Form 1100-001
(R 2/07)

NATURAL RESOURCES BOARD AGENDA ITEM

Item No. 3.A.3

SUBJECT: Adoption of Board Order ***DG-37-06,*** Creation of ***NR 820*** relating to ***protection of groundwater quantity***

FOR: MARCH 2007 **BOARD MEETING**

TO BE PRESENTED BY: Mark Putra, Section Chief, Private Water Supply Section
Bureau of Drinking Water & Groundwater

SUMMARY:

2003 Wisconsin Act 310, enacted in April 2004, expands the Department's authority over high capacity wells to include consideration of impacts to certain sensitive water resources, requires annual reporting of groundwater pumping from high capacity wells and directs the department to designate two groundwater management areas. The proposed rule implements the provisions of 2003 Wisconsin Act 310.

Under the proposed code, all owners of high capacity wells will be required to submit annual pumping reports to the department. The rule also establishes the areal extent of two groundwater management areas, one in the southeast part of the state and another in the northeast part of the state. The two areas include the entire area of each city, village and town in which the level of the underlying groundwater has dropped by at least 150 feet due to groundwater pumping.

Ch. NR 820 establishes processes and criteria to guide the review of proposed high capacity wells that are located near springs or within a groundwater protection area (within 1,200' of a trout stream, outstanding resource water or exceptional resource water). Applicants for wells near springs or in groundwater protection areas will be required to submit information to demonstrate that the proposed well will not result in significant adverse environmental impacts to the surface water resource. The department will review all wells proposed in such locations to assess the extent of environmental impacts related to the proposed well. The rule includes screening criteria that will be used to determine the necessary level of environmental review for these wells. If it is determined that a proposed well could result in a significant adverse environmental impacts, the applicant may be required to submit an environmental impact report and the department will prepare an environmental assessment prior to approving or denying the proposed well.

RECOMMENDATION: Adopt Board ***Order DG-37-06***, Creation of ***NR 820*** relating to ***protection of groundwater quantity***

LIST OF ATTACHED MATERIALS:

No	☐	Fiscal Estimate Required	Yes	☑	Attached
No	☑	Environmental Assessment or Impact Statement Required	Yes	☐	Attached
No	☐	Background Memo	Yes	☑	Attached

APPROVED:

/s/ — 2/15/07
Bureau Director, Drinking Water & Groundwater — Date

/s/ — 2/26/07
Administrator, Water Division — Date

/s/ — 2/26/07
Secretary, Scott Hassett — Date

cc: Laurie J. Ross - AD/5
Carol Turner - LS/5
Judy Ohm - LS/5
Jill Jonas - DG/2
Mark Putra - DG/2
Larry Lynch - DG/2

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: February 14, 2007

TO: Natural Resource Board

FROM: Scott Hassett, Secretary

SUBJECT: Background Memo on Proposed Creation of Chapter NR 820, Groundwater Quantity Protection - Adoption of Board Order DG-37-06

1. Why is this rule being proposed?

a. Action or event that triggered the proposal? 2003 Wisconsin Act 310 (attached) expanded the state's scope of authority over high capacity wells to include factors in addition to impacts on nearby municipal water supplies. Specifically, the law requires consideration of impacts to certain sensitive water resources and impacts from wells with high water loss prior to issuance of an approval to construct a high capacity well.

Act 310 also recognized that there are areas of the state that have experienced substantial lowering of groundwater levels since settlement and that these areas would benefit from a comprehensive regional groundwater management approach. Act 310 created the concept of groundwater management areas to facilitate comprehensive groundwater management and planning in these areas and directed the department to define the extent of groundwater management areas through administrative rules.

b. What issues are addressed by this rule? The proposed rule addresses two primary issues. First, it creates a mechanism by which the department will evaluate proposed high capacity wells to determine whether the well will have a significant adverse environmental impact on springs, trout streams, outstanding resource waters and exceptional resource waters in addition to impacts on municipal water supplies. Second, the rule defines the extent of groundwater management areas as directed in 2003 Wisconsin Act 310.

2. Rule Summary

The proposed rule designates the boundaries of two separate groundwater management areas (GMA). The Southeast Wisconsin GMA includes all of Kenosha, Milwaukee, Ozaukee, Racine and Waukesha Counties and portions of Walworth and Washington Counties. The Northeast Wisconsin GMA is comprised of all of Brown County and portions of Calumet and Outagamie Counties. Pursuant to Act 310, the extent of the two GMAs corresponds to the areas in which groundwater withdrawals have resulted in a lowering of the level of groundwater by at least 150 feet from the projected pre-settlement levels as determined through groundwater modeling of the two areas.

The department recognizes that the rule does not fully develop details related to planning and regulatory issues in GMAs. Act 310 created the Groundwater Advisory Committee to consider these issues and make recommendations to the Legislature concerning full implementation of the GMA concept. The Groundwater Advisory Committee submitted its first report to the legislature in December 2006 and the department is deferring development of the detailed GMA framework pending subsequent direction from the Legislature in response to the Groundwater Advisory Committee's recommendations.

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The proposed rule establishes review processes for evaluation of applications for high capacity well approvals for wells that are located in groundwater protection areas (i.e., within 1,200' of a trout stream, outstanding resource water or exceptional resource water) are near a spring or involve high water loss. Under the proposed rule, all applications for wells near springs or within a groundwater protection area will be reviewed to assess impacts to the spring or surface waters. The rule includes screening criteria to help identify which of these proposed high capacity wells are unlikely to result in significant adverse environmental impacts and therefore can be approved without preparing a formal environmental assessment. Generally, these wells will be high capacity wells that are designed to pump a relatively small volume of water in comparison to the flow or volume of the nearby water body. In those cases where the department determines that significant adverse environmental impacts could result, the applicant may be required to submit supplemental information to facilitate the department's final review and preparation of an environmental assessment. Approvals for high capacity wells near a spring or within a groundwater protection area must include specific conditions pertaining to well construction and operation to ensure protection of the water resources. Proposed wells involving high water loss will require preparation of an environmental assessment prior to issuance of an approval and such approvals must also include conditions to ensure that significant environmental impacts do not result.

Finally, the rule requires that all owners of high capacity wells record pumpage data on a monthly basis and report this information to the department on an annual frequency. Individual reports will be required for wells with large pump capacities while properties with multiple lower capacity wells will be permitted to submit composite reports.

3. How does this proposal affect existing policy?

The rule establishes another layer of review for certain high capacity wells. Specifically, those wells located near trout streams, springs, outstanding resource waters and exceptional resource waters and wells with a high water loss will be reviewed to determine whether the well will cause significant adverse environmental impact. This environmental review will be in addition to the current evaluation of potential impacts of proposed high capacity wells on municipal water supply wells.

4. Hearing Synopsis

The department conducted five public hearings around the state concerning proposed Ch. NR 820 in December 2006. The hearings were held in Menomonie, Green Bay, Waukesha, Madison and Stevens Point and were attended by a total of approximately 50 people. In addition to input received at the hearings, the department received substantial comments by e-mail and U.S. Mail. The most common concerns expressed related to the limited extent of groundwater protection areas, the nature and application of screening criteria and the appropriate level of environmental review. The department did modify the proposed rule in response to many of the comments; however, in many cases the department could not modify the rule as suggested due to statutory limitations. The department also modified the rule, or explained why changes were not made, in response to comments from the Legislative Council Rules Clearinghouse. A document which summarizes the comments received and the department's responses is attached. The revised rule has also been considered by the Groundwater Advisory Committee and the rule was generally endorsed by the members of the Committee.

