owner or owner of the water supply refuses access to conduct testing of the water supply, then such refusal may be used as evidence to rebut the presumption of liability established by G.S. 113-421(a1);
- (5) the name, address, and telephone number of the Department, which the surface owner or owner of the water supply may contact with questions or concerns; and
- (6) the following link to the Department's Wastewater/Groundwater Laboratory Certification program laboratories:
<https://slphreporting.ncpublichealth.com/EnvironmentalSciences/Certification/CertifiedLaboratory.asp>.

(b) The permittee shall provide written notice to the Department if a surface owner or water supply owner refuses to conduct testing of the water supply. The written notice shall be submitted to the Department as an attachment to Form 22 – Water Supply Testing Report and include the following:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) a copy of the written notice required in Paragraph (a) of this Rule;
- (3) the name of the person or firm who requested and was refused access to conduct the testing, the date of the request, and a copy of all documentation, including documentation showing the request for access was denied; and
- (4) the name, address, and telephone number of the surface owner or owner of the water supply.

*History Note: Authority G.S. 113-391(a)(3); 113-391(a)(5)b; 113-421(a); 113-423(f);
Eff. March 17, 2015.*

15A NCAC 05H .1803 WATER SUPPLY TESTING PROCEDURES

(a) All water supplies located within one-half mile of the proposed wellhead shall be tested prior to initial drilling activities and after production has commenced. All water supplies shall be tested according to the following:

- (1) the initial water supply testing shall be conducted no earlier than 12 months but no later than 30 calendar days prior to the commencement of drilling to establish a baseline;
- (2) when multiple oil or gas wells are permitted and constructed at a well pad, the analytical results for the initial sampling shall serve as the baseline for all future wells drilled on the same well pad; and
- (3) subsequent water supply testing shall be conducted at all initial sample locations:
 - (A) test one: six months after production has commenced;
 - (B) test two: 12 months after production has commenced;
 - (C) test three: 18 months after production has commenced;
 - (D) test four: 24 months after production has commenced; and
 - (E) test five: testing within 30 calendar days after completion of production activities at the well site.

(b) Water supply testing required by G.S. 113-423(f), and in accordance with this Rule, shall be conducted pursuant to the U.S. Environmental Protection Agency (EPA) Region IV Science and Ecosystem Support Division (SESD) "Operating Procedure for Groundwater Sampling," document number SESDPROC-301-R3, "Operating Procedure for Surface Water Sampling," document number SESDPROC-201-R3, and the U.S. Geological Survey (USGS) "National Field Manual for the Collection of Water-Quality Data," Book 9, Handbooks for Water-Resources Investigations, which are incorporated by reference, including subsequent amendments and editions. These

documents may be obtained online at no charge at <http://www.epa.gov/region4/sesd/fbqstp/Groundwater-Sampling.pdf>,

<http://www.epa.gov/region4/sesd/fbqstp/Surfacewater-Sampling.pdf>, and <http://water.usgs.gov/owq/FieldManual/>.

(c) If a permittee drills an oil or gas well but does not install production casing and abandons the oil or gas well in accordance with the plugging and abandonment requirements outlined in Rule .1618 of this Subchapter, subsequent testing pursuant to Subparagraph (a)(3) of this Rule is not required.

(d) The Department may require additional testing if the current data collected shows an increase in concentration from the previous data for any water supply within one-half mile, to determine seasonal fluctuations or erroneous testing.

(e) All sample analyses required by this Rule shall be made by a laboratory certified in accordance with 15A NCAC 02H .0800 and pursuant to laboratory analytical procedures that comply with 15A NCAC 02B .0103 and 15A NCAC 02L .0112, which are incorporated by reference, including subsequent amendments and editions.

(f) The initial samples required by Subparagraph (a)(1) of this Rule collected in accordance with this Rule shall be analyzed for:

pH	manganese
specific conductance	selenium
total dissolved solids (TDS)	strontium
turbidity	lithium
alkalinity	lead
calcium	zinc
chloride	uranium
magnesium	isotopic radium (226Ra and 228Ra)
potassium	isotopic strontium (87Sr and 86Sr)
fluoride	trihalomethanes
sodium	benzene
sulfate	toluene
arsenic	ethylbenzene
barium	xylene
boron	diesel range organics (DRO)
bromide	gasoline range organics (GRO)
chromium	total petroleum hydrocarbons (TPH)
iron	Polycyclic or polynuclear aromatic hydrocarbons (PAH) (including benzo(a)pyrene)
dissolved methane, propane, and ethane	

(g) The test one series of samples collected to satisfy Paragraph (a)(3)(A) shall include all parameters listed in Paragraph (f) of this Rule.

(h) If the results from the test one series did not exceed the permissible concentrations outlined in 15A NCAC 02B .0103 and 15A NCAC 02L .0112, which are incorporated by reference, including subsequent amendments and editions, for the required analytes, then the permittee, at a minimum, shall sample and analyze for pH, specific conductance, TDS, chloride, sodium, divalent cations, and dissolved methane, propane, and ethane to complete the remaining series of sampling and testing in accordance with this Rule.

(i) If there is an increase in the concentration, or the initial occurrence of any analytes set forth in Paragraph (h) of this Rule, the permittee shall test for all analytes set forth in Paragraph (f) of this Rule.

(j) If any analysis conducted pursuant to this Rule reveals a concentration of dissolved methane greater than 1.0 milligram per liter (mg/l), then a gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen – ^{12}C , ^{13}C , ^1H and ^2H) shall be conducted to determine the gas type. The permittee shall report the results in accordance with Rule .1805 of this Section.

History Note: Authority G.S. 113-391(a)(3); 113-391(a)(5)b; 113-423(f); Eff. March 17, 2015.

15A NCAC 05H .1804 REQUEST FOR INVESTIGATION OF WATER SUPPLY

(a) Any surface owner or owner of a water supply who suspects contamination as a result of the drilling, alteration, or operation of an oil or gas well may submit Form 21 – Water Supply Investigation Request to the Department,

requesting that an investigation be conducted. The Form 21 – Water Supply Investigation Report can be found in Rule .0201(a) in this Subchapter and shall be sent to the Department in accordance with Rule .0201(c) in this Subchapter. The completed form shall include the following information:

- (1) the name of surface owner or owner of the water supply, address, telephone number, and email address;
 - (2) the name of the oil or gas well permittee, if known;
 - (3) the API number, the lease name, and the oil or gas well name and number, if known;
 - (4) an indication if the individual contacted the permittee, and if so, the name of the person contacted;
 - (5) the date of incident, if known; and
 - (6) a description of the incident or problem.
- (b) Upon the receipt of a Form 21 – Water Supply Investigation Report, the Department shall require the permittee to pay for a test to be conducted on the water supply and submit the analytical results to the Department in accordance with Rules .1803(f) and .1805 of this Section.
- (c) The permittee shall replace a water supply pursuant to G.S. 113-421(a5) if the investigation and analytical results indicate that the water supply is contaminated due to the activities of the permittee.

