

1 **15A NCAC 05H .XXX1 WATER ACQUISITION AND MANAGEMENT RULES**  
2 **FOR OIL AND GAS OPERATORS**

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

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12 **15A NCAC 05H .XXX2 DEFINITIONS**

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

- 15 (1) "7Q10 conditions" when used in connection with "surface water," refers to the  
16 minimum average flow for a period of seven consecutive days that has an average  
17 occurrence of once in 10 years ~~as referenced in 15A NCAC 2B.0206(a)(1).~~
- 18 (2) "Affected reach" means the portion of a stream channel where the hydrology may  
19 be significantly affected by the cumulative effects of the proposed withdrawal in  
20 combination with existing water withdrawals and point source discharges. The  
21 exact delineation of the affected reach shall be determined in consultation with  
22 and with the approval of the Department and will depend on factors including ~~but~~  
23 not limited to:
  - 24 a) the cumulative amount of water to be withdrawn when the proposed  
25 withdrawal is combined with existing withdrawals
  - 26 b) the upstream and downstream hydrologic characteristics of the stream
  - 27 c) any downstream point source discharges
  - 28 d) the potential effects on other users
- 29 (3) "Flow Rate" means the volume per unit time of a fluid moving past a fixed point  
30 (15A NCAC 02C.0204), which is incorporated by reference including subsequent  
31 amendments.
- 32 (4) "Groundwater(s)" ~~means those waters occurring in the subsurface under saturated~~  
33 ~~conditions is as define in~~ (15A NCAC 02C.0204), which is incorporated by  
34 reference including subsequent amendments.
- 35 (5) "Potable water supply" means water which is approved for drinking or other  
36 household uses.
- 37 (6) "Pumps" and "pumping equipment" ~~means any equipment or materials utilized or~~  
38 ~~intended for use in withdrawing or obtaining groundwater including well seals is~~  
39 ~~as defined in~~ (G.S. 87-58).-, which is incorporated by reference including  
40 subsequent amendments.
- 41 (7) "Receptor" means any human, plant, animal, or structure which is, or has the  
42 potential to be, adversely affected by the release or migration of contaminants.

**Comment [AP1]:** Use "person" and add to general definitions a definition for person to include "firm and corporation."

**Comment [AP2]:** NOTE: we need to be consistent that this applies to oil and gas.

**Comment [AP3]:** NOTE: we should develop a single phrase to indicate all stages of oil and gas development.

**Comment [AP4]:** Delete

**Comment [AP5]:** Plan is focused on sources of water. Suggest new language "to the Department in accordance with section XX of this Rule."

**Comment [AP6]:** 113-391 does not address minimization of impact. Lack of clarity: what is "such activity"?

**Comment [AP7]:** For ease of reading, re-locate these two sentences to 05H .XXX3. To keep all requirements in a single section.

**Comment [AP8]:** Rule or section

**Comment [AP9]:** Remove automatic numbering and make all (A) into (a)

**Comment [AP10]:** Use either a definition or reference to another rule or statute.

- 43 Any well constructed for the purpose of monitoring groundwater and contaminant  
44 concentrations shall not be considered a receptor.
- 45 (8) "Storage Structure" means a device or structure constructed for the storage of  
46 water or other fluids.
- 47 (9) "Waste" is as defined in G.S. §143-213(18), which is incorporated by reference  
48 including subsequent amendments.
- 49 (10) "Water source" means any of the following:  
50 (A.) waters of the State;  
51 (B.) a source of water supply used by a water purveyor;  
52 (C.) mine pools and discharges; ~~or~~ and  
53 (D.) any other waters that are used for drilling or completing an oil or gas well.
- 54 (11) ~~"Water supply well" means any well intended or usable as a source of water~~  
55 ~~supply, but not to include a water well constructed by an individual on land which~~  
56 ~~is owned or leased by him, appurtenant to a single family dwelling, and intended~~  
57 ~~for domestic use including household purposes, farm livestock, or gardens as~~  
58 ~~defined in (G.S. §87-85).~~
- 59 ~~(12) "Water management plan" means a plan associated with drilling or completing an~~  
60 ~~oil or gas well that demonstrates that the withdrawal and use of water sources~~  
61 ~~protects those sources as required by law, and protects public health, safety, and~~  
62 ~~welfare.~~
- 63 ~~(13)~~(12) "Water or Waters of the State" is as defined in G.S. §143-212, which is  
64 incorporated by reference including subsequent amendments.
- 65 ~~(14)~~(13) "Well" is as defined in G.S. §87-85(14), which is incorporated by  
66 reference including subsequent amendments.
- 67 ~~(15)~~(14) "Withdrawal" means the removal of water or other fluids from a water  
68 body, well or other fluid storage structure.