5. Environmental Analysis.

Under the provisions of s. NR 150.03 (6) (b)3.b., Wis. Admin. Code, Environmental Analysis and Review Procedures for Department Action, this is a Type III action. The Drinking Water & Groundwater Program has made a preliminary determination that it is not necessary to prepare an Environmental Assessment for the proposed rule and the department's Bureau of Integrated Science Services concurs.

6. Who will be impacted by the proposed rule? How?
The proposed rule will have an impact on those parties that own and operate high capacity well systems, or that anticipate they may apply for high capacity well approvals in the future, including municipal water utilities, agricultural and industrial interests, real estate developers, recreational facility owners and local units of government. All owners of high capacity wells will be required to submit records of water pumpage from the wells and applications for new high capacity wells will be evaluated to determine impacts on springs and certain water resources. In some cases, approvals may be denied or may include conditions on well construction and operation to ensure protection of the water resources. The rule will also affect local units of government and owners of high capacity wells in the areas of proposed groundwater management areas through development and implementation of regional groundwater management plans.

7. Small Business Analysis.
High capacity wells are owned by a wide range of entities including individuals, municipalities, other units of government, large corporations and small businesses. The review and approval processes specified in the proposed rule for high capacity well applications submitted by small businesses are the same as those for applications submitted by any other applicant. While the proposed rule creates a screening process to identify those wells that will be subject to more comprehensive evaluation, the criteria are related to the characteristics of the proposed well rather than the nature of the owner. The potential impacts on small businesses will be the same as the impacts experienced by other applicants.

The department anticipates a very small percentage of high capacity well applications will require an extensive environmental review and there is a reasonable likelihood that only a few of those will be on behalf of a small business. The department believes that this proposed rule will not have a significant impact on a substantial number of small businesses.

A. Compliance/Reporting Requirements. Any entity, including small businesses, proposing to construct a high capacity well must receive approval from the Department prior to beginning construction. If the proposed well is located in a groundwater protection area, near a spring, or involves an activity with high water loss additional information must be submitted with the application. The proposal may also be subject to an extensive environmental review, including preparation of an environmental assessment to determine whether placement of the well would cause significant adverse environmental impact. The environmental review will result in a longer review period and may result in increased review and approval costs, potential alteration of well construction and operation plans, or in some cases, approval being denied for the construction of high capacity wells. However, these requirements are necessary to ensure protection of springs, trout streams and other valuable surface water resources.

All high capacity well owners are also required to annually report the amount of water that is pumped from their wells. Methods of recording the annual pumpage will vary dependent on the pumping capacity of the well rather than the nature of the owner. Larger wells may be required to be equipped with more sophisticated metering devices because these wells are responsible for the majority of the groundwater withdrawn on a statewide basis, while estimates of water use may suffice for smaller wells.

B. Compliance/Reporting Deadlines and Schedules. The only specified deadline or reporting requirement pertains to submittal of annual pumping information. Pumpage reports for a given calendar year are to be submitted to the department no later than the first day of March in the subsequent year. These requirements apply to all owners of high capacity wells.

C. Possible Simplification of Compliance and Reporting Requirements. No simplification of the requirements are recommended. The annual pumpage reporting requirement should not prove to be an undue burden to well owners. While the department will provide alternate means of estimating pumpage from wells with lower pumping capacity, no reasonable alternatives are available specifically for small business owners which would still provide the necessary information regarding water use. The potential extensive environmental review process is necessary to determine the extent of environmental impacts that could occur as a result of the construction and operation of proposed high capacity wells near springs or within groundwater protection areas. The informational requirements specified in the code represent the minimum information needed by the department to make a preliminary assessment of the possible impacts. Simplification or elimination of any of these requirements would interfere with the department's ability to effectively evaluate the potential environmental consequences of high capacity wells proposed to be constructed near sensitive water resources.

D. Use of Performance Standards in lieu of Design/Operational Standards. The proposed rule does not impose design or operational standards to regulate high capacity wells. Rather, all high capacity wells will be reviewed and regulated to minimize impacts to sensitive water resources. While the approval screening criteria are quantitative in nature they do not constitute design or operational standards. Further, as mentioned previously, the pumping capacity of the proposed well relative to the size of the potentially affected water resource is the important factor, not the nature of the applicant.

E. Potential Exemptions for Small Business. Small businesses should comply with all of the requirements of the proposed code. The annual pumpage reporting requirement is needed to facilitate more effective management of the State's groundwater resources and the consideration of potential surface water impacts as a result of high capacity well construction and operation is necessary whether the owner is a small business or not.

F. Initial Regulatory Flexibility Analysis. High capacity wells are owned by a wide variety of interests, many of which are small businesses. Similarly, wells owned by small businesses can serve a wide range of uses including agriculture, golf courses, non-metallic mining, condominium developments, various industrial/commercial uses, recreational facilities, ethanol production and food processing. The rule requires annual reporting of water use of all high capacity well owners and specifies informational requirements for high capacity well applications that involve wells located near springs and within groundwater protection areas. Owners of high capacity wells will need to keep records of the amount of water pumped from each well and may need to hire qualified persons to install water metering devices on the wells in order to compile the annual pumpage data. In addition, owners of proposed wells that are to be constructed near springs or in a groundwater protection area will need to contract with qualified consultants to provide the necessary hydrological analysis and other information required in such instances.

Proposed Chapter NR 820, Wisconsin Administrative Code
Groundwater Quantity Protection
Department Responses to Comments Received
January 2007

ISSUE

2003 Wisconsin Act 310, enacted in April 2004, expands the scope of the Department of Natural Resources' authority over high capacity wells to include consideration of impacts to certain sensitive water resources, explicitly requires annual reporting of groundwater pumping and directs the department to designate two groundwater management areas. The proposed rule implements the provisions of 2003 Wisconsin Act 310.

The proposed rule, ch. NR 820, identifies the geographic extent of two groundwater management areas as specified in the statutes. Under the proposed code, all owners of high capacity wells will be required to submit annual pumping reports to the department. In addition, ch. NR 820 establishes processes and criteria to guide the review of proposed high capacity wells near springs, trout streams, outstanding resource waters (ORW) and exceptional resource waters (ERW).

PUBLIC HEARINGS

Five public hearings were held to better inform the public about the proposal, and to record the comments and/or concerns expressed by interested citizens. Hearings were held in mid-December 2006 in Menomonie, Green Bay, Waukesha, Madison, and Stevens Point.

Summary statistics from the meetings are detailed below:

Hearing Location – Date	# of Appearance Slips Submitted	# Indicating Support of the Proposed Rule	# Indicating Opposition to the Proposed Rule
Menomonie – Dec. 13, 2006	5	1	
Green Bay – Dec. 15, 2006	4		
Waukesha – Dec. 18, 2006	5	1	2
Madison – Dec. 19, 2006	3		
Stevens Point – Dec. 20, 2006	31	6	11
Total	**48**	**8**	**13**

COMMENT PERIOD

A formal public comment period for the submittal of written comments followed the public hearings. The deadline for submitting written comments was set for January 5, 2007.