History Note: Authority G.S. 113-391(a)(3); 113-391(a)(4); 113-391(a)(5)b; 113-391(a)(14); 113-423(f); Eff. March 17, 2015.

15A NCAC 05H .1805 REPORTING OF TEST RESULTS

(a) The permittee shall submit Form 22 – Water Supply Testing Report to the Department, in accordance with G.S. 113-423(f) and Rule .0201 of this Subchapter. The permittee shall also send the Form 22 – Water Supply Testing Report to the Local Health Director, surface owner(s), and owner(s) of the water supply within 30 calendar days of testing. The form shall be signed and sealed by either a Licensed Geologist or Professional Engineer and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) the date the water supply was sampled;
 - (6) an indication of which water supply testing series is being reported as set forth in Rule .1803 of this Section;
 - (7) the latitude and longitude of each water supply within one-half mile of the wellhead reported to five decimal places of accuracy and precision using the North American Datum of 1983 (NAD83);
 - (8) the name, address, and telephone number of the surface owner or owner of the water supply;
 - (9) identification of the certified laboratory at which analyses required by this Section were conducted, the date(s) on which the analyses were conducted, and identification of the technical personnel who conducted such analyses;
 - (10) a description of where and how the sample was collected and the name of the person who collected the sample;
 - (11) field observations including odor, water color, sediment, bubbles, and effervescence;
 - (12) a description of the type and age, if known, of the water supply, and water supply treatment, if any;
 - (13) the results of the required analyses listed in Rule .1803 of this Section attached to the report in hard copy, as a .pdf, and as an electronic spreadsheet; and
 - (14) any exceedance of applicable Maximum Contaminant Levels for public drinking water, as set forth in 15A NCAC 18C, which is incorporated by reference including subsequent amendments and editions, shall be indicated.
- (b) Applicants or permittees may share analytical results in accordance with G.S. 113-423(f).
- (c) The permittee shall provide verbal notice within 24 hours and written notice within 30 days to the Department, Local Health Director, surface owner(s), and owner of the water supply if test results indicate:
- (1) the presence of natural gas constituents;
 - (2) the dissolved methane concentration increased by more than 5.0 mg/L between sampling periods;
 - (3) the dissolved methane concentration was detected at or above 10.0 mg/L; or

- (4) Benzene, Toluene, Ethylbenzene, or Xylene compounds or TPH exceeded applicable Maximum Containment Levels for public drinking water, as set forth in 15A NCAC 18C.

History Note: Authority G.S. 113-391(a)(1); 113-391(a)(3); 113-391(a)(4); 113-391-(a)(5)b; 113-391(a)(5)k; 113-423(f);
Eff. March 17, 2015.

15A NCAC 05H .1806 RECORD KEEPING AND REPORTING

(a) The Department shall maintain baseline and subsequent analytical data results required pursuant to this Section. This shall be available to the public through the Department within 30 calendar days of receipt of results. The public may view this data at the Department or on the Department's webpage as set forth in Rule .0201 of this Subchapter.

(b) The permittee shall maintain all records in accordance with Rule .0202 of this Subchapter.

History Note: Authority G.S. 113-391(a)(5)b; 113-391(a)(5)k;
Eff. March 17, 2015.

15A NCAC 05H .1807 TRACER TECHNOLOGY

(a) The Department shall only approve the use of tracer technology for the purposes described in this Rule if the Department determines that the tracer technology can trace well stimulation fluids back to the oil or gas well where the fluid was injected and can be used without chemical or radiological impacts to groundwaters or other adverse impacts to public health, welfare, and the environment.

(b) A permittee shall only use approved tracer technology for the following purposes:

- (1) as evidence that well stimulation fluid from a particular oil or gas well caused or contributed to an exceedance of the standards set out in 15A NCAC 02L .0202 or 15A NCAC 02B .0200 detected as a result of water supply testing required under Rule .1803 of this Section; or
- (2) to identify well stimulation fluid from a particular oil or gas well as the source of contamination detected as a result of an investigation of water supply conducted under Rule .1804 of this Section.

History Note: Authority G.S. 113-391(a)(3); 113-391(a)(5)b; 113-423(f);
Eff. March 17, 2015.

SECTION .1900 – WATER ACQUISITION AND MANAGEMENT

15A NCAC 05H .1901 WATER MANAGEMENT PLAN REQUIREMENTS

(a) An applicant or permittee shall submit a Water Management Plan for proposed oil or gas well(s) to be located at the well pad. This plan shall be submitted to the Department for review and approval in accordance with Rule .1304 of this Subchapter and with the rules of this Section prior to the commencement of activities covered under the Form 2 – Oil or Gas Well Permit Application.

(b) A Form 4 – Water Management Plan shall include:

- (1) the applicant's or permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the lease name and the oil or gas well name and number;
- (5) identification of the source(s) of water to be used with the additional information required by Rules .1902 through .1905 of this Section;
- (6) the name, address, phone number, parcel identification, and written consent from the owner of the real property where any surface water intake, groundwater well, or water transport system components or structures have been, or will be, located, installed, or constructed;
- (7) the proposed start date and expected ending date of water withdrawals;
- (8) the proposed average and maximum daily withdrawal in millions of gallons per day and the expected total withdrawal in millions of gallons;
- (9) a description of all potential sources of water, including flowback and produced water, that were evaluated for this application and the reasons for rejecting those sources as required by Rule .1905 of this Section;

- (10) topographic maps and aerial maps showing the latitude and longitude, in decimal degrees, of the following features and locations:
 - (A) the proposed water source(s) and any existing hydrologic features within the area of influence of the proposed water source, including other streams, springs, and wetlands;
 - (B) any existing water supply, as defined in G.S. 113-389, within the area of influence;
 - (C) any areas with known environmental contamination within the area of influence;
 - (D) any current or proposed utility rights-of-way associated with the project area; and
 - (E) any current or proposed structure(s) or appurtenance(s) for the transport or storage of water;
 - (11) a list of alternative water source(s) or practices to be used during times of drought or low flow conditions;
 - (12) a monitoring plan to record the amount of water used from each source included in this application on a daily basis, including schedules of maintenance to ensure precise measurement and recording of the water usage; and
 - (13) all other information required by Rule .1906 of this Section.
- (c) The Department may request additional information necessary to protect public health, welfare, and the environment when reviewing the Form 4 – Water Management Plan during the application review process in accordance with Rule .1307 of this Subchapter.

