PART Env-Dw 302 LARGE PRODUCTION WELLS FOR COMMUNITY WATER SYSTEMS

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Statutory Authority: RSA 485:8 and RSA 485:48

REVISION NOTE:

Document #9008, effective 10-19-07, readopted with amendments and renumbered former Part Env-Ws 379, entitled Site Selection of Large Production Wells for Community Water Systems, under a new subtitle as Part Env-Dw 302 entitled Large Production Wells for Community Water Systems. The redesignation from subtitle Env-Ws to subtitle Env-Dw was done pursuant to a rules reorganization plan for Department rules approved by the Director of the Office of Legislative Services on 9-7-05.

Document #9008 replaces all prior filings for rules formerly in Env-Ws 379. The prior filings for rules in former Env-Ws 379 include the following documents:

#6521, eff 6-4-97
#6979, eff 4-21-99
#8871, INTERIM, eff 4-21-07, EXPIRES: 10-18-07

Env-Dw 302.01 Purpose. The purpose of these rules is to establish procedures and standards for the development of new large production wells for community water systems in order to ensure that these wells will be capable of consistently producing an adequate supply of water that meets drinking water quality standards.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.02 Applicability. These rules shall apply to community water systems that:

(a) Develop new large production wells;

(b) Develop new back-up large production wells;

(c) Replace existing large production wells with new large production wells;

(d) Deepen or otherwise improve existing large production wells to increase their capacity;

(e) Reactivate inactive wells or wells formerly removed from monitoring responsibility in accordance with Env-Ws 321.17 or successor rules in subtitle Env-Dw; or

(f) Develop new production wells for a large community water system.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.03 Definitions.

(a) "Acceptable water quality" means water that does not violate ambient groundwater quality standards established by RSA 485-C:6 or rules adopted pursuant thereto.

(b) "Applicant" means the supplier of water or the supplier's agent.

(c) "Approved yield" means the capacity necessary for design approval under Env-Ws 372 or Env-Ws 374 or successor rules in subtitle Env-Dw.

(d) "Aquifer parameter value" means values of parameters which describe the physical properties of the aquifer such as transmissivity and hydraulic boundary conditions.

(e) "Available drawdown" means the distance between the water level in the well casing and the uppermost productive water bearing zone, the pump intake, or the top of the screen, whichever distance is least.

(f) "Background well" means a monitoring well outside the expected area of influence of the test well which serves to identify regional, background conditions throughout the pumping test program.

(g) "Back-up well" means a new production well that is installed to provide redundancy for an existing primary production well that operates and impacts water resources in a similar manner as the primary production well.

(h) "Bedrock production well" means a production well which is exposed to and draws water from fractures in any type of consolidated material.

(i) "Community water system (CWS)" means "community water system" as defined in RSA 485:1-a, I, namely "a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents."

(j) "Conceptual hydrogeologic model" means a description of geology, aquifer hydraulics, and recharge patterns which incorporates published information, available field data, and conservative assumptions for the potential impact area.

(k) "Cone of depression" means a depression in the potentiometric surface of a body of groundwater that has the general shape of an inverted cone and develops around a well from which water is being withdrawn.

(l) "Confined aquifer" means an aquifer in which groundwater is under pressures greater than the atmospheric pressure, which results in groundwater within a borehole rising to a level which is higher than the level at which water is first encountered, and which receives negligible recharge from overlying deposits during pumping.

(m) "Conservative assumption" means an assumption made during analyses required for a new well siting which results in a larger wellhead protection area or lower permitted production volume, or both.

(n) "Constant pumping rate" means a pumping rate that does not vary by greater than 5% after the first 6 hours of pumping.

(o) "Contaminants" means substances that degrade the natural water quality as a result of human activities.

(p) "Contamination" means the degradation of natural water quality as a result of human activities.

(q) "Contributing area" means "contributing area" as defined in RSA 485-C:2, IV, namely "the land above a class of groundwater, which is the vertical projection of the defined class on the land surface." The term includes the area of land surface above the subsurface volume from which groundwater flows to a pumping well.

(r) "Department" means the department of environmental services.

(s) "Final report" means the report submitted to the department after the pumping test and water quality sampling programs are conducted at the proposed new well site.

(t) "Flow net" means a map showing lines of equal hydraulic head with lines showing the direction of groundwater flow such that the amount of groundwater flow through all sections of the net is equal.

(u) “Groundwater” means “groundwater” as defined in RSA 485-C:2, VIII, namely "subsurface water that occurs beneath the water table in soil and geologic formations."

(v) “Hydrogeology” means the study of the occurrence, movement, and chemical nature of surface water and groundwater in relation to its geologic environment.

(w) “Known contamination source” means a land use from which contaminants are known to emanate and degrade groundwater quality.

(x) “Large bedrock production well” means a production well that produces a permitted production volume equal to or greater than 57,600 gallons in a 24-hour period and which is exposed to and draws water from any type of consolidated material.

(y) “Large community water system” means a community water system which serves 1,000 persons or more or any community water system that provides fire protection.

(z) “Large overburden production well” means a production well that produces a permitted production volume of equal to or greater than 57,600 gallons in a 24-hour period which is exposed to and draws water from any type of unconsolidated material, including but not limited to, sand and gravel deposits. The term includes dug wells, tubular wells, well points, and naturally developed gravel wells.

(aa) “Large production well” means a production well that produces a permitted production volume of equal to or greater than 57,600 gallons in a 24-hour period.

(ab) “Monitoring well” means a well used to observe or sample groundwater.

(ac) “New production well” means any well without current design approval in accordance with Env-Ws 370, Env-Ws 372, or Env-Ws 374, or successor rules in subtitle Env-Dw, or any well that has been inactive and has not been regularly sampled under the system's chemical monitoring program or any well that is deepened, hydrofractured, or otherwise improved to increase its approved yield.

(ad) “Permitted production volume” means the maximum volume of groundwater allowed by the department to be withdrawn or pumped from a public water supply production well in a 24-hour period.

(ae) “Porous media assumption” means groundwater flow that conforms to Darcy's Law, mainly flow through porous media which is laminar and of low velocity.

(af) “Potential impact area” means “potential impact area” as described in RSA 485-C:21.

(ag) “Potentiometric surface” means the surface where groundwater pressure is equal to atmospheric pressure.

(ah) “Potential contamination source” means human activities or operations that pose a risk that regulated contaminants might be introduced into the environment in such quantities as to degrade the natural groundwater quality. The term includes those land uses listed in RSA 485-C:7, II.

(ai) “Preliminary report” means the report submitted to the department prior to conducting the pumping test and water quality programs at the proposed well site.

(aj) "Production well" means a well designed and constructed to withdraw groundwater for a community water supply system.

(ak) "Pumping test production rate" means the constant pumping rate that is maintained throughout the pumping test which is used to establish the permitted production volume.

(al) “Registered water user” means any water user who is required to register and report water usage in

accordance with RSA 488:3.

(am) “Regulated contaminant” means “regulated contaminant” as defined in RSA 485-C:2, XIII namely “any physical, chemical, biological, radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment.”