SUMMARY OF COMMENTS RECEIVED & DEPARTMENT RESPONSE

Comments were received from 92 different individuals and/or organizations. This includes oral statements made at public hearings as well as written statements submitted by either e-mail or

U.S. Mail. Where multiple comments were received on the same or similar topic, comments were consolidated and a single response has been provided. Following each comment is a numerical reference in parentheses that identifies the individual or organization that submitted the comment. These numbers correspond to the numbered list, provided at the end of this document, of individuals and organizations that submitted comments on the proposed rule.

Scope

1. **Comment:** We are concerned with falling lake levels in the area of central Wisconsin, where many irrigation wells are operating. Many of these lakes are seepage lakes or water table lakes and should be protected under ch. NR 820. These types of lakes can be significantly affected by nearby groundwater pumping. (1, 2, 5, 6, 9, 10, 11, 14, 18, 20, 22, 23, 26, 29, 30, 31, 33, 34, 35, 36, 37, 38, 49, 53, 62, 69, 73, 74, 76, 78, 79, 81, 82, 85, 89)

   Response: The specific water resources afforded protection under ch. NR 820 is based directly on statutory provisions created by 2003 Wisconsin Act 310. Act 310, through sections 281.34(4) and (5), Stats., directs the department to consider impacts of proposed high capacity wells under three specific circumstances; 1) if the well is located within a groundwater protection area; 2) if the well involves a water loss of more than 95% of the water withdrawn; and 3) if the well may have a significant environmental impact on a spring. Section 281.34(1)(a) defines groundwater protection areas as areas within 1,200 feet of a Class 1, 2 or 3 trout stream, an outstanding resource water or an exceptional resource water. Therefore, if a water body is not a trout stream or has not been identified as an outstanding or exceptional resource water under s. 281.15, Stats., it does not constitute a groundwater protection area and thus is not considered in the context of ch. NR 820. The department does not have specific statutory authority to consider impacts to any other water resources beyond those identified in s. 281.34, Stats.

   Under 2003 Wisconsin Act 310, the Groundwater Advisory Committee has been directed to review the implementation of s. 281.34, Stats., and submit recommendations to the legislature pertaining to changes in the regulation of high capacity wells in groundwater protection areas. As part of this review it is likely that the Groundwater Advisory Committee will consider expanding the criteria for definition of a groundwater protection area to include additional valuable water resources. The Groundwater Advisory Committee's recommendations will be contained in a report to the legislature which is due by the end of 2007.

2. **Comment:** The extent of water resources protected under the rule is too narrow. As proposed, only a handful of lakes would be afforded protection. All lakes, streams and other sensitive hydrologic areas in Wisconsin should be protected from the impacts related to high capacity wells. (13, 29, 62, 66, 67, 69, 73, 84, 86, 87)

   Response: As discussed in the preceding response, the extent of the department's authority is limited by statute. The department does not have specific authority to consider impacts on all lakes, streams and other sensitive water resources as requested.

3. **Comment:** We expect the DNR to protect the lakes and streams from all threats, including those related to agriculture. (34)

Response: High capacity wells proposed for agricultural uses and that are within groundwater protection areas or near springs will be regulated under ch. NR 820.

4. **Comment:** DNR must have the ability to review and approve new high capacity wells, especially near high quality waters, such as trout streams and springs. (3)

   Response: As discussed in the response to Comment 16, the department does have the authority to consider impacts of new high capacity wells on certain high quality water resources and springs.

5. **Comment:** The rule only applies to wells pumping more than 100,000 gallons per day in very limited areas. Installation of high capacity wells in the rest of the state is unregulated. (34)

   Response: The premise that ch. NR 820 only applies to wells pumping more than 100,000 gallons per day is incorrect. By virtue of the definitions of "high capacity well" and "high capacity property", the code will actually apply to many wells that have a maximum pumping capacity of less than 100,000 gallons per day.

   The comment is partially correct in that the environmental review aspects of ch. NR 820 only apply to high capacity wells proposed to be constructed within groundwater protection areas, near springs or involving high water loss. However, the pumpage reporting requirements specified in s. NR 820.13 apply to all high capacity wells. In addition, the construction of all wells, both low capacity and high capacity, is regulated and will continue to be regulated under ch. NR 812, Wis. Adm. Code.

6. **Comment:** How do lakes get designated as exceptional or outstanding resource waters? (34)

   Response: The process for designating water bodies as outstanding or exceptional resource waters is governed by s. 281.15, Stats., and ch. NR 102, Wis. Adm. Code, which contains a listing of outstanding and exceptional resource waters.

7. **Comment:** Section NR 820.30(7) – Why is mitigation only applicable to wells constructed before May 7, 2004? This seems to grandfather virtually all existing wells. (34)

   Response: Section NR 820.30(7) does not grandfather all existing wells. Rather, this provision states that the department may order the owner of a high capacity well constructed before May 7, 2004 (the effective date of 2003 Wisconsin Act 310) and located within a groundwater protection area to mitigate the effects of the well. This code language is consistent with the provisions of s. 281.34(8)(d), Stats.

8. **Comment:** The proposal suggests that irrigation wells already in place will not be regulated like the new ones. WHY? They should not have unlimited use. They obviously are already having a detrimental affect to nearby lakes & wells. (25)

   Response: First, it should be pointed out that existing high capacity wells are not entitled to "unlimited use". These wells are regulated under the authority of ch. NR 812 and the approvals issued by the department include specific limitations concerning approved pumping capacity and maximum daily use.

The environmental review aspects of the rule apply only to new wells and as mentioned in response to Comment 5, the pumpage reporting requirements will apply to all high capacity wells. The department has limited statutory authority to unilaterally modify previously issued approvals. Section 281.34(7), Stats., states that the approval remains in effect unless the department modifies or rescinds the approval because the well or use of the well is not "in conformance with standards or conditions applicable to the approval". Thus, as long as the well has been constructed, maintained and operated in conformance with the applicable code requirements and conditions of approval, the well can continue to operate. The department could also modify the approval for an existing high capacity well in response to a request for a modification by the owner of the well. Finally, as discussed in response to Comment 7, the department also has authority to order mitigation activities in very specific situations.

9. Comment: Groundwater protection areas should not be limited to areas within 1200' of streams and springs. Impacts to surface water can occur even if the well is located more than 1,200' away.(29, 41, 68)

Response: The extent of groundwater protection areas is explicitly defined in s. 281.34(1)(a), Stats., to include that area within 1,200 feet of outstanding or exceptional resource waters and Class 1, 2 or 3 trout streams. The department does not have the authority to modify this definition. As mentioned in response to Comment 1, the manner in which groundwater protection areas are defined will be considered by the Groundwater Advisory Committee in 2007.

10. Comment: Wisconsin's laws should be expanded to require permitting for any well that will be used for business purposes, even if they do not pump at 100,000 gpd.(48)

Response: Comment noted. The department's authority to regulate construction of high capacity wells is currently limited by the provisions of s. 281.34, Stats., which are based on a threshold of combined pumping capacity on a single property of more than 100,000 gallons per day. The law does not create any distinctions or special requirements based on the purposes for which the water will be used.