History Note: Authority G.S. 113-391(a)(5)e;
Eff. March 17, 2015.

15A NCAC 05H .1902 SURFACE WATER SOURCE DOCUMENTATION

- (a) For surface water sources, the applicant or permittee shall consult with the Department to determine and evaluate the limits of the affected reach. The exact delineation of the affected reach shall be determined in consultation with and the approval of the Department and shall depend on factors including:
- (1) the cumulative amount of water to be withdrawn when the proposed withdrawal is combined with existing withdrawals;
 - (2) the hydrologic characteristics of the stream;
 - (3) the presence or absence of downstream point source discharges; and
 - (4) the potential effects on other users and instream flow.
- (b) Following a determination of the limits of the affected reach, the following information shall be provided by the permittee to the Department:
- (1) the river basin designation, as defined by G.S. 143-215.22G, at the point of withdrawal and the river basin designation where the water will be used;
 - (2) the classification of the water source at the withdrawal point in accordance with 15A NCAC 02B .0301, which is incorporated by reference including subsequent amendments;
 - (3) for free-flowing water sources:
 - (A) a list of other existing and proposed withdrawals within the affected reach, including the maximum withdrawal capacity of each; and
 - (B) an estimate of the 7Q10 flow at the proposed intake location and explain the methodology used to derive the estimate. The cumulative maximum instantaneous withdrawal from the affected reach shall be limited to 20 percent of the 7Q10 flow;
 - (4) the owner, facility name, National Pollution Discharge Elimination System (NPDES) permit number, and permitted volume of any point source discharges within the affected reach or discharge to a water impoundment that is listed as a water source.
- (c) When flows in the affected reach are at 7Q10 levels, withdrawals conducted under the permit shall cease until flows reach 120 percent of the 7Q10 flow level.
- (d) The results of a survey to determine the presence of any state or federally threatened or endangered species or any invasive species that may be affected by the proposed withdrawal shall include:
- (1) the identification of any state or federally threatened or endangered species present;
 - (2) a description of how any detrimental impacts to those species and their critical habitats will be avoided;
 - (3) a description of how the spread of any identified invasive species will be prevented; and
 - (4) the identification of the sources of information used for the determination and contact information for the federal and state agencies consulted.

(e) The permittee shall indicate the presence of any known noxious aquatic weeds listed in 15A NCAC 02G .0602, which is incorporated by reference including any subsequent amendments, or other exotic or invasive species in the source water(s).

(f) If the surface water source is classified as an Outstanding Resource Water under 15A NCAC 02B .0225, the permittee shall document how the outstanding resource value will not be adversely affected, taking into account the value assigned to it, the site-specific location, and the proposed quantity of water to withdrawn under this plan.

*History Note: Authority G.S. 113-391(a)(4); 113-391(a)(5)e; 113-391(a)(5)k;
Eff. March 17, 2015;
Amended Eff. September 1, 2022.*

15A NCAC 05H .1903 GROUNDWATER SOURCE DOCUMENTATION

(a) For groundwater sources from which water is proposed to be obtained as part of the Water Management Plan, the applicant or permittee shall provide the following information:

- (1) for pre-existing groundwater wells, a copy of the well construction record filed with the Department in accordance with 15A NCAC 02C .0114(b), which is incorporated by reference including subsequent amendments, or from the local health department;
- (2) for groundwater wells constructed specifically for the purposes covered by the Water Management Plan, a copy of the Well Construction Permit issued by the Department pursuant to 15A NCAC 02C .0105, which is incorporated by reference including subsequent amendments, and the associated groundwater well construction record form submitted to the Department pursuant to 15A NCAC 02C .0114(b);
- (3) the results of an aquifer pump test for each well included in the Water Management Plan. The aquifer pump test shall be conducted in accordance with 15A NCAC 02C .0110(b), which is incorporated by reference including subsequent amendments;
- (4) a map showing the extent of the measureable area of influence determined by the aquifer pump test at the proposed rate of withdrawal indicating the locations of all surface waters and water supply wells within the area of influence;
- (5) a map showing the extrapolated cone of depression based on six months usage; and
- (6) information required by 15A NCAC 02C .0107(j)(2)(E) and (j)(3)(D), which is incorporated by reference including subsequent amendments, for the construction of water supply and other wells.

(b) The applicant or permittee shall use a drought indicator well within the measureable area of influence identified by the Division of Water Resources and the United States Geological Survey found at <http://www.ncwater.org/?page=345>, to be used to monitor the impacts to groundwater and to determine appropriate thresholds on which to base the cessation of groundwater pumping. If there is no such well, the applicant or permittee shall, in consultation with and the approval of the Department, identify a well for this purpose.

(c) When the drought indicator well closest to the groundwater source(s) included in this application is designated as D3, indicating that water levels are at or below the fifth percentile of historic water level measurements as determined by the Drought Management Advisory Council and reported by the Division of Water Resources at <http://www.ncwater.org/?page=345>, the withdrawals from these sources shall cease until the designation is upgraded to D1 or above, indicating water levels above the 10th percentile of historic water level measurements.

*History Note: Authority G.S. 113-391(a)(5)e; 113-391(a)(5)k; 113-391(b);
Eff. March 17, 2015.*

15A NCAC 05H .1904 PURCHASED WATER SOURCE DOCUMENTATION

For purchased water sources from which water is proposed to be obtained as part of the Water Management Plan, the applicant or permittee shall provide the following information:

- (1) identification of the water supplier, including name, contact information, and public water supply identification number for public water systems subject to G.S. 143-355(l) and facility identification number assigned by the Division of Water Resources for water withdrawals registered under G.S. 143-215.22H;
- (2) a copy of a letter of commitment or contract authorizing the acquisition of water by the applicant or permittee;
- (3) the type of water to be provided, such as water treated to drinking water standards, treated wastewater, reclaimed water, or raw water;

- (4) the proposed average and maximum amount of water to be provided daily in millions of gallons per day and the expected total maximum amount to be provided; and
- (5) the proposed method of transport of the water from the supplier to the point of use.

History Note: Authority G.S. 113-391(a)(5)e; 113-391(a)(5)k;
Eff. March 17, 2015.