**Comment [AP11]:** Reformat all of the automatic numbering to conform with rules. This section should be (a), etc.

**Comment [AP12]:** Or use 87-85 with standard language.

**Comment [AP13]:** Suggest deleting because the requirements for a water management plan are in the rule and not in the definition.

**Comment [AP14]:** We need to make a decision about when to quote definitions from other statutes and when to cite back "incorporated by reference."

### 15A NCAC 05H .XXX3 WATER MANAGEMENT PLAN

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

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

- 88 (a) Name, address, phone number and email address of the applicant.

- 89 (b) Name, address, phone number and email address of the operator or the onsite  
90 manager/supervisor associated with onsite activities.
- 91 (c) Written approval to allow for the proposed activity from any real property owner(s)  
92 where any components of the project(s) described in an application have been or will be located,  
93 installed, or constructed.
- 94 (d) Address and parcel identification of the real property where any water intake, water well  
95 or water transport system components have been or will be located, installed, or constructed.
- 96 (e) A Water Management Plan shall include the following:
- 97 (1) Intended starting date of water withdrawals;
- 98 (2) Clear identification of the source(s) of water to be used;
- 99 (3) The maximum daily water withdrawal in millions of gallons per day;
- 100 (4) The total quantity of water to be withdrawn for the project(s) covered by the permit  
101 application.
- 102 (5) Any current or proposed structures or appurtenances for the transport or storage of  
103 water ;
- 104 (6) Maps showing the latitude and longitude, in decimal degrees of the location of  
105 proposed water source(s) and any existing receptors within the area of influence of  
106 the proposed water source, including but not limited to water wells, streams, springs,  
107 wetlands, and areas with known environmental contamination;
- 108 (7) Any current or proposed utility rights-of-way associated with the project area;
- 109 (8) Alternative water sources such as flowback or produced water, and other additional  
110 alternative sources; and
- 111 (9) Alternative source(s) or practices to be used during times of drought; and
- 112 (10) All other information required by 15A NCAC 05H.XXX4.
- 113 (f) The Department may request any additional information deemed necessary for the review  
114 of a proposed Water Management Plan.

**Comment [AP15]:** SEE Proposed Reorganization

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116 **15A NCAC 05H .XXX4 WATER SOURCE DOCUMENTATION**

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

- 120 (1) Surface water source: includes but is not limited to springs, creeks, streams,  
121 rivers, ponds, lakes, and reservoirs. Applicants shall provide the following  
122 information:
- 123 a. a topographic map, soils classification map, or other documentation showing  
124 the surface water source(s) location, name, and withdrawal point with notation  
125 of latitude and longitude in decimal degrees;
- 126 b. the river basin, as defined by G.S. §143-215.122G, at the point of withdrawal  
127 and the river basin where the water will be used;
- 128 c. the classification of water body at withdrawal point in accordance with 15A  
129 NCAC 02B .0301;
- 130 d. the proposed start date and ending date of withdrawals, the proposed average  
131 and maximum daily withdrawal in millions of gallons per day and the  
132 expected total withdrawal;

**Comment [AP16]:** This is worded as a definition. Suggested revision "For surface water sources, applicants shall provide the following information:" Then add a definition of surface water. OR "For surface water sources, including springs, creeks, streams, ponds, lakes, and reservoirs, applicants shall provide the following information:"

**Comment [AP17]:** Fix automatic numbering and replace with (a), etc.

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- 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 that describes potential detrimental impacts to protected species and their critical habitats and how those impacts will be avoided, 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) For groundwater sources, the a- 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;

**Comment [AP18]:** Is this necessary considering the broad approval language above? Suggest deleting or adding above.

**Comment [AP19]:** In other contexts we use term adverse. Should it be the same here?

**Comment [AP20]:** Add "which is incorporated by reference including any subsequent amendments"? Or is this to the current list?

**Comment [AP21]:** Why is this capitalized?

**Comment [AP22]:** We may need a rule or statutory citation for this section.

- 178 e. the results of an aquifer pump test for each well included in this application.  
179 The aquifer pump test must be conducted according to standard groundwater  
180 testing and modeling practices. Data presented must show the measured  
181 drawdown, and the rate of recovery. The aquifer pump test must be conducted  
182 for at least 24 hours, or longer if needed to reach equilibrium, at the proposed  
183 pumping rate. Recovery measurements should be made for a similar period or  
184 until pre-pumping water levels are attained.
- 185 f. a map clearly showing the extent of the measureable area of influence  
186 determined from the aquifer pump test at the proposed rate of withdrawal  
187 indicating the locations of all surface waters and water supply wells within the  
188 area of influence. A map showing the extrapolated cone of depression based  
189 on six months usage shall also be provided.
- 190 g. well construction standards consistent with NCAC 15A 2C.0100, and  
191 information required under NCAC 15A 2C.0107 (j)(2)(E) and (j)(3)(D) for the  
192 construction of water supply and other wells must be followed and provided;
- 193 h. when the drought indicator well closest to the groundwater source(s) included  
194 in this application is designated as D3, indicating that water levels are at or  
195 below the 5<sup>th</sup> percentile of historic water level measurements as reported by  
196 the Division of Water Resources, withdrawals from these sources shall cease  
197 until the designation is upgraded to D1 or above, indicating water levels above  
198 the 10<sup>th</sup> percentile of historic water level measurements. Alternatively, in  
199 consultation with and with the approval of the Department-, an applicant can  
200 identify a well within the area of measurable influence to be used to monitor  
201 the impacts to groundwater and determine, appropriate thresholds on which  
202 to base the cessation of groundwater pumping;
- 203 i. the proposed start date and ending date of withdrawals, the proposed average  
204 and maximum daily withdrawal in millions of gallons per day and the  
205 expected total withdrawal.