11. Comment: I am concerned about impacts to private wells. Who is responsible if private wells go dry because of a high capacity well? (88)

Response: Section 281.34(5), Stats., identifies the standards that the department must consider in issuing an approval of a proposed high capacity well. Under existing statutory authority, the department is only authorized to consider impacts on existing municipal water supplies, impacts to groundwater protection areas and springs, and issues related to high water loss.

Impacts to private water supplies are basically a water rights issue. Wisconsin generally follows the "reasonable use" rule. Under that approach, a property owner's use of groundwater under their land must not cause unreasonable harm to another property owner's ability to exercise their rights to use the water beneath their property. If a dispute arises over the use of groundwater, it is up to the parties to try to reach a settlement or ultimately the matter could be resolved in the courts. This legal framework has developed and evolved through case law in the state, most notably *State v. Michels Pipeline Construction, Inc.***,** 63 Wis.2d 278, 217 N.W.2d 339(1974).

Environmental Review

12. Comment: An Environmental Assessment must be done for all wells located in Groundwater Protection Areas and near springs. How can the department determine that a proposed well will not cause significant adverse environmental impacts without conducting an environmental assessment? Act 310 requires preparation of an environmental assessment on any application for a high capacity well proposed to be located in a groundwater protection area. The law does not allow exemptions – all wells in GPAs should get an environmental review. Given the small number of applications expected each year, this should not be an undue burden on the department. (2, 4, 9, 10,21, 22, 23, 29, 34, 38, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 53, 54, 56, 57, 63, 65, 69, 72, 73, 77, 78, 81, 84, 85, 87, 89, 90, 91, 92)

Response: Under proposed ch. NR 820, all proposed high capacity wells within a groundwater protection area will be subjected to an environmental review. The rule specifies additional information that must be submitted as part of an application for approval of a high capacity well within a groundwater protection area. Based on that information, other information available to the department and the screening tools specified in ch. NR 820, the department will make a determination whether the proposed well could result in significant adverse environmental impacts. If that review indicates that significant environmental impacts could result or the proposed well does not meet the screening criteria, the department would then prepare an environmental assessment, which consists of a formal and structured process under ch. NR 150.

Act 310 does not require that the department prepare an environmental assessment on each high capacity well proposed to be constructed within a groundwater protection area. Rather, s. 281.34(4)(a), Stats., states:

> *"The department shall review an application for approval of any of the following using the environmental review process in its rules promulgated under s. 1.11:"*

This provision is simply directing the department to implement a process of review of certain high capacity wells (i.e., within groundwater protection areas, involving a high water loss or with significant impacts on springs) that is consistent with the environmental review process established in ch. NR 150, Wis. Adm. Code. The approach adopted through NR 150 is one that recognizes that not all department actions warrant the same level of environmental review and consequently incorporates a hierarchy of review depending on the level of potential environmental impact posed by a given action.

Section NR 150.03, Wis. Adm. Code, establishes an "Action Type List" which assigns the appropriate level of environmental review associated with over 300 department actions, including those related to regulatory decisions. Under s. NR 150.03(8)(h)1, approvals of high capacity wells are characterized as a Type IV action. This is also the level of review that has been determined appropriate for diversions directly from surface waters for irrigation and agricultural purposes {s. NR 150.03(8)(f)9.} The environmental review process for Type IV actions, as specified in s. NR 150.20(1)(a), is as follows:

> *a) Type IV actions. Except as provided under s. NR 150.20 (2) (b) , type IV actions do not require the EA or EIS process, do not require a news release, and are otherwise exempt from the procedural requirements of this chapter. The department may prepare and distribute an EA on the proposed action to aid department decision*

making if the department determines that critical resources are affected by the proposed action, or there may be substantial risk to human life, health or safety.

The process proposed in ch. NR 820 establishes an activity-specific screening process by which the department can determine which proposed high capacity wells require the more detailed environmental review encompassed by a formal environmental assessment under ch. NR 150. As stated above, all applications subject to ch. NR 820 will undergo some level of environmental review. This review, in concert with the screening criteria, will lead to a preliminary determination by the department as to whether a proposed well could lead to significant adverse environmental impacts, in which case an environmental assessment would be prepared and the processes specified under ss. NR 820.30(4), NR 820.31(5) or NR 820.32(3) would be followed.

The environmental review process created in ch. NR 820 is consistent with the process prescribed in ch. NR 150 and the direction given in Act 310.

13. Comment: Under s. 820.30(3)(a) the only time an approval should be issued without conducting an environmental review is if the well would, upon approval, be the first and only high capacity well within the Groundwater Protection Area. (29)

Response: All applications reviewed under s. NR 820.30(3)(a) will be subjected to an environmental review. This review will be used by the department to determine whether the proposed well can be approved based on the information submitted or whether the formal environmental assessment process under ch. NR 150 should be implemented.

14. Comment: All proposed high capacity wells near ORW lakes should go through the Environmental Assessment process. (11, 14, 18, 26, 30)

Response: Environmental assessments will be prepared on those wells within 1,200 feet of any outstanding resource water that, based on the department's preliminary environmental review of the application, has been determined to have the potential to result in significant adverse environmental impact.

15. Comment: Environmental assessments should be conducted on all high capacity wells. Specific provisions should be added to the code pertaining to wells that could result in impacts to any lake or stream. Approvals of high capacity wells shall include an analysis that allows the department to make a determination that there are no reasonable alternatives for the proposed well. (52)

Response: The department does not believe that preparation of an environmental assessment prior to the approval of <u>all</u> high capacity wells is necessary. Such a requirement would place an unnecessary burden on the department, would substantially increase the length of time required for the approval process and would not result in significantly greater environmental protection. The department further maintains that Act 310 has identified those high capacity wells that warrant a greater degree of environmental review and the process in proposed ch. NR 820 will be effective in identifying those proposals that merit the greatest level of environmental evaluation.

In the case of proposed wells within groundwater protection area, s. NR 820.30(1)(g) requires an applicant to submit information pertaining to alternative well locations and the feasibility

of siting the well outside of the groundwater management area. Consideration of reasonable alternative locations is also required under sections 281.34(5)(b)2 and (d)2, Stats., pertaining to high capacity wells that are wells for a public water utility. These provisions are reflected in s. NR 820.33. Proposals involving wells for a public water utility are the only situations for which the department has been granted explicit statutory authority to consider reasonable alternatives as part of the regulatory review process.