15A NCAC 05H .1905 ALTERNATIVE WATER SOURCES

(a) The applicant or permittee shall provide a review of the potential alternative sources of water, including the option of using flowback or produced water, evaluated for the Water Management Plan and indicate the reasons for rejecting those water sources. The applicant or permittee shall include the following in the review:

- (1) current uses of each alternative water source evaluated, including a list of current withdrawers other than the applicant or permittee;
- (2) the name and classification of each alternative water source evaluated; and
- (3) a description of the current or proposed structure or appurtenances for the transport or storage of water from the alternative water source.

(b) For reuse of flowback or produced water, the applicant or permittee shall provide the following information:

- (1) the source of the flowback or produced water;
- (2) the proposed maximum daily use in millions of gallons per day and the amount expected to be used; and
- (3) the estimated amount of additional water needed to provide sufficient quantity for activities covered by the Form 2 – Oil or Gas Well Permit Application.

History Note: Authority G.S. 113-391(a)(5)e;
Eff. March 17, 2015.

15A NCAC 05H .1906 REPORTING

(a) For the Water Management Plan, the permittee shall monitor, record, and retain, for a period of five years after the reclamation of the last oil or gas well for which the plan was submitted as part of the application, all records related to the daily water pumping schedules, received and purchased water, amounts of stored water, and quantities of flowback and produced water for recycling or reuse. The daily monitoring records shall be retained by the permittee in accordance with Rule .0202 of this Subchapter. These records shall be made available to representatives of the Department upon request.

(b) The permittee shall submit the Form 23 – Annual Water Use Report to the Department in accordance with Rule .0201 of this Subchapter by April 1st of each year for the period of January 1st to December 31st of the prior year. Form 23 – Annual Water Use Report shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the daily average water withdrawals from each of the surface water and groundwater source(s) included the Water Management Plan for each month;
- (6) the maximum daily water withdrawals from each of the surface and groundwater source(s) included the Water Management Plan for each month; and
- (7) the number of days that water was withdrawn in each month from the surface and groundwater source(s) the Water Management Plan.

(c) The permittee shall submit Form 23 – Annual Water Use Report electronically to the Department.

(d) The applicant or permittee shall provide notice in accordance with G.S. 113-420(b) of any land-disturbing activity associated with the Water Management Plan to any owner of real property identified in the plan as required by Rule .1901(b)(6) of this Section. The notice shall be sent at least 30 calendar days before the desired date of entry to the property for activities described in Rules .1902 through .1904 of this Section. Notice shall be given by certified mail with return receipt requested and shall include:

- (1) the dates and duration of activities;
- (2) the location where entry will take place; and
- (3) the identity of person(s) entering the property.

(e) The permittee shall notify the Department at least 48 hours via telephone or email prior to first withdrawal from the approved water source(s) identified in the Water Management Plan. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email or fax in accordance with Rule .0201 of this Subchapter within five calendar days following the telephone or email notification and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time of day for the first withdrawal from the water source.

*History Note: Authority G.S. 113-391(a)(5)e;
Eff. March 17, 2015.*

SECTION .2000 – OIL OR GAS SITE EXPLORATION AND PRODUCTION WASTE MANAGEMENT

15A NCAC 05H .2001 PURPOSE AND SCOPE

The permittee shall manage, control, and dispose of all waste associated with exploration and production (E & P) of oil or gas in accordance with the standards set forth in this Section and all applicable laws and regulations.

*History Note: Authority 113-391(a)(5)f;
Eff. March 17, 2015.*

15A NCAC 05H .2002 EXPLORATION AND PRODUCTION WASTE MANAGEMENT PLAN REQUIREMENTS

(a) An E & P Waste Management Plan, approved by the Department in accordance with this Rule, is required prior to the generation of E & P wastes from the drilling, producing, plugging, or any other activity associated with an oil or gas well.

(b) The E & P Waste Management Plan shall identify the management, control, reuse, and disposal methods for E & P wastes.

(c) The E & P Waste Management Plan shall address the storage and handling of wastewater, residuals, solid wastes, and any other non-hazardous and hazardous wastes related to exploration and production activities from the point of initial generation of E & P wastes onsite to final disposal of the E & P waste.

(d) The E & P Waste Management Plan shall include the following form, documentation, and plan design sheets:

- (1) a completed Form 5 – Waste Management Plan that includes the following information:
 - (A) a description of the pit and tank use and locations onsite;
 - (B) the capacity of pits and tanks onsite;
 - (C) the pit liner material type, thickness, and manufacturer;
 - (D) the disposal methods for liquid and solid wastes;
 - (E) an operation and maintenance plan for all waste management infrastructure;
 - (F) a description of pit closure and site reclamation methods; and
 - (G) the anticipated date of construction or installation of all waste management infrastructure;
- (2) construction, installation, operation, and maintenance specifications and details for all pits, tanks, secondary containment, and other ancillary equipment, such as piping, pumps, and valve systems. This shall include site design and capacity of all pits and tanks installed or constructed onsite;
- (3) an emergency response plan that complies with 40 CFR 112, which is incorporated by reference, including subsequent amendments and editions, which can be accessed at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr112_main_02.tpl for no charge, and Rule .1305 of this Subchapter;
- (4) a statement of whether and how E & P wastes produced onsite will be reused at the permitted oil or gas well or reused at other permitted oil or gas wells;
- (5) a statement of whether and how the E & P wastes will be pretreated onsite for reuse or disposal;
- (6) a statement of whether the E & P wastes will be disposed of off-site and the identification of the disposal facility;

- (7) a pit and tank closure plan that includes final disposal methods for all pit and tank contents within the Reclamation Plan in accordance with the Rule .2004 of this Section and Rule .2102 of this Subchapter; and
 - (8) the contact information for the local county emergency management officials and the State Emergency Operations Center (1-800-858-0368) for where the well site is located shall be included in the plan.
- (e) A copy of the approved E & P Waste Management Plan shall be available to the Department at the well site during drilling and completion activities.
- (f) The contact information for the local county emergency management officials and the State Emergency Operations Center (1-800-858-0368) shall be prominently displayed at the well site during exploration, drilling, and completion activities.
- (g) The permittee shall submit Form 24 – Annual E & P Waste Management Report to the Department in accordance with Rule .2007(d) of this Section.

History Note: Authority 113-391(a)(5)e; 113-391(a)(5)f; 113-391(a)(5)k; 113-391(b); Eff. March 17, 2015.