(an) “Replacement well” means “replacement well” as defined in RSA 485-C:2, XIII-a, namely “a new well installed to replace or back-up an existing well that operates and impacts water users and water resources in substantially the same manner as the well that is being replaced.”

(ao) “Supplier of water” means a “supplier of water” as defined under RSA 485:1-a, XVI namely "any person who controls, owns or generally manages a public water system."

(ap) “Surface water” means "surface waters of the state" as defined in RSA 485-A:2, XIV, namely “perennial and seasonal streams, lakes, ponds, and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses, and other bodies of water, natural or artificial.”

(aq) "Test well" means a well used during a pumping test from which groundwater is withdrawn or pumped which might or might not become the large production well.

(ar) “Well” means any conveyance used to capture or withdraw water from the ground.

(as) “Wellhead protection area” means “wellhead protection area” as defined in RSA 485-C:2, XVIII, namely "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield". The term includes the contributing area for production wells which supply community water systems.

(at) “Wetlands” means “wetlands” as defined in RSA 482-A:2, X, namely “an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions”. Wetlands include swamps, marshes, bogs and similar areas.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.04 Requirements for New Large Production Wells.

(a) Except where a waiver has been obtained for a particular requirement in accordance with Env-Dw 302.28, before connecting a large production well to a community water system (CWS), the applicant shall complete all of the following:

(1) Provide information demonstrating that the production well location complies with surface water related setbacks in accordance with Env-Dw 302.05;

(2) Provide information demonstrating that the land use within the sanitary protective area will be under the direct control of the supplier of water and that the area will be maintained in a natural state in accordance with Env-Dw 302.06;

(3) Develop a conceptual hydrogeologic model of the aquifer and potential impacts in accordance with Env-Dw 302.07;

(4) Prepare a preliminary estimate of the wellhead protection area and propose a method for

refining the estimate in accordance with Env-Dw 302.08;

(5) Prepare preliminary contamination source and water user inventories in accordance with Env-Dw 302.09;

(6) Identify and evaluate any known sources of contamination in accordance with Env-Dw 302.10;

(7) Prepare a proposal for a pumping test in accordance with Env-Dw 302.11;

(8) Prepare a proposal for a water quality sampling program in accordance with Env-Dw 302.12;

(9) Submit a preliminary report prepared in accordance with Env-Dw 302.13, to provide, before significant resources are expended, an early assessment of the appropriateness of the site for a community water supply well and to help ensure the work being proposed will be consistent with these and other department rules;

(10) Submit a water conservation plan prepared in accordance with Env-Ws 390 or successor rules in Env-Wq;

(11) Receive department approval of the preliminary report and water conservation plan in accordance with Env-Dw 302.14 and Env-Ws 390.12 or successor rules in subtitle Env-Wq;

(12) Upon receipt of department approval of the preliminary report, perform the pumping test and water quality sampling program in accordance with Env-Dw 302.15;

(13) Demonstrate that under existing land use and aquifer conditions, acceptable water quality can be continuously delivered to the CWS provided that, for parameters which exceed secondary maximum contaminant levels under Env-Ws 310 through Env-Ws 316, or successor rules in subtitle Env-Dw, treatment or other management techniques may be used when approved by the department in accordance with Env-Ws 340 through Env-Ws 349, or successor rules in subtitle Env-Dw;

(14) Establish the permitted production volume in accordance with Env-Dw 302.16;

(15) Refine the conceptual hydrogeologic model in accordance with Env-Dw 302.17;

(16) Refine the wellhead protection area delineation in accordance with Env-Dw 302.18;

(17) Update and revise the contamination source and water withdrawal inventory in accordance with Env-Dw 302.19;

(18) Establish a contamination source control program in accordance with Env-Dw 302.20 for any known source of contamination evaluated in accordance with Env-Dw 302.10;

(19) Establish a wellhead protection program in accordance with Env-Dw 302.21;

(20) Provide information demonstrating the well is in compliance with water well board construction criteria in accordance with Env-Dw 302.22;

(21) Submit a final report to the department in accordance with Env-Dw 302.23;

(22) Obtain department approval of the new well in accordance with Env-Dw 302.24; and

(23) After new well approval has been obtained, obtain approval to connect the new well to the CWS under Env-Ws 372 or successor rules in subtitle Env-Dw for small CWS, and Env-Ws 374,,

or successor rules in subtitle Env-Dw for large CWS.

(b) An applicant requesting an increase in the permitted production volume of an existing well currently connected to the CWS shall comply with the requirements of (a), above.

(c) When a CWS proposes to construct a back-up production well for the system, the applicant shall submit a request to the department in accordance with Env-Dw 302.28.

(d) When a CWS proposes to replace any previously approved large production well, the applicant shall submit a request to the department in accordance with Env-Dw 302.29.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.05 Well Location Relative to Surface Water.

(a) A well shall not be placed within 50 feet of the normal high water line of any surface water.

(b) A well shall be located at least 50 feet from wetlands that are inundated with standing or flowing water for more than 30 continuous days.

(c) The well shall not be subject to flooding at the 100-year recurrence interval. The applicant may fill to elevate the wellhead and pumping station for flood protection purposes, provided that all required permits for placing of fill within wetlands and flood plains have been obtained.

(d) A copy of the Flood Insurance Rate Map shall be submitted in the preliminary report depicting:

(1) The location of each proposed well; and

(2) The land area within 1,000 feet of the proposed well site.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.06 Sanitary Protective Area.

(a) The purpose of the sanitary protective area is to provide an area in the immediate vicinity of the well within which there is minimal risk of groundwater contamination.

(b) The sanitary protective area shall be a circle, centered on the well, with a radius based on the permitted production volume of the well as set forth in Table 302-1:

Table 302-1 Sanitary Protective Area Radii

Permitted Production Volume (gallons in a 24-hour period)	Radius
less than 14,400	150 feet
14,401 to 28,800	175 feet
28,801 to 57,599	200 feet
57,600 to 86,400	250 feet
86,401 to 115,200	300 feet
115,201 to 144,000	350 feet
greater than 144,000	400 feet

(c) When more than one well is inside a sanitary protective area, then the individual sanitary protective areas for these wells shall be based on the combined permitted production volume of each production well

unless it is proven the wells are not interconnected.

(d) The supplier of water shall own the land within the sanitary protective area, provided however that if the supplier does not own and cannot purchase the land, the supplier shall control the land by perpetual easement, covenant, or similarly legally binding means.

(e) The sanitary protective area shall be maintained in a natural state at all times except for:

(1) Limited land clearing and terrain alteration required for well access and construction of a pump house or other structure(s); and

(2) Activities necessary for the maintenance of the production wells.

(f) Land uses or activities within the sanitary protective area shall be only those necessary for the maintenance and operation of the production wells and shall not pose a contamination risk to the groundwater.

(g) The discharge of collected drainage from areas where fertilizer and pesticide have been applied or from roadways or developed areas to detention or retention ponds, infiltration ditches, drainage swales or any similar structure shall be prohibited in the sanitary protective area.

(h) No underground utilities shall be installed in the sanitary protective area except for potable water and electrical or communications conduits.