16. **Comment:** The exception for high capacity wells that do not exceed 10% of the stream flow or 10% of the lake volume fails to consider the cumulative effect of multiple wells. Section 820.30(2) would exempt wells taking 10% of the flow of a stream from an environmental assessment without considering other water consumption – hence 10 such wells may dry up a stream. The DNR should consider the cumulative impacts of multiple high capacity wells near protected lakes, rivers/streams, and springs including those wells located just outside of a groundwater protection area. (2, 9, 10,11, 14, 18, 22, 23, 26, 30, 34, 38, 39, 40, 41, 49, 53, 59, 62, 65, 68, 76, 77, 78, 84, 85, 86, 87, 91, 92)

Response: The provisions in s. NR 820.30(3)(a), applicable to proposed high capacity wells that are within a groundwater protection area, do not constitute strict exceptions. The conditions specified in that section are simply preliminary screening criteria which the department will use to help distinguish those proposed wells that clearly will not cause significant adverse environmental impacts from those that may. The screening criteria will not necessarily be used in isolation. The department's preliminary analysis will consider possible impacts from other wells on the high capacity property and will also assess the proposed well in the context of actual or existing stream flow conditions. In doing so, the impacts of other groundwater users in the vicinity of the stream or lake are taken into account, insofar as they are actually affecting stream flow or lake level. If the proposed well does not trigger the screening criteria proposed in ch. NR 820, but the department has evidence or other information suggesting the water body is already significantly affected or stressed by other users, the department can determine that the proposed well warrants preparation of an environmental assessment. Further, under this scenario, the department could ultimately determine that approval for the proposed well should be denied on the basis that the water body is already experiencing significant adverse impacts and the proposed well cannot be conditioned in such a way to avoid further significant adverse environmental impacts as required under s. NR 820.30(6).

As discussed above, by considering the actual or current stream flow conditions , the impacts caused by wells on other nearby high capacity properties will be incorporated into the department's review of a proposed well within a groundwater protection area. However, the department does not have broad authority to use that analysis as justification to revise an approval for a well on another owner's property in an effort to reduce the severity of existing impacts. In fact, the statutes grant very limited authority to the department in this regard. First, s. 281.34(7), Stats., states that such approvals remain in effect unless modified by the department due to issues related to non-compliance. Second, s. 281.34(8)(d), Stats., authorizes the department to order the owner of an existing high capacity well within a groundwater protection area to mitigate the effects of the well, with the specific condition that the department provides full funding for the cost of mitigation. Those are the only two instances in which the department can unilaterally modify an approval for a well within a groundwater protection area that was approved prior to enactment of Act 310. In addition to these mechanisms, approvals for existing wells can also be modified if the owner requests a modification or a new well approval, including approval to replace an existing well, on their high capacity property.

The department has revised s. NR 820.30(3)(a) to explicitly indicate that the department will consider the impacts caused by other wells on the high capacity property and will consider the actual or current stream flow or lake level conditions of the trout stream, outstanding resource water or exceptional resource water. Further, s. NR 820.30(3)(b) has been modified to clarify that in addition to placing conditions on the approval for the proposed well, the department may also place additional conditions on the operation of other previously approved wells on the property, if needed to prevent significant adverse environmental impacts. Lastly, if sufficient funding is available, the department could also order mitigation as described above.

17. **Comment:** There is not adequate scientific basis for allowing a 10% reduction in flow of a stream or removal of 10% of a lake's volume or for using a 400 acre threshold for lakes. These thresholds are not justified. The criteria for exempting wells from an environmental assessment are too lax and ignore consideration of cumulative impacts. Will they be protective of the environment? In several places it is mentioned that the well may be approved if the capacity of the well is less than 10% of the flow. This fails to consider the cumulative effect of several wells whether under one owner or many. Ten or more wells could essentially cut off flow. Lake volume should not be decreased by high capacity wells. Taking 10% of a lake volume is very significant for small inland lakes. The size of the lake needs to be considered beyond the 400-acre limit. (2, 9, 10, 22, 28, 29, 40, 41, 42, 47, 49, 57, 59, 62, 63, 65, 69, 72, 73, 81, 84, 90)

Response: The screening criteria proposed by ch. NR 820 do not authorize a 10% reduction in flow of a stream or 10% reduction in volume of a lake. Rather, the screening criteria are tools the department will use as a preliminary means to identify those wells that are unlikely to result in significant adverse environmental impacts. The department has taken a conservative approach by relating the proposed pumping capacity of the well to a low flow condition in the stream, the 80% flow. As an example of how the screening criteria would be applied, if a stream has a low flow volume of 3 cubic feet per second, the maximum pumping capacity the department could approve without an environmental assessment would be 0.3 cfs or about 135 gallons per minute. By comparison, typical irrigation wells throughout the state have pumping capacities well in excess of that value, commonly between 800 and 1,200 gallons per minute. Therefore, most irrigation and other large industrial wells proposed to be constructed within 1,200 feet of such a stream would trigger preparation of an environmental assessment under ch. NR 820.

The department believes it is reasonable to compare the pumping capacity of a proposed well to the low flow of the nearby water body as a preliminary screening tool. If the proposed pumping capacity is less than 10% of the low flow volume of the stream, the department is confident that the well would not result in significant adverse environmental impacts to the stream. The department also has the authority and discretion to require an environmental assessment even if the pumping capacity of the proposed well does not exceed the applicable screening criteria. This allows the department to take into consideration important factors other than the flow characteristics of the stream, such as the number and pumping capacity of other groundwater wells in the area and actual flow conditions of the trout stream, outstanding resource water or exceptional resource water.

The screening criteria pertaining to lakes are similar to those applied to streams in that they relate the proposed pumping capacity to low flow conditions in the lake's outlet or relate the pumping capacity to the volume of water contained in the lake. The criteria citing the lake

surface area of 400 acres as a threshold is based on an analysis of the amount of water contained in such a lake compared to a conservative volume of water that would be removed by a typical irrigation well. For purposes of the analysis, it was assumed that the 400-acre lake had an average depth of 10 feet and that the amount of water withdrawn was at a rate of 1000 gallons per minute, for 24 hours/day for 30 consecutive days. Under these conditions and assuming that all of the water pumped from the well is water that is lost from the lake, the well would remove just over 3% of the starting lake volume for a 400-acre lake and would be even less for larger lakes. As an additional conservative measure, the department has modified this screening criteria by increasing the acreage threshold to 600 acres. The volume of water withdrawn by the example well would constitute about 2% of the starting lake volume for a 600 acre lake with an average depth of 10 feet.

As in the case of streams, the department also has the authority and discretion to prepare an environmental assessment even if the pumping capacity of the proposed well does not exceed the applicable screening criteria. Finally, the rule requires that an environmental assessment be prepared for proposed wells that are within 1,200 feet of a lake that does not have a surface outlet (i.e., seepage lakes) and is designated as outstanding or exceptional resource waters.

In addition to aspects related to preparation of an environmental assessment, the rule includes other important provisions which further help to protect against adverse environmental impacts. In the case of either a lake or a stream, sections NR 820.30(3)(b) and (6) require the department to include conditions in the high capacity well approval to ensure that the well does not result in significant adverse environmental impacts. Finally, s. NR 820.30(5) authorizes the department to require an owner of a well in a groundwater protection area to monitor the nearby surface water and, based on the monitoring results, the department may modify the approval of the high capacity well.

In response to the public comments, the department modified the screening criteria in s. NR 820.30(3)(a)5 pertaining to outstanding or exceptional resource water lakes that are less than 400 acres in size. The department changed the criteria by increasing the acreage specification to 600 acres and reducing the threshold value for the relative water volume removed through 30 days of continuous operation of the proposed well from 10% of the volume of the lake to 5%.