15A NCAC 05H .2003 EXPLORATION AND PRODUCTION WASTE DISPOSAL

(a) The permittee shall test produced water and flowback fluids. The permittee shall test for the following parameters on a frequency and schedule determined by the Department, based on factors such as new sciences, the shale resource, and operator technology for the protection of public health, welfare, and the environment. At a minimum, testing shall be conducted on the produced water and flowback fluids from the first completed well on each well pad and on all fluids prior to management in accordance with Subparagraphs (c)(2), (c)(3), and (c)(4) of this Rule:

carbonaceous biochemical oxygen demand (CBOD)	ammonia-nitrogen (NH ₃ -N)
dissolved oxygen (DO)	specific conductance
pH	total suspended solids (TSS)
barium	bromide
chlorides	sulfates
sodium	divalent cations
total dissolved solids (TDS)	oil and grease
arsenic, total recoverable	cadmium, total recoverable
cobalt, total recoverable	copper, total recoverable
cyanide, total recoverable	lead, total recoverable
mercury, total recoverable	nickel, total recoverable
tin, total recoverable	zinc, total recoverable
benzene	bis(2-ethylhexyl)phthalate
butylbenzyl phthalate	carbazole
n-Decane	fluoranthene
n-Octadecane	radium-226 (Dissolved)
strontium-90 (Dissolved)	beta radiation (gross)
chronic whole effluent toxicity	total organic carbon
	volatile organic compounds
	semi-volatile organic compounds

- (1) the water samples shall be collected and analyzed in accordance with Rule .1803 of this Subchapter; and
 - (2) the analytical results shall be submitted to Division within 30 calendar days of receiving the analytical results, unless a different schedule is prescribed by the Department, based on the results of the initial test.
- (b) The Director, in consultation with the Director of the Division of Water Resources and the Director of the Division of Public Health within the Department of Health and Human Services, may require additional analysis and scheduling as necessary for the protection of public health, welfare, and the environment.
- (c) E & P waste shall be managed as:
- (1) reuse in well stimulation operations;

- (2) onsite pretreatment for reuse or disposal;
 - (3) disposal at a plant installed for the purpose of disposing of waste within the State, permitted in accordance with G.S. 143-215.1; or
 - (4) disposal facility located within another state that is duly permitted to accept flowback fluid and produced water from oil or gas operations.
- (d) If E & P waste is to be disposed of in accordance with Subparagraphs (c)(2), (c)(3), or (c)(4) of this Rule, the permittee shall also comply with the following requirements:
- (1) prior to transporting the waste to a publicly owned treatment works pursuant to Subparagraph (c)(3) of this Rule, the permittee shall submit a copy of the approved Industrial User Permit required by 15A NCAC 02H .0916, which is incorporated by reference, including subsequent amendments, to the Division.
 - (2) the permittee shall notify the Division if any facility identified in the plan refuses to accept E & P waste. Upon such refusal, the permittee shall submit a revised E & P Waste Management Plan in accordance with Rule .2002 of this Section that identifies a new disposal facility to the Division.
- (e) Any sludge or residual resulting from the reuse process authorized pursuant to Subparagraph (c)(1) of this Rule or from any onsite pretreatment that may be used in conjunction with Subparagraphs (c)(2) and (c)(3) of this Rule shall be managed and disposed of pursuant to Subparagraphs (c)(3) and (c)(4) of this Rule or with the Resource Conservation and Recovery Act and regulations promulgated pursuant thereto, 42 USC 6901 et seq. and 40 CFR Parts 239-282, which is incorporated by reference, including subsequent amendments, which can be accessed for no charge at http://www.ecfr.gov/cgi-bin/text-idx?SID=13be85c0df8971509a2531a778d1c87f&tpl=/ecfrbrowse/Title40/40tab_02.tpl. In addition, prior to disposal of any sludge or residual resulting from the reuse process authorized pursuant to Subparagraph (c)(1) of this Rule, or from any onsite pretreatment that may be used in conjunction with Subparagraphs (c)(2) and (c)(3) of this Rule, the permittee shall demonstrate that the sludge or residual meets all applicable radioactivity standards for the disposal facility.
- (f) Residuals from onsite pretreatment shall be disposed of in accordance with G.S. 143-215.1 and G.S. 130A-294, or transported to another state and disposed of in accordance with the receiving state's rules.
- (g) Solid E & P waste, including drill cuttings and solidified muds, shall be characterized in accordance with EPA Method 1311, Toxicity Characteristic Leaching Procedure, which is incorporated by reference, including subsequent amendments and found at <http://www.epa.gov/epawaste/hazard/testmethods/sw846/pdfs/1311.pdf>. The solid E & P waste shall be characterized on a frequency and schedule determined by the Department, based on the permittee's drilling, completion, and stimulation practices. In addition, the Director, in consultation with the Director of the Division of Waste Management, may require additional analysis as necessary for the protection of public health, welfare, and the environment.
- (h) Solid E & P waste shall be disposed of by transfer to the appropriate permitted solid waste management facility in accordance with 15A NCAC 13A or 15A NCAC 13B, which are incorporated by reference including subsequent amendments.
- (i) E & P waste fluids may be transported to other drilling sites for reuse provided that such fluids are transported and stored in a manner that does not constitute a hazard to water resources, public health, safety, or the environment in accordance with 15A NCAC 13B .0105.
- (j) E & P waste, when transported off-site for treatment or disposal, shall be transported to treatment facilities or to waste disposal facilities permitted to receive E & P waste by the Department in accordance with 15A NCAC 13B. When transported to facilities outside of North Carolina for treatment or disposal, E & P waste shall be transported to facilities permitted by the appropriate regulatory agency in the receiving state.
- (k) When E & P waste is transported off-site, the permittee shall maintain for five years copies of each invoice, bill, or ticket and such other records to document the following requirements:
- (1) the permittee's name, address, and business telephone number;
 - (2) the county, city, or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) the date and time of the transport;
 - (6) the company name and contact information of the E & P waste transporter;
 - (7) the location of the E & P waste pickup site if different than a pit or tank located onsite;
 - (8) the type and volume of E & P waste;
 - (9) the name and location of the treatment or disposal site; and

- (10) a chronological record showing the date and time of waste collection and the transfer of waste from one person to another during final delivery to a disposal facility. These documents shall be signed and dated by all appropriate parties, and shall include the generator, transporter, and receiving facility representative.
- (l) All records shall be maintained in accordance with the Rule .0202 of this Subchapter.