(i) A description of land use activities and how the sanitary protective area is or will be controlled by the water supplier shall be presented in the preliminary and final reports.

(j) The description required by (i), above, shall include:

(1) A municipal tax map or a survey map that identifies lot lines and the owner of each lot into which the radius extends and any public or private water supply wells located within 1,000 feet of each proposed new production well as required by Env-Dw 302.09;

(2) The existing and proposed land uses and activities associated with the area;

(3) The means by which the CWS will obtain and maintain control of land uses in the sanitary protective area; and

(4) A sketch of the well site within 500 feet of the well at a scale of one inch equals 100 feet, which shows:

a. The proposed well location;

b. All property lines and any easements;

c. All land uses, including any paths, trails, structures, storage, landscaping, or other alteration of the natural terrain;

d. Any surface water or wetlands;

e. All stormwater discharge areas and drainage structures; and

f. The sanitary protective area.

(k) Documentation of legal control of the sanitary protective area shall be provided in the final report.

Source. (See Revision Note at part heading for Env-Dw 302)

#9008, eff 10-19-07

Env-Dw 302.07 Conceptual Hydrogeologic Model.

(a) The applicant shall include a conceptual hydrogeologic model of the source of water and surrounding area for the proposed new well(s) in the preliminary report completed in accordance with Env-Dw 302.13.

(b) The conceptual hydrogeologic model shall be developed in accordance with Env-Ws 388.06 or successor rules in subtitle Env-Wq.

(c) The conceptual hydrogeologic model and its associated potential impact area shall be refined in accordance with Env-Dw 302.17 and presented in the final report required by Env-Dw 302.23 based on the results from withdrawal testing performed in accordance with Env-Dw 302.15.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.08 Preliminary Estimate of the Wellhead Protection Area and Proposed Refinement for Large Production Wells.

(a) The purpose of estimating the wellhead protection area is to identify an area through which groundwater is likely to reach the well and within which potential and known contamination sources shall be identified to determine the appropriateness of the well site.

(b) For all large production wells, the applicant shall present the following in the preliminary report:

(1) A preliminary estimate and description of the wellhead protection area;

(2) A map of the well location showing the preliminary estimate of the wellhead protection area on an original or a color copy of a United States Geologic Survey (USGS) topographic quadrangle at a scale of 1:24,000 or 1:25,000, which includes the quadrangle title, scale and date; and

(3) A detailed proposal for refinement of the wellhead protection area that is based on site specific data and conservative assumptions.

(c) The preliminary estimate of the wellhead protection area for all large production wells shall be derived by drawing a circle with a 4,000 foot radius around the well, or when sufficient data is available, by using the standard refinement method defined by (d) or (h), below.

(d) The standard refinement method for a wellhead protection area for large overburden wells shall be either a flow net technique or a hydrogeologic mapping technique as specified in (e), (f), or (g), below.

(e) The flow net technique shall be used for unconfined overburden production wells where there is sufficient existing information to construct a flow net, including:

(1) The construction of an ambient regional potentiometric surface map;

(2) The calculation of a cone of depression for groundwater being withdrawn at the pumping test production rate for a period of 180 days with no net recharge;

(3) The construction of an ambient regional potentiometric surface map with the calculated cone of depression superimposed upon it;

(4) The construction of a flow net for the map with the superimposed cone of depression, in

which contours are reported in feet or meters referenced to the national geodetic vertical datum;

(5) The delineation of the wellhead protection area as that area from which groundwater flow lines are captured by the proposed well;

(6) The wellhead protection area as the extension of the area of captured groundwater flow lines up gradient to a groundwater divide;

(7) Identification of the recharge mechanisms in the wellhead protection area that will support the proposed permitted production volume; and

(8) Refinement of the wellhead protection area with respect to no flow boundaries, surface waters, existing pumping wells, well interference, and any other hydraulic influences.

(f) The hydrogeologic mapping technique shall be used for overburden production wells when:

(1) Sufficient regional potentiometric information is not reasonably available to construct a flow net for delineating the wellhead protection area for large overburden production wells; or

(2) An aquifer is sufficiently confined such that the method described in (e) would not be technically correct.

(g) The hydrogeologic mapping technique shall be used to estimate the area from which groundwater flow lines originate and are captured by the well based on the following hydrogeologic information:

(1) The surface watershed boundaries within which the production well is contained;

(2) The surface water elevations where applicable;

(3) The pumping test data;

(4) The geologic maps;

(5) The soil maps;

(6) The topographic maps; and

(7) All other available information relative to delineation of a wellhead protection area.

(h) The standard refinement method for large bedrock production wells shall estimate the area from which groundwater flow lines originate and are captured by the well based on the following hydrogeologic information:

(1) Hydrogeologic mapping information including lineament and bedrock mapping or other remote sensing analyses;

(2) Observations gathered from bedrock drilling logs;

(3) Geophysical data, if available;

(4) Recharge mechanisms and an assessment of areas of induced recharge;

(5) Hydraulic influences including:

a. No flow boundaries;

b. Surface waters;

c. Existing pumping wells;

d. Well interference; and

(6) All other available supporting information pertinent to delineation of a wellhead protection area in a bedrock aquifer.

(i) An alternative wellhead protection area refinement method shall be an analytical or numerical model which incorporates aquifer parameter values derived from the pumping test provided that models assumptions are not violated and conservative estimates of aquifer parameter values are used. The use of models that rely on porous media assumptions shall only be allowed for use with a bedrock production well if those assumptions are demonstrated to be valid for the well site.

(j) The wellhead protection area refinement proposal shall include:

(1) A detailed description of the proposed method for refinement; and

(2) A description of how the refinement will be documented in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.09 Preliminary Contamination Source and Water Resource and Use Inventories.

(a) Preliminary contamination source and water resource and use inventories of the wellhead protection area shall be:

(1) Completed before the pumping test and water quality sampling program proposals required in accordance with Env-Dw 302.11 and Env-Dw 302.12 are developed;

(2) Included in the preliminary report;

(3) Revised and updated for the final report in accordance with Env-Dw 302.19; and

(4) Compiled from a search of the following information sources:

a. Records at the department;

b. Records at the municipality; and

c. A windshield survey of all properties within the estimated wellhead protection area.

(b) The contamination source inventory shall:

(1) Identify and describe known and potential contamination sources in the estimated wellhead protection area;

(2) Include the following information for each known and potential source of contamination:

a. The site name and address;

b. The property owner(s) or operator(s) name, address, and telephone number;

c. For each known source of contamination, a description of the nature, extent and investigation, and remedial action status of the contamination; and

d. For each potential source of contamination, the type of potential contamination sources at the facility as described in RSA 485-C:7, II.

(c) The water resource and use inventory shall be:

(1) Performed in accordance with Env-Ws 387.07 or successor rules in subtitle Env-Wq, if the withdrawal is designated as minor in accordance with Env-Ws 387.03 or successor rules in subtitle Env-Wq; or

(2) Performed in accordance with Env-Ws 388.07 or successor rules in subtitle Env-Wq, if the withdrawal is designated as major in accordance with Env-Ws 388.03 or successor rules in subtitle Env-Wq.