18. Comment: In order to address seepage lakes, one possible solution might be to amend section NR 820.30(3)(a)4 and 5 to remove the condition of surface inlets and outlets, or to change to a surface or sub-surface inlet or outlet. (2)

Response: The screening criteria in s. NR 820.30(3)(a)4 and 5 each require that the lake have a surface outlet. Thus, the code does require that an environmental assessment shall be prepared for wells proposed to be located near any seepage lake that is designated as an outstanding or exceptional resource water. The only exceptions are those wells excluded under s. NR 820.30(2)

19. Comment: Section NR 820.30(3)(a)3 should be modified so it is clear this condition only applies to those protected lakes that have a surface water outlet. (29, 63)

Response: Section NR 820.30(3)(a) has been modified as suggested.

20. Comment: Section NR 820.30(3)(a)5 should be eliminated or revised to only exempt wells from review if the cumulative effect would be to take 1% or less of a stream's flow. The research shows that the currently proposed 10% allowance would cause significant negative impacts on fisheries.(10, 29, 63)

Response: As discussed in response to Comment 17, the rule does not allow removal of 10% of the normal stream flow. The criterion relates the proposed maximum pumping capacity to relatively low flow condition of a stream. A well pumping at less than 10% of the 80% flow of a nearby stream should not result in significant impacts on the stream's fishery.

21. Comment: Section 820.33 – Municipal wells should comply with all provisions of the code – there should not be an evaluation of the balance between impacts and public benefits. Exemptions for municipal wells are contrary to the statutes. (34, 42, 10, 41, 63, 68)

Response: The approach enumerated in s. NR 820.33 related to municipal wells is consistent with the provisions of sections 281.34(5)(b)2 and 281.34(5)(d)2, Stats. In fact, the wording in the proposed rule is nearly identical to the statutory provisions. As an example, s. 281.34(5)(b)2, Stats., reads as follows:

> *281.34(5)(b)2.: Subdivision 1. does not apply to a proposed high capacity well that is located in a groundwater protection area and that is a water supply for a public utility engaged in supplying water to or for the public, if the department determines that there is no other reasonable alternative location for a well and is able to include and includes in the approval conditions, which may include conditions as to location, depth, pumping capacity, rate of flow, and ultimate use, that ensure that the environmental impact of the well is balanced by the public benefit of the well related to public health and safety.*

22. Comment: Section NR 820.30(2)(a)– Does domestic use include lawn maintenance, gardens, artificial ponds etc..? (34)

Response: Domestic water use is interpreted to include normal household water uses such as drinking, food preparation, bathing, laundering, flushing toilets, and watering lawns and gardens. A well constructed for these purposes at a single residence would typically involve a pumping capacity of less than 15 gallons per minute.

23. Comment: Section 820.30(2)(a)– This provision should not include the reference to 100,000 gpd, why not use a lower threshold, e.g., 500 gpd. (34, 42, 49)

Response: The reference to 100,000 gallons per day is intended to serve as the upper limit for the pumping capacity of a domestic well under this provision. In response to comments, the limit of 100,000 gallons per day was replaced with a limit on pumping capacity of 20 gallons per minute. This limit should reasonably cover most, if not all, domestic wells on a high capacity property constructed for residential use in the state.

24. Comment: Section NR 820.30(2)(b) – I question the reasoning behind allowing use of a high capacity well for maintaining the level of a pond. What constitutes a natural pond? (34, 49)

Response: The department has removed the provision from the rule. If a proposed high capacity well is needed to maintain the level of a natural pond, and that well is within a groundwater protection area, the well will be reviewed in the same manner as other high capacity wells in groundwater protection areas.

25. Comment: Section NR 820.30(2)(c) - Well reconstruction should not be exempted from regulation. Why is reconstruction of wells allowed without a review? This basically grandfathers all existing wells regardless of location and impacts. (34, 42, 53)

Response: Allowances for reconstruction of an existing well were specifically discussed during development of Act 310. It was agreed that if the proposed reconstruction of an existing well did not involve an increase in the pumping capacity of the well, the full environmental review aspects of Act 310 would not be applicable. Reconstruction, as defined in Chapters NR 812 and 820 does not involve drilling a replacement well in the same location – that would be viewed as construction of a new well. Reconstruction only entails modification of an existing well and could include activities such deepening the well, installing or replacing a screen and physical conditioning of the well through blasting or hydrofracturing.

26. Comment: Dewatering wells and sporadically used wells should not be exempted from the environmental review process. Tests have shown that streams can be dewatered with only a few hours of heavy pumping.(10, 34, 41, 42, 47, 49, 54, 57, 63, 65, 68, 85, 92)

Response: Temporary construction site dewatering wells and sporadically used wells do not pose the same level of environmental threat as most other high capacity wells. Dewatering wells and sporadically used wells generally will only result in temporary, localized impacts of relatively short duration.

The original wording in s. NR 820.30(2) incorrectly implied that these types of wells would not be evaluated in terms of potential impacts to trout streams, outstanding resource waters and exceptional resource waters. These wells will undergo the preliminary level of environmental review as discussed in response to Comments12 and 13. The department has modified the wording in s. NR 820.30(2) to be more consistent with provisions in s. NR 820.30(3)(a) so that it is clear the department must make a preliminary finding that the proposed well will not result in significant adverse environmental impacts.

The parallel provision in s. NR 820.31(3), in regard to springs, has been modified to remove the exclusions for dewatering wells and sporadically used wells. Those wells will undergo a preliminary review to determine potential impacts to springs. The department may approve a residential well and reconstruction of an existing well without evaluating potential impacts to a nearby spring.

27. Comment: Section NR 820.30(4)(d) – The department should not be able to approve a well if the water level in the nearby lake or stream is predicted to fall below the public rights stage. (34)

Response: The provision in s. NR 820.30(4)(d) which gave the department limited authority to approve a high capacity well in a groundwater protection area even though the water level in a nearby lake or stream could fall below the public rights stage, has been removed from the rule.

28. Comment: Section NR 820.30 – The determination of the 80% flow is an unnecessary and expensive hardship for most well proposals. This requirement is only needed because it is driven by a desire to exempt many wells from the environmental review. Delete the exemption, give all wells a review and delete this requirement. (42)

Response: As stated in response to comments 12 and 13, all applications for approval of high capacity wells within groundwater protection areas and near springs will undergo some level of environmental review. The department does believe it is unreasonable to require submittal of additional information for wells proposed in these locations in comparison to applications for other high capacity well applications. In fact, specific information pertaining to the low flow characteristics of the stream is necessary for the department to properly consider the impacts of a proposed well regardless of whether the screening criteria threshold value of 10% is reached or not.

29. Comment: Section NR 820.30(4) applies to "wells that satisfy the conditions under sub. (3)(a)1. to 5. but for which the department has determined that the proposed well may have a significant adverse environmental impact on a trout stream...." This provision is contradictory in that any impact on a trout stream would seem to fail to satisfy the requirements of s. NR 820.30(3)(a) by definition. (59)

Response: The comment seems to assert that any impact on a trout stream should be considered to be a significant adverse environmental impact. The department disagrees. The potential impacts to a trout stream could range from de minimis to catastrophic. The department will evaluate each situation individually and determine whether the projected impacts are significant and warrant preparation of an environmental assessment. The language in s. NR 820.30(4) referred to in the comment reflects the situation in which a proposed well does not trigger the screening criteria yet the department has still determined that the potential impacts could be significant.