*History Note: Authority G.S. 113-391(a)(3); 113-391(a)(4); 113-391(a)(5)f;
Eff. March 17, 2015;
Amended Eff. September 1, 2022.*

15A NCAC 05H .2004 PIT CLOSURE REQUIREMENTS

- (a) The permittee shall notify the Department via telephone or email 48 hours prior to commencing pit closure activities so the Department staff may be onsite to inspect pit closure. The permittee shall submit Form 11 – Required Notifications to the Department in accordance with Rule .0201 of this Subchapter by mail, email, or fax within five calendar days of the telephone or email notification and shall include the following information:
- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number; and
 - (5) the scheduled date and approximate time for the pit(s) closure.
- (b) Prior to removing the liner, all freestanding liquids and solid waste remaining in the pit shall be disposed of in accordance with applicable laws and regulations. Synthetic liners shall be removed and disposed of in accordance with applicable laws and regulations.
- (c) The permittee shall collect a five-point composite sample from the pit sub-base if there are no wet or discolored areas or any other indications of a release of fluids from the pit. The permittee shall collect individual grab samples from any pit base or sidewall slope areas that are wet, discolored or show other evidence of a release along the pit sidewall slopes or base.
- (d) The samples collected from the pit sub-base shall be analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and metals. The Department may request the permittee to also analyze for chlorides, bromides, and sulfates depending on the drilling, completion, and stimulation fluids used by the permittee. These soil samples shall be analyzed in accordance with approved the EPA or Department methods in accordance with 15 NCAC 02L .0412, which is incorporated by reference, including subsequent amendments.
- (e) If concentrations of BTEX, TPH, or metals exceed the soil to groundwater maximum contaminant concentrations established by the Environmental Management Commission in 15A NCAC 02L .0202, or the background concentration, if established, then the Department shall require additional delineation upon review of the results to ensure compliance with other applicable environmental regulations for soil and water contamination.
- (f) All soil that exceeds limits established in Paragraph (e) of this Rule shall be removed from the pit and disposed of at a permitted municipal solid waste landfill, hazardous waste facility, or soil reclamation facility.
- (g) The location where the pit(s) were constructed shall be returned to grade, reclaimed, and seeded in accordance with the approved Reclamation Plan. Pit(s) shall be reclaimed no later than 180 calendar days after the drilling rig is removed from the well site, workover operations are complete, or plugging is complete.
- (h) The permittee shall submit a signed copy of Form 25 – Pit Closure Report to the Department in accordance with Rule .0201 of this Subchapter within 30 calendar days after the pit closure has been completed, containing the following information:
- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) the latitude and longitude of the pit reported to five decimal places of accuracy and precision using the North American Datum of 1983 (NAD83);
 - (6) the pit type and use;
 - (7) the date of pit closure;
 - (8) the volume of fluid and solid E & P wastes removed from the pit(s);
 - (9) a confirmation that the liner was removed in accordance with Paragraph (b) of this Rule;

- (10) copies of analytical results from the required sampling in Paragraph (c) of this Rule; and
- (11) the name, permit number, and contact information for the receiving facilities.

History Note: Authority 113-391(a)(5)c; 113-391(a)(5)d; 113-391(a)(5)f; 113-391(b); Eff. March 17, 2015.

15A NCAC 05H .2005 SPILLS AND RELEASES

(a) Chemical spills and releases shall be reported in accordance with applicable state and federal requirements, including the Emergency Planning and Community Right-to-Know Act set forth in 40 CFR 350-372, the Comprehensive Environmental Response, Compensation, and Liability Act set forth in 40 CFR 300 and 302, the Resource Conservation and Recovery Act set forth in 40 CFR 239-282, the Clean Water Act set forth in 40 CFR 100-149, G.S. 143-215.75 through 215.104U, 15A NCAC 02B, and 02L, as applicable, which are incorporated by reference, including subsequent amendments and editions.

(b) Spills and releases of E & P waste shall be controlled and contained upon discovery to protect public health, welfare, and the environment.

(c) The permittee shall be responsible for controlling, containing, and remediating any spill or release.

(d) The Department may require any cleanup activities it determines to be necessary to protect public health, welfare, and the environment based on the type, size, and extent of the spill or release.

(e) Spills and releases shall be reported by the permittee as follows:

- (1) spills and releases of any E & P waste that exceed a volume of one barrel per incident, including those contained within lined or unlined berms, including containment systems, shall be reported on Form 26 – Spill and Release Report in accordance with Paragraph (f) of this Rule;
- (2) spills and releases that exceed a volume of five barrels per incident of any E & P waste shall be reported by telephone or email to the Director in accordance with Rule .0201 of this Subchapter as soon as practicable, but no more than 24 hours after discovery;
- (3) spills and releases of any size that impact, or threaten to impact, any waters of the State, high occupancy buildings or occupied dwellings, livestock or public roads shall be reported by telephone or email to the Director in accordance with Rule .0201 of this Subchapter as soon as practicable, but no more than 24 hours after discovery; and
- (4) spills and releases of any size that impact, or threaten to impact, any surface water, water supply area, or water supply intake shall be reported to the Department in accordance with Rule .0201 of this Subchapter and the appropriate local emergency management coordinator in accordance with Rule .1305 of this Subchapter. These spills and releases shall be reported by phone to the local emergency management coordinator, Department, and water supply facility within two hours of the discovery. This initial notification to the local emergency management coordinator, Department, and water supply facility shall include a description of actions to be taken to mitigate the spill and release.

(f) For all reportable spills, the permittee shall submit Form 26 – Spill and Release Report, to the Department in accordance with Rule .0201 of this Subchapter no more than five days after discovery. The form shall include the following:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) an 8 1/2 by 11 inch topographic map showing the location of the spill;
- (6) color photographs of the affected area;
- (7) a description of the initial mitigation, site investigation, and any additional remediation proposed by the permittee; and
- (8) additional information or remediation based on the type, size, and extent of the spill or release as required by the Department.

(g) The permittee shall determine the cause of all spills and releases, and shall implement measures to prevent spills and releases due to similar causes in the future.

(h) The permittee shall notify the local emergency management coordinator and State Emergency Operations Center of reportable spills and releases pursuant to the requirements in this Rule, as soon as practicable, but not more than 24 hours after discovery.

(i) The Department shall require the permittee to submit a Form 27 – Site Investigation and Remediation Work Plan when there is a threat of or actual significant impacts on public health, welfare, and the environment from a spill or release exist, or when necessary to ensure compliance with 15A NCAC 02B and 02L. The Form 27 – Site Investigation and Remediation Work Plan shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) a description of the impact to soils, vegetation, groundwater, or surface water;
- (6) a description of initial actions taken to remediate the spill or release;
- (7) a description of how the spill or release and impacts will be removed or remedied;
- (8) a description of proposed groundwater monitoring plan if groundwater was impacted;
- (9) a description of changes to the well site development plan or reclamation plan if needed;
- (10) a map of the area showing sample locations and the extent of spill or release;
- (11) a copy of analytical reports for any samples that have been collected and analyzed;
- (12) the final disposal site of the E & P wastes recovered from the spill or release;
- (13) an implementation schedule detailing the date(s) of the initial spill or release, the beginning and end of site investigation, the date remediation plan was submitted, the date remediation plan will be implemented, the anticipated completion date of remediation, the actual completion date; and
- (14) the signature of the permittee and date signed.

