15A NCAC 05H .XXX1 WATER ACQUISITION AND MANAGEMENT RULES FOR OIL AND GAS OPERATORS

Any person, firm, or corporation requiring water for the purposes of oil and gas exploration, development or processing, must submit a detailed plan to the Department showing how water will be acquired. The plan must include any documents, maps, charts, logs, calculations, and other information necessary to document the sources of water, methods of withdrawal, water storage methods and structure(s), and all practices that will be utilized to minimize the impact of such activity in accordance with G.S. §113-391. Each application must include an evaluation of the option to use flowback and production water to meet water needs for the operations covered in the application.

15A NCAC 05H .XXX2 DEFINITIONS

The terms used in this Subchapter shall have the definitions assigned by G.S. §113-389. In addition, the words defined in this Rule shall have the following meanings:

(1) "7Q10 conditions" when used in connection with "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 as referenced in 15A NCAC 2B.0206(a)(1).

(2) "Affected reach" means the portion of a stream channel where the hydrology may be significantly affected by the cumulative effects of the proposed withdrawal in combination with existing water withdrawals and point source discharges. The exact delineation of the affected reach shall be determined in consultation with the Department and will depend on factors including but not limited to:

(A) the cumulative amount of water to be withdrawn when the proposed withdrawal is combined with existing withdrawals

(B) the upstream and downstream hydrologic characteristics of the stream

(C) any downstream point source discharges

(D) the potential effects on other users

(3) "Flow Rate" means the volume per unit time of a fluid moving past a fixed point (15A NCAC 02C.0204).

(4) "Groundwater(s)" means those waters occurring in the subsurface under saturated conditions (15A NCAC 02C.0204).

(5) "Potable water supply" means water which is approved for drinking or other household uses.

(6) "Pumps" and "pumping equipment" means any equipment or materials utilized or intended for use in withdrawing or obtaining groundwater including well seals (G.S. 87-58).

(7) "Receptor" means any human, plant, animal, or structure which is, or has the potential to be, adversely affected by the release or migration of contaminants. Any well constructed for the purpose of monitoring groundwater and contaminant concentrations shall not be considered a receptor.

(8) "Storage Structure" means a device or structure constructed for the storage of water or other fluids.

(9) "Waste" is as defined in G.S. §143-213(18).

(10) "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; or
(D.) any other waters that are used for drilling or completing an oil or gas well.

(11) "Water supply well" means any well intended or usable as a source of water supply, but not to include a water well constructed by an individual on land which is owned or leased by him, appurtenant to a single-family dwelling, and intended for domestic use including household purposes, farm livestock, or gardens (G.S. §87-85).

(12) "Water management plan" means a plan associated with drilling or completing an oil or gas well that demonstrates that the withdrawal and use of water sources protects those sources as required by law, and protects public health, safety, and welfare.

(13) "Water or Waters of the State" is as defined in G.S. §143-212.

(14) "Well" is as defined in G.S.§87-85(14).

(15) "Withdrawal" means the removal of water or other fluids from a water body, well or other fluid storage structure.

15A NCAC 05H .XXX3 WATER MANAGEMENT PLAN

An application for a water management plan, for water to be used for the purpose of oil and gas operations, must be submitted as part of an application for a comprehensive oil and gas development permit. The proposed water management plan may address water use for multiple projects some of which may be authorized under future applications for comprehensive oil and gas development permits. The Department may approve the proposed plan, approve the proposed plan subject to conditions, or disapprove the proposed water management plan. An approved water management plan is required prior to the start of any activity in addition to those undertaken to develop water sources that are associated with the project(s) covered by the application. The applicant shall describe the potential source(s) of water, especially flowback or produced water, which were evaluated for this application, and indicate reasons for the rejection of those sources not included in this application.

The Water Management Plan constitutes a section of the comprehensive oil and gas permit application. A water management plan approved for multiple projects may be included by reference in subsequent applications for comprehensive oil and gas development permits for projects included in the approved water management plan. Water management plan applications shall include the following components:

(a) Name, address, phone number, and email address of the operator or the onsite manager/supervisor associated with onsite activities.

(b) Written approval to allow for the proposed activity from any real property owner(s) where any components of the project(s) described in an application have been or will be located, installed, or constructed.