30. Comment: Section NR 820.32 mentions "water loss greater than 95%" in several places but does not appear to state the baseline from which such losses are to be assessed. (59)

Response: There is not a need to establish a baseline. The water loss is determined by an assessment of the location of the proposed well, the purpose for which a proposed well is to be used and consideration of a detailed water balance for the project requesting approval of the well. Very few wells will exceed the 95% water loss threshold. The most likely scenarios in which this value will be exceeded could include wells drilled for water bottling or energy generation purposes (high consumption) and cases where the well is drilled within one basin but the water is actually used in another basin (inter-basin transfer). Some wells proposed for industrial purposes may have a relatively high water loss through incorporation into a product or loss through evaporation or other discharge. In those situations, an analysis of a detailed water balance for the proposed well will be needed in order to determine the projected water loss.

Application Requirements

31. Comment: In several sections, such as sections NR 820.30(4)(a) and NR 820.31(5)(a), the timeframe within which the department should respond to an applicant is not specified. It may be assumed that this timeframe is within the 60 days, specified elsewhere in the Sections referenced, but this is not clear from the draft Administrative Code. (59)

Response: A new section, NR 820.29, has been added to the code to specify that within 65 business days after receipt of a complete application, the department shall either issue the necessary approval or notify the applicant that it has determined the proposed well could

result in significant adverse environmental impacts and an environmental assessment will be prepared.

32. Comment: Section 820.30(1) should include a requirement to identify other water users and quantity of water use near a proposed well. (29, 42, 49)

Response: The code requires an applicant to submit detailed, current information pertaining to all other wells on the high capacity property. Requiring an applicant to compile and submit similar information about other wells in the vicinity of the proposed well is not necessary and would not substantially augment the review process. This information is readily available to the department and would be appropriately considered by the department as the proposed well is reviewed.

33. Comment: The information required under s. NR 820.30(1) should include more detailed information regarding groundwater flow, groundwater elevation, and aquifer characteristics between the well site and the potentially affected surface water and the projected change in direction and quantity of groundwater flow due to the drawdown caused by the proposed well. (29)

Response: An additional provision has been added to s. NR 820.30(1) to specifically require submittal of pertinent hydrogeologic information.

34. Comment: The information pertaining to lakes in s. NR 820.30(1)(d) should include a discussion of the lake's landscape position in the drainage basin, characterization of the lake as a drainage or seepage lake, approximate annual groundwater inflow and outflow, and current lake stage. (29)

Response: Section NR 820.30(1)(d), applicable to proposed high capacity wells near lakes that are designated as an outstanding or exceptional resource water, has been revised to include information pertaining to the current lake level or stage. Further, the hydrogeologic information discussed in response to Comment 33 will give an indication of the lake's position relative to the regional groundwater level.

35. Comment: Section NR 820.30(1)(d) Information related to lakes submitted as part of an application should be more specific. Such information should include rate of groundwater discharge, vegetation, aquatic animal life, estimated thermal and water quality impacts, and ultimate impacts on the aquatic life in the lake. (84)

Response: This information was not added to the proposed rule. The department has access to information about the aquatic resources present within lakes that are designated as outstanding or exceptional resource waters as it assesses potential impacts. Requiring an applicant to compile such information as part of the initial application is unnecessary.

36. Comment: Under s. NR 820.30(1), if the affected water body is a lake without an outlet, a determination by the Department of Natural Resources of the elevation of the ordinary high water mark or the public rights stage on the lake should be required. (29)

Response: Section NR 820.30(1) specifies information that is to be submitted by an applicant for approval of a well in a groundwater protection area. Determination of the public rights stage or flow would be completed by the department as necessary to evaluate the application.

Such a determination may not be needed in all cases but would likely be required for completing review of those applications for which an environmental assessment is prepared.

37. Comment: Section NR 820.30(1)(g) – Who pays for the professional engineer and how will the information they submit be verified?(34)

Response: Costs of compiling the information required for a complete application are borne by the applicant. The information submitted as part of an application is assessed and verified by the department.

38. Comment: Applications for high capacity wells should include information about surface water resources within 2400' of the proposed well. (62)

Response: The department's authority to consider impacts on surface waters is limited to those water bodies that constitute a groundwater protection area or that are directly related to a spring. Requiring information about surface water resources outside of the groundwater protection area or that are not associated with a spring would be inappropriate as the department has no authority to consider the impacts of the well on those water bodies.

39. Comment: Section NR820.30(1)(g) and (h) should also include Professional Geologists as many of the hydrogeologists in the state who have expertise in evaluating stream hydrographs are registered as professional geologists, not as professional hydrologists or professional engineers.(61)

Response: Comment noted. A reference to professional geologists has been added to the code.

40. Comment: Section NR 820.30(1)(d) uses the phrase "historic lake level fluctuations" without indicating a period over which the record must have been maintained. In this regard, it should be noted that few Wisconsin water bodies have records of lake level. This fact would limit the ability of any applicant to satisfy this requirement. (59)

Response: The department acknowledges that not all lakes and flowages designated as outstanding or exceptional resource waters will have detailed records of lake levels. The rule has been modified to require an analysis or discussion of the <u>available</u> information pertaining to historic lake level fluctuations. A similar change was also made in s. NR 820.30(1)(c) in regard to information pertaining to seasonal stream flow, as well. In situations where detailed records are not available, an applicant could include information that is more qualitative or anecdotal in nature. In any case, the available information will be evaluated and verified by the department.

41. Comment: Section NR820.30(3)(a) - The use of a standard of 10% of the 80% annual exceedance flow places a high burden of proof on the applicant in that it would appear that at least a year's worth of stream data, and probably several year's worth of data would be necessary to establish the 80% exceedance flow. Some language defining how the 80% exceedance flow can be derived within a reasonable time frame is needed. (61)

Response: As with the preceding comment, the department acknowledges that detailed stream discharge records are only available on a small portion of the streams and rivers in the state. In cases where detailed records are not available, other techniques to estimate the low flow characteristics of the stream will need to be used. As an example, the U.S. Geological

Survey has conducted analyses of stream flow characteristics of the major drainage basins in Wisconsin and has developed techniques and equations for estimating the low-flow characteristics of a stream within that drainage basin in the absence of specific stream discharge data.

42. Comment: Section NR 820.30(4)(a) may require additional information on flow, etc., but again fails to indicate a time frame over which such information needs to be analyzed. As above, it should be noted that few Wisconsin water bodies have records of lake level and stream flow which would limit the ability of any applicant to satisfy this requirement. (59)

Response: Information concerning lake levels or stream flow required under s. NR 820.30(4) would be required to supplement the basic low-flow information submitted as part of the original application. In this case, the department would specify new site-specific information that the applicant would need to collect in order for the department to complete its environmental assessment.

43. Comment: Section NR 820.31(5)(c) includes the statement "predicted to result in a reduction of flow" but does not indicate that predictions are required. The phrase "permanent and irreversible impacts" can only be assessed after the fact and over a specified timeframe, and therefore is meaningless. (59)

Response: The phrase "predicted to result in a reduction if flow" is referring to the analysis of the proposed well conducted by the department as part of its environmental assessment. In that process, the department will determine and disclose the extent of expected impacts to the spring resulting from the proposed well. The extent of the projected impacts will be assessed and, using professional judgment as discussed in Response 37, department staff will render a determination whether the predicted impacts would be considered "permanent and irreversible".