History Note: Authority 113-391(a)(5)i; 113-391(a)(5)k;
Eff. March 17, 2015.

15A NCAC 05H .2006 SAFETY AND SECURITY AT PITS AND TANKS

(a) Fencing around any pit or tank shall be constructed and maintained to prevent unauthorized access and render the area non-hazardous to wildlife. Fences are not required if there is a surrounding perimeter fence that prevents unauthorized access to the well site or production facility, including the pit(s) or tank(s). Fencing shall comply with Rule .1615 of this Subchapter.

(b) All E & P waste pits or open tanks shall be screened, netted or otherwise render the area non-hazardous to wildlife, including migratory birds. The permittee shall inspect for and, within 48 hours of discovery, report any discovery of dead migratory birds or other wildlife to the Department by telephone or email in accordance with Rule .0201 of this Subchapter in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring. All netting, screening, or other measures installed shall comply with the Migratory Bird Treaty Act as set forth in 16 U.S.C. 703-712.

History Note: Authority 113-391(a)(4);
Eff. March 17, 2015.

15A NCAC 05H .2007 MONITORING AND REPORTING

(a) The permittee shall monitor all onsite E & P waste storage and disposal structures and facilities for compliance with the approved E & P Waste Management Plan.

(b) The permittee shall inspect all pits or open tanks after a rain event of one half inch or more in a 24-hour period to ensure structures have not been impaired and have the required freeboard. If impairment of a pit or open tank is noted during the course of inspection, the impairment shall be recorded on a monitoring and maintenance log. The log shall include:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the date of inspection, name of the inspector;
- (6) the location of impairment of the pit or tank;
- (7) if a spill or release was observed;
- (8) any necessary repair work and the date(s) all repairs were completed; and

- (9) the signature of person conducting the inspection.
- (c) If the impairment of the structure of the pit or open tank results in a spill or release, the permittee shall comply with the requirements for reporting, repair, and remediation in accordance with Rule .2005 of this Section.
- (d) The permittee shall submit the Form 24 – Annual E & P Waste Management Report to the Department in accordance with Rule .0201 of this Subchapter no later than April 1st of each year for the previous calendar year, regardless of whether any oil or gas wells are installed at a well pad during the calendar year covered by the report. The Form 24 – Annual E & P Waste Management Report shall include:
- (1) the permittee's name, address, telephone number, fax number, and email address;
 - (2) the county and nearest city or town where the oil or gas well is located;
 - (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
 - (4) the API number, the lease name, and the oil or gas well name and number;
 - (5) the quantity of drill cuttings that have been disposed of at off-site solid waste landfills;
 - (6) the permit number, name, and location of the solid waste facility;
 - (7) the monthly quantity, in barrels, of liquid E & P waste produced in the drilling, stimulation, alteration, and production of an oil or gas well; and
 - (8) the records of when pits were serviced due to inadequate freeboard, and the actions that were taken to restore the three feet of required freeboard.

History Note: Authority 113-391(a)(5)i; 113-391(a)(5)k;
Eff. March 17, 2015.

SECTION .2100 – WELL SITE RECLAMATION

15A NCAC 05H .2101 PURPOSE AND SCOPE

- (a) The permittee shall reclaim all disturbed land associated with the drilling, completion, and production of an oil or gas well by removing any well site structures or equipment from the well site or well pad and establishing permanent vegetative cover, soil stability, water conditions, and safety conditions appropriate to the area.
- (b) The disturbed land shall be reclaimed unless otherwise designated by the surface owner in a surface use agreement submitted with a Form 2 – Oil or Gas Well Permit Application.

History Note: Authority G.S. 113-391(a)(5)l; 113-423.1(b);
Eff. March 17, 2015.

15A NCAC 05H .2102 RECLAMATION PLAN REQUIREMENTS

- (a) The applicant or permittee for a permit or permit modification shall submit a Reclamation Plan to the Department for approval. The Reclamation Plan shall be submitted in accordance with Section .1300 of this Subchapter.
- (b) The Form 6 – Well Site Reclamation Plan and its contents shall conform to the SPCA, 15A NCAC 04, and 15A NCAC 02H and include information and details on the reclamation of all disturbed land at the well site, including:
- (1) the reclamation activities to be conducted onsite;
 - (2) a plan for subsequent land use and the general methods to be used in reclaiming the disturbed land;
 - (3) the practices to be taken to protect adjacent surface resources;
 - (4) the methods to prevent or eliminate adverse impacts to flora and fauna in, or adjacent to, the disturbed land;
 - (5) the methods to be taken to reclaim the disturbed land associated with pits in accordance with Rule .2004 of this Subchapter;
 - (6) the measures to be taken stabilize slopes; and
 - (7) the plan for re-vegetation and reforestation, or other surface treatment of the disturbed land, approved in writing by one of the following prior to submission of the application:
 - (A) an authorized representative of the local soil and water conservation district having jurisdiction over lands in question;
 - (B) an authorized representative of the North Carolina Forest Service within the Department of Agriculture and Consumer Services;

- (C) a county agricultural extension Chair or research and extension personnel headquartered at North Carolina State University in the School of Agricultural and Life Sciences;
- (D) a North Carolina licensed Landscape Architect pursuant to G.S. 89A; or
- (E) a private consulting forester referred by the North Carolina Forest Service within the Department of Agriculture and Consumer Services.

(c) The applicant shall submit financial assurance in accordance with the Section .1400 of this Subchapter prior to commencing activity onsite.

(d) In addition to performing all activities required by the Reclamation Plan, the permittee shall stabilize and reclaim all disturbed lands associated with drilling, completion, and production in accordance with the Well Site Development Plan required by Rule .1304(c)(2) of this Subchapter.

(e) An approved Reclamation Plan may be modified by submitting a permit modification in accordance with Rule .1310 of this Subchapter.

History Note: Authority G.S. 113-391(a)(5)l;
Eff. March 17, 2015.

15A NCAC 05H .2103 TIMING AND NOTICE OF RECLAMATION

(a) The permittee shall complete reclamation of all disturbed land within two years pursuant to G.S. 113-421(a3).

