CHAPTER 05H -

SECTION .0XXX - WATER ACQUISITION AND MANAGEMENT RULES FOR OIL AND GAS WELL OPERATORS

15A NCAC 05H .XXX1 SCOPE

Any person requiring water for the purposes of oil and gas exploration, development or processing, must submit a plan to the Department in accordance with section .XXX3 of this section.

History Note: *Authority*
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15A NCAC 05H .XXX2 DEFINITIONS

The terms used in this Section shall have the definitions assigned by G.S. 113-389. In addition, the words defined in this Section 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.

(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 and with the approval of the Department and will depend on factors including:

(a) the cumulative amount of water to be withdrawn when the proposed withdrawal is combined with existing withdrawals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" as defined in 15A NCAC 02C.0204, which is incorporated by reference including subsequent amendments.

(4) "Groundwater" is as defined in 15A NCAC 02C.0204, which is incorporated by reference including subsequent amendments.

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

(6) "Pumps" and "pumping equipment" is as defined it G.S. 87-58, which is incorporated by reference including subsequent amendments.

(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), which is incorporated by reference including subsequent amendments.

(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; and

(d) any other waters that are used for drilling or completing an oil or gas well.

(11) "Water supply well" as defined in G.S. 87-85, which is incorporated by reference including subsequent amendments.

(12) "Water or Waters of the State" as defined in G.S. 143-212, which is incorporated by reference including subsequent amendments.

(13) "Well" is as defined in G.S. 87-85(14), which is incorporated by reference including subsequent amendments.

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

History Note: *Authority*
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15A NCAC 05H .XXX3 WATER MANAGEMENT PLAN

(a) A water management plan is a plan associated with the drilling or completing of 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. A water management plan must be approved by the Department prior to its implementation.

(b) A water management plan application shall include the following:

(1) name, address, phone number and email address of the applicant;

(2) name, address, phone number and email address of the well operator or the onsite manager/supervisor associated with onsite activities;

(3) written approval to allow for the proposed water use activity from any real property owner(s) where any components of the water use activity described in an application have been, or will be, located, installed, or constructed;

(4) 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;

(5) a proposed water management plan shall include:

(a) intended starting date of water withdrawals;

(b) clear identification of the source(s) of water to be used;

(c) 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 .0XX4 and .0XX5 of this section;

(d) the maximum daily water withdrawal in millions of gallons per day;

(e) the total quantity of water to be withdrawn for the project(s) covered by the permit application;

(f) any current or proposed structure(s) or appurtenance(s) for the transport or storage of water;

(g) 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;

(h) any current or proposed utility rights-of-way associated with the project area;

(i) alternative water sources such as flowback or produced water, and other additional alternative sources;

(j) alternative source(s) or practices to be used during times of drought;

(k) 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 ensure accurate measuring and recording of the water usage; and

(l) all other information required by.XX4 of this section.

(c) The water management plan constitutes a section of the comprehensive oil and gas permit application. An application for a water management plan 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 well pads, some of which may be authorized under future applications for comprehensive oil and gas development permits. A water management plan approved for multiple well pads may be included by reference in subsequent applications for comprehensive oil and gas development permits for any well pads included in the approved water management plan.

(d) The Department may request that the applicant provide any additional information deemed necessary for the review of a proposed water management plan. The Department may approve the proposed plan, approve the proposed plan subject to conditions, or disapprove the proposed water management plan.

History Note: *Authority*
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15A NCAC 05H .XXX4 WATER SOURCE DOCUMENTATION

The documentation of the water source required to be submitted by Rule .0XX3 of this Section as part of the application for a comprehensive gas and oil development permit shall include the following:

(1) For surface water sources, 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 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 that describes potential adverse impacts to protected species and their critical habitats and how those impacts 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, which is incorporated by reference including any subsequent amendments, or other exotic and/or invasive species in the source water(s);

(2) For groundwater sources, the applicant shall provide the following information:

(a) a topographic map including a notation of the latitude and longitude, in decimal degrees, 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 shall be provided;

(d) for pre-existing groundwater wells include a copy of the well construction record filed with the Department in accordance with 15 NCAC 02C. 0105. For groundwater 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 groundwater 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, such as those seen in the EPA: Groundwater Issue-Suggested Operating Procedures for Aquifer pumping Tests, which can be accessed for free at http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=10002DTF.PDF. 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.

(g) a map showing the extrapolated cone of depression based on six months usage shall also be provided.

(h) information required by 15A NCAC 2C .0107(j)(2)(E) and (j)(3)(D) for the construction of water supply and other wells;

(i) 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, in consultation with and with the approval of the Department, an applicant can identify a well within the measureable area of influence to be used to monitor the impacts to groundwater and to determine appropriate thresholds on which to base the cessation of groundwater pumping;

(j) 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.

(3) For purchased water sources, 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) a 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; and

(e) the proposed method of transport or transmittal of the water from the supplier to the point of use.

History Note: *Authority*
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15A NCAC 05H.XXX5 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, evaluated for this application, and indicate the reasons for rejecting those water sources not included in this application.

(1) Applicants shall include the following in the review:

(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.

History Note: *Authority*
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15A NCAC 05H .XXX6 MONITORING AND REPORTING

(a) The well 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 and produced water for recycling or reuse. The daily monitoring records must be retained by the company for at least five years and made available to representatives of the Department upon request.

(b) The well operator 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 shall include the following information:

(1) daily average water withdrawals from each of the surface water and groundwater source(s) included in this application for each month;

(2) maximum daily water withdrawals from each of the surface and groundwater source(s) included in this application for each month;

(3) number of days that water was withdrawn in each month from the surface and groundwater source(s) included in this application, and

(4) the report shall be submitted electronically to the Department;

(c) Notification for any land-disturbing activity associated with the water management plan must be sent at least 30 days before the desired date of entry to the property for activities described in 15A NCAC 05H.XX3 through .XX5 of this section.

(1) Notice shall be given by certified mail with return receipt requested and shall include:

(a) the dates and duration of activities, location where entry will take place, and identity of person(s) entering the property.

(2) Notification identifying the water source must be provided to the local municipality and county where the source is located; and

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

History Note: *Authority*
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