(3) Performed in accordance with Env-Ws 387.07 or successor rules in subtitle Env-Wq, if the new source for the large CWS does not meet the definition of a large production well.

(d) An inventory map showing the location of the contamination sources and water resources and uses inventoried pursuant to (b) and (c), above, shall:

(1) Be presented in the preliminary reports;

(2) Have, as its base, an original or a clear color copy of a USGS topographic quadrangle map at a scale of 1:24,000 or 1:25,000; and

(3) Include the following information:

a. The estimate of the wellhead protection area; ~~and~~

b. The limits of the delineated potential impact area; and

c. The title, scale, and date of the quadrangle.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.10 Known Contamination Source Evaluation.

(a) The applicant shall review the applicable department site file(s) on each known contamination source identified in accordance with Env-Dw 302.09 and evaluate its potential to degrade water quality at the wellhead.

(b) The applicant shall present in the preliminary report a description of how these sites will be addressed by the pumping test and water quality sampling proposal required in accordance with Env-Dw 302.11 and Env-Dw 302.12.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.11 Proposal for Pumping Test Program.

(a) For all production wells, the applicant shall present, in the preliminary report, a detailed proposal for performing either a standard pumping test or an alternate pumping test.

(b) The pumping test program proposed in accordance with (a), above, shall be conducted to gather site-specific information necessary to:

(1) Demonstrate that the permitted production volume is sustainable;

(2) Demonstrate that acceptable water quality can be consistently delivered;

(3) Assess impacts to surrounding water resources and water uses;

(4) Address critical data gaps identified in the conceptual hydrogeologic model;

(5) Refine the conceptual hydrogeologic model and wellhead protection area and ~~to~~ justify the selected refinement methodology;

(6) Develop contamination control programs for any known sources of contamination;

(7) Develop a wellhead protection program for potential sources of contamination identified in accordance with Env-Dw 302.09; and

(8) Demonstrate the system source capacity required by Env-Ws 370 through Env-Ws 374 or successor rules in subtitle Env-Dw.

(c) A standard pumping test shall meet the following criteria:

(1) The pumping test shall consist of 3 periods, as follows:

a. The antecedent period, during which non-pumping hydrologic conditions are monitored for 7 days immediately preceding the start of pumping;

b. The pumping period, which shall be as follows:

1. For large overburden production wells, 5 days or until the water level at the pumping well, or at the nearest observation well within 5 feet of the pumping well, has changed less than 0.05 feet in 24 hours, whichever occurs first, except that the pumping period shall not be less than 48 hours in duration;

2. For large bedrock production wells, 7 days unless, after at least 72 hours, the following condition exists:

(i) The water level in the test well has changed less than 0.05 feet in 24 hours; and

(ii) A theoretical 180-day drawdown does not exceed 90% of the total available drawdown, or 5 feet above the pump intake, whichever is less, and is derived using the following methodology:

i. Water level data shall be plotted as a semi-logarithmic plot of drawdown versus elapsed time in minutes, with time on the logarithmic axis;

ii. Elapsed time shall be the number of minutes elapsed since pumping began;

iii. A straight line shall be drawn through the data on the semi-logarithmic plot with a slope based on the data points from the end of the pumping period; and

iv. The drawdown indicated by extrapolation of that straight line for a time of 180 days, or 259,200 minutes, shall be the theoretical 180-day drawdown; and

3. The pumping period criteria for new sources for a large CWS that do not meet the definition of a large production well shall be:

(i) At least 48 hours for overburden production wells;

(ii) At least 72 hours for bedrock production wells; and

(iii) The pumping test performed for both overburden and bedrock production wells shall be sufficient in length to obtain the information required by (b), above.

c. The recovery period, during which the aquifer system recovers from the stress of pumping beginning immediately at shut-down of the test well and continuing until the water level in the test well or the nearest well within 5 feet of the pumping well has recovered to 95% of the pre-pumping level;

(2) The pumping of and discharge from each test well and the system's other production wells shall be as follows:

a. The pumped water shall be discharged outside the contributing area of operating wells so there is no effect on the aquifer's response to pumping;

b. The pumping rate in each test well shall be recorded at least as often as water level measurements, after the first 10 minutes of pumping;

c. The discharge rate from the test well shall be measured as follows:

1. With a circular orifice weir provided that:

(i) A physical description of the weir is provided in the preliminary report; and

(ii) A table of gage or manometer readings with calculated discharge rates are provided in the final report; or

2. With a cumulative flow meter or other equivalent device provided that;

(i) Each discharge measurement includes at least two meter readings that are collected over a period that is not greater than one minute; and

(ii) The meter has been calibrated in accordance with manufacturer specifications within one year prior to the pumping test; or

3. With a device that can be demonstrated to record measurements that are accurate to within 5% of the discharge rate;

d. The discharge from other system wells shall be measured using cumulative flow meters;

e. Each test well shall be pumped at a single, constant rate that, when multiplied by 24 hours, produces the proposed permitted production volume in accordance with Env-Dw 302.12; and

f. The system's other wells shall be operated continually, at constant rates during the pumping period unless data is provided which shows these wells will not affect aquifer response to pumping the proposed production well;

(3) Groundwater level measurements shall be made:

a. To the nearest 0.01 foot;

b. At the following locations:

1. Each test well;

2. The water system's other production wells;

3. One background monitoring well located outside the expected influence of the test wells;

4. For large overburden production wells, at least 4 monitoring wells within the expected area of influence of the test wells;

5. For large bedrock production wells, at such locations as to gather sufficient site specific information such as that obtainable from monitoring wells or geophysical techniques; and

6. Other water supply wells in accordance with (4) below.

c. During the antecedent period, twice daily in the background well, each test well and one selected monitoring well, when such wells are used in a pumping test program;

d. During the pumping period, beginning at one minute after the start of pumping until shut down, so that at least 10 data points per log cycle of time in minutes are recorded for each test well and selected monitoring wells; and

e. During the recovery period, beginning at one minute after shut down of the pump until the end of the recovery period, so that at least 10 data points per log cycle of time, in minutes, are recorded for each test well and selected monitoring wells.

(4) The operating schedule and water levels in private and public wells shall be monitored, if permission has been obtained by the owner, to estimate the effect on these wells as required under Env-Dw 302.23(g), as follows:

a. All wells located within 1,000 feet of a proposed new source must be monitored;

b. Representative wells located within 1,000 feet of the cone of depression must be monitored; and

c. The anticipated cone of depression of the proposed new source shall be based on the conceptual hydrogeologic model developed in accordance with Env-Dw 302.07.

(5) Requests to monitor wells pursuant to subparagraph (4), above, shall be sent via certified mail with return receipt requested at least 14 days prior to commencing the pumping test program.