(b) The permittee shall notify the Department in writing within 30 calendar days following completing reclamation.

(c) The Department shall monitor the well site for compliance with the following standards:

- (1) the vegetative cover shall be maintained for a period of one year after the notice has been given before the disturbed land bond under Rule .1404 shall be released by the surface owner; and
- (2) the filled or graded areas shall be maintained so as to avoid the formation of depressions or standing pools of water until reclamation is complete.

History Note: Authority G.S. 113-391(a)(5)l;
Eff. March 17, 2015.

SECTION .2200 – OPERATION AND PRODUCTION

15A NCAC 05H .2201 OPERATION AND PRODUCTION REQUIREMENTS FOR OIL OR GAS WELLS

(a) All oil or gas wells shall comply with API Recommended Practice 74, "Recommended Practice for Occupational Safety for Onshore Oil and Gas Production Operation," which is incorporated by reference, including subsequent amendments and editions. This document may be viewed online for no charge at <http://publications.api.org/>.

(b) All production equipment shall be maintained to comply with API Recommended Practice 51R "Environmental Protection for Onshore Oil and Gas Production Operations and Leases." Recommended Practice 51R may be viewed online for no charge at <http://publications.api.org/>.

(c) All natural gas compressor stations shall be contained within a baffled building in accordance with G.S. 113-395.1.

(d) The permittee shall report monthly production data from all producing oil or gas wells, wells capable of producing oil or gas, and all fluids produced during any phase of operation of the oil or gas well to the Department in accordance with Rule .0201 on Form 28 – Monthly Production Report within 60 calendar days from the end of each month. The Form shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the month and year of production;
- (6) the number of days the oil or gas well was producing for the reporting period;
- (7) the oil or gas well status;
- (8) the quantities of oil and production fluids posted in barrels; and
- (9) the quantities of gas posted in units of thousand cubic feet.

(e) All meters shall be calibrated at least annually and shall comply with Chapters 14, 21, and 22 of the API "Manual of Petroleum Measurement Standards," which is incorporated by reference, including subsequent amendments and editions. These documents, published by API, may be viewed online for no charge at <http://publications.api.org/>.

(f) All meters, valves, and gauges shall be maintained pursuant to the manufacture's specifications and remain accessible to the Department.

(g) The permittee shall notify the Department in accordance with Rule .0201 of this Subchapter at least 72 hours via telephone or email prior to meter calibration. The permittee shall submit Form 11 – Required Notifications to the Department, by mail, email or fax within five calendar days of the telephone or email notice and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time for the meter testing.

(h) The permittee shall retain calibration records for five years in accordance with Rule .0202 of this Subchapter.

(i) The permittee shall adjust, repair, or replace any meter that fails an annual meter calibration test with a calibrated meter. Test results that exceed two percent of the manufacturer's specifications shall constitute a failure of the meter calibration test. The permittee shall notify the Department within 24 hours of replacing a meter via mail or email and shall retain records related to replacement for a period of five years.

(j) The permittee shall inspect daily each producing oil or gas well for the first 30 calendar days following commencement of production and monthly thereafter. The permittee shall report on the daily inspections results within 30 calendar days of the final daily inspection on Form 29 – Well Site Inspection Report.

(k) The permittee shall submit a monthly inspection report to the Department using Form 29 – Well Site Inspection Report within 30 calendar days of the inspection.

(l) The Form 29 – Well Site Inspection Report shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and egress point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the presence of corrosion or equipment deterioration on any production equipment;
- (6) any indication or observation of a hydrocarbon release;
- (7) the condition of the wellhead, tanks, separators, and all other production equipment;
- (8) the condition of the secondary containment system for all tanks and separators;
- (9) certification that activated charcoal filters, low pressure relief valves, hatch lids, and lightning arrestors are present and functional for all tanks; and
- (10) any pressure measurements taken at the wellhead.

(m) The Department may require the permittee to perform diagnostic testing on the oil or gas well or production equipment in order to determine whether a potential mechanical deficiency exists and the best method of repair if deficiencies or violations are noted by the permittee on the Form 29 – Well Site Inspection Report.

(n) The permittee shall notify the Department via telephone or email of any annular pressures in excess of 80 percent of the API rated minimum internal yield pressure rating within 24 hours after discovery.

(o) All shut-in oil or gas wells shall pass an annual mechanical integrity test. Oil or gas wells that had surface equipment removed or have become incapable of production shall pass a mechanical integrity test within 30 calendar days of the cessation of production. Oil or gas wells that fail a mechanical integrity test shall be repaired or plugged and abandoned within six months of failing the test. Mechanical integrity testing shall be conducted in accordance with the following procedure:

- (1) isolate the wellbore with a mechanical bridge plug, set at 100 feet or less above the production packer or the highest perforations, if the production tubing has been removed;
- (2) pressure test the production tubing, or casing if the tubing has been removed, with inert or nonreactive liquid or gas at a minimum of 300 pounds per square inch (psi) surface pressure or 110 percent of the shut in tubing pressure, whichever is greater; and
- (3) maintain a minimum of 300 psi surface pressure for at least 15 minutes without a pressure differential of more than 10 percent.

(p) The permittee shall notify the Department using Form 11 – Required Notifications to the Department, not less than 10 calendar days prior to initiating a mechanical integrity test by mail, email, or fax. The notification shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number; and
- (5) the scheduled date and approximate time the test will be performed.

(q) Mechanical integrity test results shall be submitted to the Department using Form 16 – Mechanical Integrity Test Results, within 30 calendar days after completing the test and shall include the following information:

- (1) the permittee's name, address, telephone number, fax number, and email address;
- (2) the county and nearest city or town where the oil or gas well is located;
- (3) the property street address, or nearest address to the ingress and point leading from a public road to the well pad;
- (4) the API number, the lease name, and the oil or gas well name and number;
- (5) the purpose or reason for testing and identify if tubing or casing is being tested;
- (6) identify the depth of producing zone and perforated intervals;
- (7) the tubing and casing diameter and depth;
- (8) a description of the pressure test data including pressure charts showing pressure:
 - (A) prior to testing;
 - (B) at the commencement of testing; and
 - (C) during testing;
- (9) be signed by the service company or contractor conducting the pressure test to attest that all tests and results comply with the standards set in this Rule.

(r) The permittee shall submit Form 2 – Oil or Gas Well Permit Application to the Department for the recompletion work required for the oil or gas well to be placed back into production.

*History Note: Authority G.S. 113-391(a)(5)c; 113-391(a)(5)i; 113-391(a)(5)k;
Eff. March 17, 2015.*