(c) Address and parcel identification of the real property where any water intake, water well or water transport system components have been or will be located, installed, or constructed.

(d) A Water Management Plan shall include the following:

(1) Intended starting date of water withdrawals;

(2) Clear identification of the source(s) of water to be used;
(3) The maximum daily water withdrawal in millions of gallons per day;
(4) The total quantity of water to be withdrawn for the project(s) covered by the permit application.
(5) Any current or proposed structures or appurtenances for the transport or storage of water ;
(6) Maps showing the latitude and longitude, in decimal degrees of the location of proposed water source(s) and any existing receptors within the area of influence of the proposed water source, including but not limited to water wells, streams, springs, wetlands, and areas with known environmental contamination;
(7) Any current or proposed utility rights-of-way associated with the project area;
(8) Alternative water sources such as flowback or produced water, and other additional alternative sources; and
(9) Alternative source(s) or practices to be used during times of drought; and
(10) All other information required by 15A NCAC 05H.XXX4.

(e) The Department may request any additional information deemed necessary for the review of a proposed Water Management Plan.

15A NCAC 05H .XXX4 WATER SOURCE DOCUMENTATION

Documentation of water source:

(1) Surface water source: includes but is not limited to springs, creeks, streams, rivers, ponds, lakes, and reservoirs. Applicants shall provide the following information:
   a. a topographic map, soils classification map, or other documentation showing the surface water source(s) location, name, and withdrawal point with notation of latitude and longitude in decimal degrees;
   b. the river basin, as defined by G.S. §143-215.122G, at the point of withdrawal and the river basin where the water will be used;
   c. the classification of water body at withdrawal point in accordance with 15A NCAC 02B .0301;
   d. the proposed start date and ending date of withdrawals, the proposed average and maximum daily withdrawal in millions of gallons per day and the expected total withdrawal;
   e. if a withdrawal will be from a pool of water created by an impoundment, the name of the owner of the impoundment and a copy of the agreement that authorizes the withdrawal;
   f. for free flowing water source(s), indicate the owner of the land where the withdrawal will take place and if the applicant is not the owner provide a copy of the agreement authorizing the use of the land;
   g. for free flowing water sources, the applicant must provide an estimate of the 7Q10 flow at the proposed intake location and explain the methodology used to derive the estimate. The Department will review the proposed withdrawal rate and may require the applicant to modify the intake pumping schedule and the pumping rate. The cumulative maximum instantaneous withdrawal from the affected reach will be limited to 20% of the 7Q10 flow. When flows in the

affected reach are at 7Q10 levels withdrawals conducted under this permit shall cease until flows reach 120% of the 7Q10 flow level.;

h. for free flowing water sources, list other existing and proposed withdrawals within the affected reach including the maximum withdrawal capacity of each;

i. the identity and permitted volume of any point source discharges within the affected reach;

j. the results of a Natural Heritage Survey to determine the presence of any protected species or any invasive species that may be affected by the proposed withdrawal. If a protected species is present include an operations management plan describing how detrimental impacts to protected species and their critical habitats will be avoided. If invasive species are present, describe how the spread of the species will be prevented. The operations management plan shall include the sources of information used for the determination and contact information for the federal and state agencies consulted; and

k. indicate the presence of any known noxious aquatic weeds listed in 15A NCAC 02G.0602 or other exotic and/or invasive species in the source water(s);

(2) Groundwater sources: Applicant shall provide the following information:

a. a topographic map including a notation of the latitude and longitude of the locations of all groundwater wells that will provide water for drilling and development of oil or gas wells included in this application;

b. the proposed average and maximum daily withdrawal in millions of gallons per day and the expected total maximum withdrawal.

c. if the applicant is not the real property owner at the point of withdrawal, a copy of the agreement authorizing the withdrawal must be provided;

d. for pre-existing wells include a copy of the Well Construction Record filed with the Department. For wells constructed specifically for the purposes covered by this application include a copy of the Well Construction Permit issued by the Department and the associated Well Construction Record form submitted to the Department;

e. the results of an aquifer pump test for each well included in this application. The aquifer pump test must be conducted according to standard groundwater testing and modeling practices. Data presented must show the measured drawdown, and the rate of recovery. The aquifer pump test must be conducted for at least 24 hours, or longer if needed to reach equilibrium, at the proposed pumping rate. Recovery measurements should be made for a similar period or until pre-pumping water levels are attained.