(6) Surface water levels in waters within 1,000 feet of the test wells shall be:

a. Collected at least twice daily during the antecedent, pumping and recovery periods;

b. Measured to the nearest 0.01 foot; and

c. Monitored more frequently if the surface water elevation is affected by any dam or other control structure;

(7) Rainfall measurements shall be measured throughout the pumping test program at the well site;

(8) If the aquifer is subject to confining conditions, barometric pressure measurements shall be collected throughout the pumping test program at the well site;

(9) Site activities and weather conditions shall be observed and logged throughout the pumping test program at the well site; and

(d) The proposal for the standard pumping test shall include the following:

(1) The proposed pumping test production rate;

(2) A site sketch showing locations of:

a. Each test well;

b. Monitoring wells;

c. Surface water staff gages;

d. All other monitoring and recording locations; and

e. Discharge locations;

(3) A description of and justification for monitoring well layout, construction, and screening;

(4) An outline of borehole drilling and sampling techniques;

(5) A table showing the schedule for monitoring well and surface water level measurements;

(6) A table of the horizontal distance between observation points and each test well;

(7) A description of the construction of any surface water level staff gages;

(8) Supporting information demonstrating the discharge location complies with Env-Dw 302.11(c)(2)a.;

(9) A description of the method and equipment that will be used to ensure a constant pumping rate is maintained;

(10) A schedule for measurement of discharge;

(11) The anticipated operating schedule for nearby wells identified in Env-Dw 302.09;

(12) Copies of the notification letters which extend an offer to monitor water levels in wells identified in Env-Dw 302.11(c)(4);

(13) A description of how any other of the system's wells will be operated during the pumping test program;

(14) The anticipated pumping test duration and criteria for pump shut down; and

(15) The construction details for each test well.

(e) For all large production wells, an alternative pumping test method shall be one which differs from the standard method and meets the objectives of the pumping test in accordance with Env-Dw 302.11(c) and the following criteria:

(1) The pumping test provides data necessary for the proposed wellhead protection area delineation method;

(2) The pumping test will produce results which are superior or equivalent to the results obtained

using the standard method; and

(3) The pumping test method is justified in the final report based on observations collected during the pumping test program.

(f) The proposal for an alternative pumping test shall include the same material required for the standard pumping test under Env-Dw 302.11(d) and information demonstrating the program will meet or exceed the requirements for the standard pumping test.

(g) Additional monitoring wells shall be required when necessary to meet the objectives of the pumping test.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.12 Proposal for Water Quality Testing.

(a) The applicant shall present in the preliminary report a detailed proposal for water quality testing.

(b) The water quality sampling program shall be conducted to gather the information necessary to establish acceptable water quality and develop, if necessary, a contamination control program for the desired permitted production volume.

(c) A water quality testing program shall include the collection of 3 water quality samples from each test well during the pumping test program at each of the following times during the pumping period:

(1) Between the first and the fifth hour of the pumping period;

(2) Midway through the pumping period; and

(3) Within the last 3 hours of the pumping period.

(d) The first 2 water quality samples taken during the pumping test shall be analyzed for the following parameters:

(1) Volatile organic compounds;

(2) Iron;

(3) Manganese;

(4) pH;

(5) Specific conductance;

(6) Hardness;

(7) Chloride~~s~~;

(8) Sodium; and

(9) Nitrate~~s~~.

(e) The third sample shall be analyzed for*:*

(1) Those parameters required to be monitored in groundwater systems per Env-Ws 310 though Env-Ws 316; and

(2) Radon.

(f) Sampling for microscopic particulate analysis shall be conducted at the end of the pumping test if the location of the proposed new source well meets either of the following criteria:

(1) For overburden wells, if the source is placed within 100 feet of the normal high water line of any surface water; or

(2) For bedrock wells, if the source is placed within 200 feet of the normal high water line of any surface water.

(g) Samples collected in accordance with (f), above, shall:

(1) Be analyzed in accordance with the Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate analysis (MPA), EPA 910/9-92-029F, USEPA 1992;

(2) Be collected only after monitoring of screening parameters indicates stabilization in accordance with the following:

a. For a period of no less than 10 hours, hourly screening of discharge water for pH, specific conductance and temperature does not vary by:

1. More than 0.2 standard units for pH;

2. More than 3 percent for specific conductance; or

3. More than 2 degrees Celsius for temperature.

b. Screening of the discharge water for pH, specific conductance and temperature shall continue throughout the duration of sample collection once stabilization in accordance with subpart a. has been met; and

(3) Include screening of pH, specific conductance and temperature in the surface water closest to the proposed new source well at the same monitoring frequency as the discharge water.

(h) New source wells shall be exempt from sampling for microscopic particulates if it is demonstrated through site-specific observations and monitoring that:

(1) A continuous confining unit is present between the proposed new source well and the surface water; and

(2) Through water level monitoring performed during the pumping test in accordance with Env-Dw 302.11, a direct hydraulic connection does not appear to exist between the proposed new source well and the surface water.

(i) New source wells that meet the criteria in (f), above, and are not exempt from sampling under (h), above, shall collect a second sample for analysis for microscopic particulates during the first spring or fall that the source is on-line.

(j) The sample collected pursuant to (i), above, shall be collected in accordance with (g), above.

(k) Additional analyses shall be conducted if review of the preliminary report indicates the possible presence of contamination sources.

(l) Analyses shall be performed by a laboratory which is accredited in accordance with Env-C 300,

and all analyses shall be performed in accordance with Env-C 300.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.13 Preliminary Report.

(a) A preliminary report, which shall provide a preliminary assessment of the appropriateness of the well site, shall be prepared and submitted to the department in accordance with Env-Dw 302.04(a)(9).

(b) The preliminary report shall contain the following:

(1) The information and materials required in accordance with Env-Dw 302.04 through Env-Dw 302.12;

(2) A project description that includes:

a. The names, mailing addresses, and telephone numbers of the following individuals:

1. The water system owner;

2. The owner of the well site;

3. The person responsible for responding to questions from the department regarding the preliminary report; and

4. The person responsible for performing the pumping test and water quality sampling programs;

b. A description of who is or will be served by the system; and

c. Why a new well is being sited;.

(3) Calculations demonstrating the source capacity requirements for the CWS;

(4) The proposed permitted production volume for all new sources of water for the CWS; and

(5) A description of the current use and 50 year history of the property where the pumping test is to be conducted.

(c) The preliminary report submitted in accordance with this section shall be stamped and signed by a person who possesses one of the following licenses:

(1) Professional geologists license in accordance with RSA 310-A:130; or

(2) Professional engineers license in accordance with RSA 310-A:18.

(d) If seeking a minor large withdrawal designation under Env-Ws 387 or successor rules in subtitle Env-Wq, the preliminary report shall be submitted with the minor large withdrawal designation request in accordance with Env-Ws 387.09(c)(8) or successor rules in subtitle Env-Wq.

(e) If seeking a major large withdrawal permit under Env-Ws 388 or successor rules in subtitle Env-Wq, the preliminary report shall be submitted with the major large withdrawal permit application in accordance with Env-Ws 388.10(b)(10) or successor rules in subtitle Env-Wq.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.14 Criteria and Procedures for Approval of the Preliminary Report.

(a) The department shall approve or deny the preliminary report in writing within 45 days of:

(1) Closure of the written public comment periods required pursuant to RSA 485-C:21, if applicable; or

(2) Receipt of all information required by Env-Dw 302.13, if a public hearing pursuant to RSA 485-C:21 is not required.