**Comment [AP23]:** Do we have (or need) a citation or documentation as to "standard practices?"

**Comment [AP24]:** List as a separate item despite connection.

**Comment [AP25]:** This is garbled. Suggested rewrite: "information required by 15A NCAC 2C .0107(j)(2)(E) and (j)(3)(D) for the construction of water supply and other wells;" Is there documentation associated with well-construction standards in 15A NCAC 2C. 0100 that could be requested? Following standards is not part of information.

- 207 (3) For pPurchased water sources, a Applicants shall provide the following  
208 information:
- 209 a. Identification of the water supplier, including name, contact information, and  
210 appropriate facility identification when water is to be provided by an existing  
211 water withdrawer required to report water usage under G.S. §143-355(l) or  
212 G.S. §143-215.22H;
- 213 b. A cCopy of a letter of commitment or contract authorizing the acquisition of  
214 water by the applicant;
- 215 c. The type of water to be provided, such as potable water, treated wastewater,  
216 reclaimed water, or raw water;
- 217 d. The proposed average and maximum amount of water to be provided daily in  
218 millions of gallons per day and the expected total maximum amount to be  
219 provided; and
- 220 e. A discussion of Tthe proposed method of transport or transmittal of the water  
221 from the supplier to the point of use.

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

227 (1) ~~Each review~~ Applicants shall include the following in the review:-

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

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

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

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

235 (a) The source of the flowback or produced water

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

238 (c) The estimated amount of additional water needed to provide sufficient  
239 quantity for activities covered in this application.  
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#### 241 15A NCAC 05H.XXX~~5~~XXX6 MONITORING AND REPORTING

242 (a) The operator must record and retain all monitoring records onsite related to the metering  
243 of daily water pumping schedules, received and purchased water, amounts of stored water, and  
244 quantities of flowback for recycling or reuse. The daily records must be retained onsite, or at the  
245 local company office, for at least five years and be available at the request of the Department.

246 The applicant shall report annually to the Department by April 1 of each year for the period of  
247 January 1<sup>st</sup> to December 31<sup>st</sup> of the prior year. The annual report must include: daily average  
248 water withdrawals from each of the surface water and groundwater source(s) included in this  
249 application for each month; maximum daily water withdrawals from each of the surface and  
250 groundwater source(s) included in this application for each month; and number of days that  
251 water was withdrawn in each month from the surface and groundwater source(s) included in this  
252 application. Data shall be submitted electronically to the Department.

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

256 (c) Notification for any land-disturbing activity must be sent in accordance with G.S. §113-  
257 420 at least 30 days before the desired date of entry to the property for activities described in  
258 Sections 15A NCAC 05H.XX3 through .XX5. Notice shall be given by certified mail, return  
259 receipt requested. Notification identifying the water source must be provided to the local  
260 municipality and county where the source is located.

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

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

Comment [AP26]: ONGOING: operator or applicant or permittee?

Comment [AP27]: Is there a difference between monitoring records or daily records?

Comment [AP28]: See line 268—contradiction for onsite?

Comment [AP29]: Suggest rewrite: "and made available to representatives of the Department upon request."

Comment [AP30]: Applicant or operator?

Comment [AP31]: Annual report is different than daily records. Separate into separate paragraph.

Comment [AP32]: Data or annual report? Or daily report? Or monitoring records?

Comment [AP33]: Should this be in the plan approval or application section?

Comment [AP34]: GS 113-420 applies to oil and gas operators that do not own surface rights, but oil and gas activities are to be conducted. Is this an attempt to use the same notice provisions for water withdrawal? And how is this different than the permission requirement from real property owners (0XXX3)? Or is this an attempt to require notice for surface disturbance from water withdrawals because 113-420 may not apply to water withdrawals?

Comment [AP35]: The MEC does not have authority to determine whether this submission satisfies 143-215.22. The EMC has the authority. The MEC may suggest the EMC change its registration requirements, but cannot determine what information satisfies 143-215.22H. Recommend removing this provision.