f. a map clearly showing the extent of the measureable area of influence determined from 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. A map showing the extrapolated cone of depression based on six months useage shall also be provided.

g. well construction standards consistent with NCAC 15A 2C.0100, and information required under NCAC 15A 2C.0107 (j)(2)(E) and (j)(3)(D) for the construction of water supply and other wells must be followed and provided;

h. 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 5th percentile of historic water level measurements as reported by the Division of Water Resources, 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. Alternatively an applicant can identify a well within the area of measurable influence to be used to monitor the impacts to groundwater and determine, in consultation with the Department, appropriate thresholds on which to base the cessation of groundwater pumping;

(3) Purchased water source: Applicants shall provide the following information:

a. Identification of the water supplier, including name, contact information, and appropriate facility identification when water is to be provided by an existing water withdrawer required to report water usage under G.S. §143-355(l) or G.S. §143-215.22H;

b. Copy of a letter of commitment or contract authorizing the acquisition of water by the applicant;

c. The type of water to be provided, such as potable water, treated wastewater, reclaimed water, or raw water;

d. 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

e. A discussion of the proposed method of transport or transmittal of the water from the supplier to the point of use.

15A NCAC 05H.XXX4 ALTERNATIVE WATER SOURCES

(a) The applicant shall provide a review of the potential sources of water, including the option of using flowback or produced water that were evaluated for this application, and indicate the reasons for rejection of those water sources not included in this application.

(1) Each review shall include the following :

(a) Current uses of each water source evaluated including a list of current withdrawers other than the applicant;

(b) Name and classification of each water source evaluated;

(c) For each source describe the current or proposed structure or appurtenances for the transport or storage of water from the source

(2) For reuse of flowback or produced water applicants shall provide the following information:

(a) The source of the flowback or produced water

(b) The proposed maximum daily use in millions of gallons per day, and the amount expected to be used; and

(c) The estimated amount of additional water needed to provide sufficient quantity for activities covered in this application.

15A NCAC 05H .XXX5 TRANSPORT AND ONSITE STORAGE OF WATER

This section will require more time to fully detail due to many areas overlapping with construction standards that will be developed by the admin of oil and gas committee.

Areas to address:

- Closed loop systems vs. open pits
- Pits vs tanks
- Standards for pit construction and tank requirements
- Protection and security features- fencing wire covering, etc.

Fresh water ponds/tanks should be considered as the main storage feature for this section and must be kept segregated from other fluids.

What types of piping will be required by operators?

15A NCAC 05H .XXX6 MONITORING AND REPORTING

(a) The operator must record and retain all monitoring records onsite related to the metering of daily water pumping schedules, received and purchased water, amounts of stored water, and quantities of flowback for recycling or reuse. The daily records must be retained onsite, or at the local company office, for at least five years and be available at the request of the Department. The applicant shall report annually to the Department by April 1 of each year for the period of January 1st to December 31st of the prior year. The annual report must include: daily average water withdrawals from each of the surface water and groundwater source(s) included in this application for each month; maximum daily water withdrawals from each of the surface and groundwater source(s) included in this application for each month; and number of days that water was withdrawn in each month from the surface and groundwater source(s) included in this application. Data shall be submitted electronically to the Department.

(b) The applicant shall submit a monitoring plan sufficient to accurately record the amount of water used from each source included in this application on a daily basis, including schedules of maintenance to insure accurate measuring and recording of the water usage.

(c) Notification for any land disturbing activity must be sent in accordance with G.S. §113-420 at least 30 days before the desired date of entry to the property for activities described in Sections 15A NCAC 05H.XX3 through .XX5. Notice shall be given by certified mail, return receipt requested. Notification identifying the water source must be provided to the local municipality and county where the source is located.

(d) The operator must notify the Department at least 48 hours prior to first withdrawal from the approved water source(s); and

(e) Submission of the information required in sections 15A NCAC 05H.XX3 through .XX4 of this rule and compliance reporting requirements in 15A NCAC 05H.XX4 of this rule satisfies the registration requirements of G.S. §143-215.22H.