(b) The department shall approve the preliminary report upon determining the following criteria are met:

(1) The report contains all information required by Env-Dw 302.13;

(2) The information contained in the report is complete and correct;

(3) The water conservation plan required by Env-Ws 390.10(b) or successor rules in subtitle Env-Wq has been submitted to the department; and

(4) Public notification requirements required by RSA 485-C:21 have been completed.

(c) If the report is deficient in any of the criteria in (b), above, the notice sent pursuant to (a), above, shall specify the area(s) in which the report is deficient.

(d) The department shall advise the applicant not to proceed further in the well siting process if information concerning known contamination sources evaluated in accordance with Env-Dw 302.09 indicates that an adequate contamination control program can not be implemented to prevent degradation of water quality at the well.

(e) The department shall advise the applicant when, based on the information provided in the preliminary report, a waiver will be required for a specific requirement under these rules.

(f) The preliminary report approval shall expire 4 years from the date of approval if a final report has not been received by the department.

(g) Development of a new large production well following expiration of a preliminary report shall require the submission of the same information necessary for preliminary approval of a new large production well, and compliance with this part.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.15 Performing the Pumping Test and Water Quality Sampling.

(a) Subject to (e), below, the pumping test shall be performed in accordance with the pumping test proposal approved in the preliminary report unless department approval is obtained to alter the pumping test program.

(b) The applicant shall notify the department of the anticipated start date at least one week prior to the start of the pumping test.

(c) Prior to conducting the pumping test, the applicant shall provide a copy of the temporary groundwater or surface water discharge permit obtained for the pumping test in accordance with Env-Wq 402;

(d) The pumping test shall be supervised by a person who, by education and experience in

hydrogeology, is able to quantitatively analyze and interpret hydrogeology.

(e) The pumping test shall be postponed or prolonged if high recharge conditions prohibit the ability to use test data to meet the intent of this rule. This determination shall be made based on site specific conditions at the time of testing. Where postponing or prolonging the test is not reasonably feasible, justification shall be provided to the department and data adjusted using conservative assumptions to reflect average conditions.

(f) The water quality sampling shall be performed in accordance with the proposal contained in the preliminary report, including any additional sampling required by the department due to the proximity of contamination sources, unless department approval to alter the proposal is obtained.

(g) The pumping test and water quality sampling performed shall be described in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.16 Establishing the Permitted Production Volume.

(a) The permitted production volume shall be demonstrated by the constant rate pumping test completed in accordance with Env-Dw 302.15.

(b) The permitted production volume shall be the volume produced by pumping at the pumping test production rate for 24 continuous hours.

(c) The actual rate at which water is withdrawn from an approved well may vary but shall not exceed the permitted production volume.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.17 Conceptual Hydrogeologic Model Refinement.

(a) The conceptual hydrogeologic model developed in accordance with Env-Dw 302.07 shall be refined based on results of the pumping test program completed in accordance with Env-Dw 302.15.

(b) Conceptual hydrogeologic model refinement shall include a refinement of the potential impact area estimate for the proposed withdrawal.

(c) The refined conceptual hydrogeologic model and potential impact area shall be described in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.18 Wellhead Protection Area Refinement.

(a) The estimated wellhead protection area presented in the preliminary report shall be refined by the method described in the preliminary report unless department approval to alter the methodology is obtained.

(b) A proposal to alter the method of wellhead protection area refinement shall be approved by the department if the method used results in a wellhead protection area that is technically equal to or more conservative than the wellhead protection area that the original method would have produced.

(c) The refinement performed shall be documented in the final report.

Source. (See Revision Note at part heading for Env-Dw 302)

#9008, eff 10-19-07

Env-Dw 302.19 Contamination Source and Water Resource and Use Inventory Update and Revision.

(a) The preliminary inventories of contamination sources and water resources and uses shall be updated and revised for the refined wellhead protection area in the following manner:

(1) If fewer than 90 days have elapsed since the preliminary inventories were completed, the applicant shall contact the department to determine if any new sites have been located in that area and, if so, shall add those sites to the preliminary inventories for the final report;

(2) For an area that is in the revised wellhead protection area that was not in the preliminary estimate, the applicant shall perform all the same procedures performed for the preliminary inventory in accordance with Env-Dw 302.09; and

(3) If 90 days or more have elapsed since the inventories were completed, the applicant shall repeat all the same procedures performed for the preliminary inventory in accordance with Env-Dw 302.09 for the entire revised wellhead protection area.

(b) The updated inventory shall be included in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.20 Contamination Control Program.

(a) The applicant shall establish a contamination control program which minimizes the risk of contamination from known sources of contamination.

(b) The program shall include provisions and a schedule for remediation and/or monitoring of residual contamination from all known contamination sources in the wellhead protection area to ensure that contamination will not reach the well. A known contamination source in compliance with the conditions of a groundwater management permit issued in accordance with Env-Or 600 shall constitute an adequate control program.

(c) A description of the contamination control program and supporting evaluations and documentation shall be provided in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.21 Wellhead Protection Program.

(a) The applicant shall establish a wellhead protection program that includes:

(1) Updating the contaminant source inventory required by Env-Dw 302.09 and Env-Dw 302.19 at intervals no greater than 3 years;

(2) Sending written notification as provided in (3), below, to the owner of each known contamination source and potential contamination source listed in the inventory within 90 days of connection of the new source to an existing system or startup of the new system and at intervals no greater than 3 years thereafter.

(3) The notification required by (2), above, shall include:

a. The name and address of the applicant and the location of the well and wellhead

protection area;

b. A statement that the property is in a wellhead protection area of a community water supply;

c. A statement that the present use of the property is considered to have potential for groundwater contamination and identification of the listed present use;

d. A copy of groundwater education material that the department has developed or approved;

e. Notification that any non-permitted discharges to groundwater or contamination of groundwater is illegal under RSA 485-A:13; and

f. The name and telephone number of the water supplier, and a contact at the department, to whom questions can be referred.

(b) A description of the wellhead protection program shall be presented in the final report, including:

(1) Designation of who is responsible for implementing the wellhead protection program including the following;

a. Name;

b. Title;

c. Mailing address; and

d. Daytime telephone number;

(2) A list of the recipients for mailing;

(3) A copy of the educational materials to be mailed;

(4) A statement as to the intent of the CWS to initiate a best management practices inspection and survey program for potential contaminant sources within the wellhead protection area identified in accordance with Env-Dw 302.09 and Env-Dw 302.20 or, as an alternative, identification of an anticipated date when the wellhead protection area is to be reclassified to GAA per RSA 485-C:9, II; and

(5) Identification of the process, and schedule for adoption, if other local regulatory requirements or techniques regarding the implementation of best management practices for prevention of groundwater contamination in the wellhead protection area.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.22 Construction Design. The applicant shall demonstrate that the construction of the wellhead complies with the standards established by the New Hampshire water well board pursuant to RSA 482-B. A copy of the well completion report prepared in accordance with We 800 shall be included in the final report.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.23 Final Report. The final report shall contain all of the following information:

(a) The information and materials with updates and revisions required by work conducted in accordance with Env-Dw 302.04 through Env-Dw 302.22;

(b) Documentation of the refined conceptual hydrogeologic model and wellhead protection area estimate completed as proposed in accordance with Env-Dw 302.18 and-Env-Dw 302.19;

(c) A description of the pumping test including:

(1) The data collected;

(2) A description of how each of the pumping test requirements in Env-Dw 302.11 were met; and

(3) If an alternate pumping test was performed, all data and analyses as proposed in the preliminary report;

(4) The pumping test data analyses and presentation shall include, at a minimum, the following information:

a. A table of the time elapsed since the pumping test program began and;

1. The pumping rate;

2. The recorded surface water and groundwater levels for each monitoring location;

3. The groundwater levels corrected for other hydraulic influences;

4. The surface water level***s***; and

5. The rainfall data;

b. A daily log of site activity and weather conditions;

c. Plots of recorded and corrected water level data versus time, as log-log and semi-logarithmic graphs, with time plotted on the logarithmic axis, in each of the following formats:

1. Drawdown versus time, with time expressed in minutes of elapsed time, plotted on the logarithmic axis; and

2. Recovery versus time, with time expressed in minutes of elapsed time, plotted on the logarithmic axis;

d. Semi-logarithmic plots of drawdown at the end of pumping period versus distance from the test wells plotted with distance on the logarithmic axis, specifying well names with all data points;

e. For overburden wells, the analysis and presentation shall also include:

1. Estimates of transmissivity and storage coefficient based on time-drawdown and distance-drawdown plots;

2. An explanation of the estimating method, presented in the final report, which is based on a comparison of the assumptions underlying the method and aquifer characteristics observed during the pumping test; and

(d) A description of the water quality sampling including the following:

(1) A report of the laboratory results for water quality;

(2) A description of water quality sample collection and transport methods, dates, and times; and

(3) A copy of the chain of custody for all water quality samples submitted;

(e) A proposed permitted production volume and a description of the means by which it was established in accordance with Env-Dw 302.16;

(f) An estimate of the effect pumping the permitted production volume from each well will have on the following:

(1) Water levels in private and public wells within 1,000 feet of each test well proposed as a new production well;

(2) Water levels in nearby surface waters and wetlands;

(3) Existing groundwater contamination plumes; and

(4) Saltwater intrusion into the freshwater aquifer; and

(g) Where a naturally occurring primary or secondary maximum contaminant level is exceeded, a copy of department approval for a treatment or management plan in accordance with Env-Ws 310 through Env-Ws 330 or successor rules in Env-Dw.

(h) The final report submitted in accordance with this section shall be stamped and signed by a person who possesses at least one of the following licenses:

(1) Professional geologist license in accordance with RSA 310-A:130; or

(2) Professional engineer license in accordance with RSA 310-A:18.

(i) If seeking a minor large withdrawal designation under Env-Ws 387, or successor rules in Env-Wq, the final report shall be submitted with the minor large withdrawal permit application in accordance with Env-Ws 387.14(b)(7) or successor rules in Env-Wq.

(k) If seeking a major large withdrawal designation under Env-Ws 388 or successor rules in Env-Wq, the final report shall be submitted with the major large withdrawal report in accordance with Env-Ws 388.17(d) or successor rules in Env-Wq.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.24 Criteria and Procedures for Approval of New Production Wells.

(a) The department shall approve or deny the final report in writing:

(1) Within 45 days of closure of the written public comment periods required pursuant to RSA 485-C:21, if applicable; or

(2) Within 45 days of receipt of all information required by Env-Dw 302.13 if a public hearing pursuant to RSA 485-C:21 is not required.

(b) Subject to (c) and (d), below, upon determining that the report required in accordance with Env-Dw 302.23 contains all the required information and that it is correct and complete, the department shall approve the wells and notify the applicant in writing in accordance with (a), above.

(c) If the report is deficient in any of the criteria in (b), above, the applicant shall be so notified in writing in accordance with (a), above.

(d) The proposed new production wells shall be denied under the following conditions:

(1) One or more contamination source is present in the wellhead protection area and the contamination control program prepared in accordance with Env-Dw 302.20 does not ensure that contamination will not degrade water quality at the well;

(2) If applicable, public notification requirements required by RSA 485-C:21 have not been completed;

(3) The applicant failed to obtain approval for the water conservation plan submitted in accordance with Env-Ws 390.12(c) or successor rules in Env-Wq; or

(4) For all large production wells, the applicant has not submitted an acceptable wellhead protection program;

(5) The applicant has failed to perform any activity or to meet any of the requirements contained in these rules.

(e) Approval for new production wells shall lapse 4 years after issuance if the well is not connected to a water system within that time.

(f) When approval for a new production well has lapsed in accordance with (e), above, the applicant shall complete the following to regain approval to use the well:

(1) Provide information demonstrating the new production well still meets the well siting requirements of Env-Dw 302.05 and Env-Dw 302.06;

(2) Provide a contamination source and water resource and use inventory update and revision in accordance with Env-Dw 302.20 to determine if any new potential sources of contamination are present;

(3) Establish a contamination control program in accordance with Env-Dw 302.21 if necessary, using information obtained pursuant to (2), above;

(4) Update the wellhead protection program in accordance Env-Dw 302.21 using information obtained pursuant to (2), above;

(5) Provide a water quality sample of the new production well demonstrating compliance with Env-Ws 310 through Env-Ws 316, or successor rules in Env-Dw, which was collected within the last 6 months; and

(6) Provide an analysis using the information obtained pursuant to (1) through (5), above, that demonstrates the new production well will be able to meet the following requirements:

a. Source capacity requirements for the CWS under Env-Ws 372 for small CWS and Env-Ws 373 for all other CWS, or successor rules in subtitle Env-Wq; and

b. Water quality requirements of Env-Ws 310 through Env-Ws 316 or successor rules in subtitle Env-Dw.

(g) The department shall reinstate approval for new production wells for a period of 4 years within 30 days of receiving information that demonstrates compliance with the requirements of (f), above.

(h) Approvals for new production wells issued pursuant to (g), above, shall expire as provided in (e), above.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.25 On-going Compliance with Wellhead Protection Program. The CWS shall demonstrate ongoing compliance with the wellhead protection program by providing the following information on a form provided by the department, once every 3 years concurrent with the education mailing program:

(a) Signature of the CWS owner or owner's representative;

(b) The CWS name and federal identification number;

(c) Town in which the CWS is located; and

(d) The date the educational mailing was completed.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.26 Emergency Plan Submittal and Update Requirements.

(a) A new or existing CWS that develops new sources in compliance with this section shall submit a new or update an existing emergency plan to the department in accordance with Env-Ws 360.15, or successor rules in Env-Dw, as follows:

(1) Within 180 days of the date of approval of the new sources; or

(2) Within 180 days of such time that the configuration and construction of the water system's primary components listed in Env-Ws 360.15(c)(8) and (9), or successor rules in Env-Dw, are known.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.27 Increasing the Permitted Production Volume.

(a) A large production well shall not be pumped at a rate which results in exceeding the permitted production volume determined in accordance with Env-Dw 302.16 without prior written approval from the department.

(b) A request to increase the permitted production volume shall require the submission of the same information necessary for approval of a new well, and compliance with this chapter.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.28 Reducing the Wellhead Protection Area.

(a) A wellhead protection area determined in accordance with Env-Dw 302.19 shall not be reduced in size without prior department approval.

(b) A request to reduce the wellhead protection area shall be based on data analysis from a pumping test or other appropriate site specific data.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.29 Requirements for Constructing a Back-up Large Production Well.

(a) A CWS proposing to construct a back-up large production well shall meet the requirements pursuant to RSA 485-C:22.

(b) In addition to the requirements of (a), above, the CWS siting the new back-up well shall:

(1) Locate the back-up well in accordance with Env-Dw 302.05;

(2) Establish a sanitary protective radius for the back-up well in accordance with Env-Dw 302.06;

(3) Develop a wellhead protection area for the back-up well in accordance with Env-Dw 302.08 and Env-Dw 302.19 unless, through prior pumping test data, the water system shows that the zone of contribution of the back-up well is within the wellhead protection area developed for an existing source;

(4) Perform a pumping test of the back-up well in accordance with Env-Dw 302.11 to establish the sustainable production volume for the well; and

(5) Collect a water quality sample for all of the water quality parameters required per Env-Ws 310 through 316, or successor rules in subtitle Env-Dw, within the last 3 hours of the pump test conducted pursuant to (4), above.

(c) If the CWS has a wellhead protection program, the CWS shall include the wellhead protection area developed for the back-up well in its wellhead protection program.

(d) If the CWS does not have a wellhead protection program, the CWS shall develop and implement a wellhead protection program in accordance with Env-Dw 302.21 for the back-up well and the existing source well(s) for which the back-up well is being provided.

(e) Prior to approval of the back-up well, the CWS shall submit a report which describes and provides supporting documentation for the following:

(1) Information pursuant to the requirements in (a), above;

(2) The pumping test performed and the sustainable production volume for the back-up well;

(3) Results of water quality sampling demonstrating that the back-up well will meet all water quality standards required by Env-Ws 310 through Env-Ws 316 or successor rules in subtitle Env-Dw;

(4) A site map depicting the following:

a. The back-up well location;

b. The sanitary protective area;

c. The wellhead protection area; and

d. The location of the back-up well in relation to the 100-year floodplain; and

(5) The wellhead protection program developed for the CWS.

(f) Within 180 days after approval of the back-up well, the CWS shall update its emergency plan in accordance with Env-Ws 360.15 or successor rules in Env-Dw.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.30 Replacing an Existing Large Production Well.

(a) A CWS proposing to replace an existing large production well with a new production well may do so under reduced regulatory requirements provided:

(1) Supporting documentation is provided demonstrating that:

a. A decline in yield from an existing production well prevents the system from maintaining the water supply source capacity requirements of existing customers; or

b. Water quality in the existing well does not meet current drinking water standards and treatment is not possible or feasible; and

(2) The replacement well shall:

a. Not be used to expand the water system or for water use beyond the approved or established capacity of the well to be replaced;

b. Meet the requirements specified in RSA 485-C:22; and

c. Derive water from the same zone of contribution as the well that is being replaced.

(b) A CWS proposing to replace any active large production well shall submit a request to the department that contains the following information:

(1) A description of the project including:

a. The applicant's name, mailing address, and daytime telephone number and, if available, an e-mail address and fax number;

b. The consultant's name, mailing address, and daytime telephone number, if applicable and, if available, an e-mail address and fax number;

c. The name of the water system and of the town in which the CWS is located;

d. The federal identification number for the existing large production well being replaced; and

e. The water supply requirements for the system;

(2) A site plan and description of all land uses in the sanitary protective area of the replacement well and any measures taken to achieve compliance with Env-Dw 302.06;

(3) A description of the replacement well in relation to the 100-year floodplain and any department-approved measures, if applicable, taken to elevate the wellhead;

(4) A description of current water quality in the existing well, if available;

(5) A plan for collecting water quality samples from the replacement well to demonstrate that the new well will meet all water quality standards required by Env-Ws 310 through Env-Ws 316, or successor rules in Env-Dw, and the name of the state of New Hampshire accredited laboratory

performing the analysis;

(6) A plan for decommissioning the well that is to be replaced in accordance with We 600; and

(7) A plan for identifying the long-term sustainable yield from the replacement well.

(c) The department shall approve the replacement of an active community production well with a new production well, provided the supporting documentation and data submitted by the applicant demonstrates the following:

(1) The water withdrawn from the replacement well meets all current drinking water standards required by Env-Ws 310 through Env-Ws 316 or successor rules in subtitle Env-Dw;

(2) The applicant has demonstrated a long-term sustainable yield for the replacement well;

(3) A statement has been provided by a licensed well contractor that the existing well has been decommissioned in accordance with We 600;

(4) The applicant has provided the department with a copy of the well completion report for the replacement well, filed in accordance with We 800; and

(5) The applicant has documented that sanitary protective area requirements, in accordance with Env-Dw 302.06, have been met, or improvements have been made to minimize the risk of contamination.

(d) The replacement well shall be permitted for the approved capacity of the well being replaced or the long-term sustainable yield as tested, whichever is less.

(e) Within 60 days after approval of a replacement well, the CWS shall update its emergency plan in accordance with Env-Ws 360.15, or successor rules in subtitle Env-Dw.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

Env-Dw 302.31 Waivers.

(a) Env-Dw 301 applies to a variety of conditions and circumstances. It is recognized that strict compliance with all rules prescribed herein might not fit every conceivable situation.

(b) Suppliers of water may request a waiver of specific rules outlined in this part in accordance with (c) through (f), below.

(c) The person requesting a waiver shall submit the following information in writing to the department:

(1) A description of the site to which the waiver request relates;

(2) A reference to the specific section of the rules for which a waiver is being sought;

(3) A full explanation of why a waiver is necessary;

(4) Whether the waiver is needed for a limited duration and, if so, an estimate of when the waiver will no longer be needed;

(5) A full explanation with supporting data of the alternatives, if any, proposed to be implemented or used in lieu of the section’s requirements; and

(6) A full explanation of how the waiver, including any proposed alternatives:

a. Would be consistent with the intent of RSA 485, and in particular with RSA 485:8 and RSA 485:48; and

b. Would adequately protect human health and the environment.

(d) The department shall grant a waiver if it determines that the intent of RSA 485 will be met and human health and the environment will be protected. In granting the waiver, the department shall impose such conditions, including time limitations, as the department deems necessary to ensure that the activities conducted pursuant to the waiver will be consistent with the intent of RSA 485 and protective of human health and the environment.

(e) No waiver shall be granted to any requirement specified in statute unless the statute expressly allows such requirement to be waived.

(f) The department shall issue a written response to a request for a waiver within 30 days of receiving a complete request. If the waiver is denied, the denial shall specifically set forth the reason(s) for the denial.

Source. (See Revision Note at part heading for Env-Dw 302) #9008, eff 10-19-07

APPENDIX

Rule Section(s)	**State Statute(s) Implemented**
Env-Dw 302.01 - 302.30	RSA 485:2,V; RSA 485:3, IX and XII; RSA 485:8; RSA 485:48
Env-Dw 302.31	RSA 541-A:22, IV