44. Comment: The rule does not require the use of groundwater models. Under s. NR 820.31, for example, the impact of high capacity wells can be ascertained within analytical certainty through the use of groundwater models such as the U.S. Geological Survey MODFLOW model. Specification of such tools and techniques would add a level of greater certainty to the determination of "significant environmental impact." (59)

Response: The department has opted to not specify the exact evaluation methods that will be used to assess potential impacts under ch. NR 820. While MODFOW or a similar modeling application may be the best tool in certain situations, it may not be necessary or applicable in others. Specifying a particular analytical approach in the rule could also limit the department's ability to use newer tools and analytical approaches as they are developed. Rather than being tied in to one specific method, the department believes a more flexible approach through which the most suitable analytical tools are determined for each situation is the better approach.

45. Comment: In spite of the provisions of s. NR 820.30(1), the information required for a residential well under s. NR 820.30(2)(a) is excessive. The information gathered will add unduly to the cost of installing the well but will not provide any additional benefit given the likely insignificant impact a residential well will have on the particular resource in question. It is likewise unclear what level of detail the Department will require for a "discussion" and an "analysis" of alternative well locations and feasibility of siting the well outside of the groundwater protection area when discussing residential wells in groundwater protection

areas. This aspect of the rule affords too much discretion to DNR officials who alone will pass judgment on whether the discussion and analysis are adequate. (60, 83)

Response: The department does not believe this information is excessive. Act 310 created a presumption that construction of high capacity wells within groundwater protection areas should be avoided and that if a well is constructed within a groundwater protection area, it should be subject to greater scrutiny to determine whether it may result in significant environmental impact. The information required as part of an application is necessary to document the need for construction of the well within the groundwater protection area and to demonstrate that a residential well, for example, will not cause significant adverse environmental impacts.

46. Comment: Applicants for high capacity well approvals should be required to demonstrate that the proposed well will not result in contamination of an aquifer currently producing potable water.(64)

Response: Act 310 did not grant the department authority to evaluate water quality as part of its review of high capacity well applications. Construction of high capacity wells will continue to be regulated under ch. NR 812, Wis. Adm. Code. Chapter NR 812 contains detailed well construction specifications which help to ensure that construction and operation of a high capacity well will not cause water quality problems. High capacity wells are also subject to special well casing area restrictions adopted under the authority of ch. NR 812, which provide further protection against water quality degradation as a result of well construction and operation. In addition, , the department does have the authority, on a case-by-case basis, to impose conditions on the construction of high capacity wells if needed to address water quality concerns.

47. Comment: Applicants for high capacity well approvals should be required to show that there are no other alternatives to the proposed well and that the well is absolutely necessary. (64)

Response: For high capacity wells proposed to be located within a groundwater protection area, s. NR 820.30(1)(g) requires an applicant to submit a discussion and analysis of alternative well locations and the feasibility of constructing the well outside of the groundwater protection area. Similar information may also be requested of an applicant proposing to construct a high capacity well located near a spring.

48. Comment: Applicants for high capacity well approvals in groundwater protection areas and near springs should pay all costs associated with the review and assessment of impacts. (68)

Response: The department does not have statutory authority to assess fees beyond the $500 application fee assessed on all applications for approval of high capacity wells, in accordance with s. 281.34(2), Stats.

In cases involving proposed wells that are in a groundwater protection area, near a spring or involve high water loss, ch. NR 820 specifies additional information that must be submitted as part of an application for approval of a high capacity well. The applicant is responsible for collection of that data and the costs associated with its collection. In addition, if the department determines that an environmental assessment must be prepared for the proposed well and that more information, or even an environmental impact report, is needed, the added costs and responsibility for collection of that information continues to be the responsibility of the applicant.

Approvals

49. Comment: Irrigation wells should be monitored to save the water table and a limit on how many wells can be put in an area. (5)

Response: Sections NR 820.30(5) and 820.31(6) authorize the department to require an owner of a high capacity well in a groundwater protection area or near a spring to implement a monitoring plan to document conditions of the surface water or spring. The code further provides that the department can revise a high capacity well approval based on the results of such monitoring. In addition, owners of all high capacity wells will be required to submit pumping data on an annual basis. This information will be useful to the department and other governmental entities in their efforts to evaluate and manage groundwater resources on local, regional and statewide levels.

The department does not have the authority to place a uniformly-applied limit on the number of wells that can be approved in a specified area. Rather, the approach created by law and reflected in the administrative rules focuses on case-by-case review of individual wells and independent assessment of the associated impacts.

50. Comment: The rule should authorize the DNR to modify existing well approvals and apportion limitations on pumping for other wells located within a Groundwater Protection Area at the time that a new well is approved. (29)

Response: In regard to existing wells on the same high capacity property, s NR 820.30((3)(b) specifies that the department may "modify the approvals or place additional conditions on the approvals of other previously approved wells on the high capacity property to prevent significant adverse environmental impacts". However, the statutes grant very limited authority to the department to modify existing well approvals for other wells located in groundwater protection areas. First, s. 281.34(7), Stats., states that such approvals remain in effect unless modified by the department due to issues related to non-compliance. Second, s. 281.34(8)(d), Stats., authorizes the department to order mitigation of an existing well within a groundwater protection area with the specific condition that the department provide full funding for the cost of mitigation. Those are the only two instances in which the department can modify the approval for a well within a groundwater protection area that was approved prior to enactment of Act 310.

51. Comment: The rule should include an exact approval timeline for the DNR to follow, so as to not tie up a project, when DNR approval is required. To be even more specific, based upon my personal experience in dealing with most government officials, I'd like the language to state that if the deadline is not met by the DNR, the request is automatically approved. (19)

Response: As discussed in response to Comment 31, the rule has been revised to include a specific period of time in which the department must act on an application for a proposed well under ch. NR 820. However, the statutes do not allow for a "default approval" process such as that suggested in the comment.

52. Comment: Existing and future permits should specifically identify the use for which the water from the high capacity well is intended as well as the number of days or time(s) of year that the owner can pump….i.e. the owner of a well designated for irrigation of a specified

piece of land would be prohibited from selling the water for profit or using the water during non-irrigation times of year such as January. Well approvals should limit the amount of water that can be pumped from a high capacity well.((34, 50)

Response: Current approvals of high capacity wells do specify the purpose for which the well is to be used in addition to specifying the approved maximum pumping rate for the well. In some cases, well approvals have also included limitations concerning periods of the year in which pumping is restricted. In addition, ch. NR 820 also explicitly provides that approvals of wells in groundwater protection areas, near springs or involving high water loss may include conditions specifying pumping schedules, months of operation and water conservation measures.

53. Comment: We are concerned with the practice of pumping water from wells and our lakes for farming and road construction during drought conditions. Stricter requirements should be imposed on groundwater use during drought conditions. (31, 58, 68, 69, 81)

Response: In the case of high capacity wells that are specifically regulated under ch. NR 820, approvals must include conditions to ensure that significant adverse environmental impacts will not occur as a result of the construction and operation of the proposed high capacity well. It is likely that such conditions would include specific limitations on pumping when flow conditions or lake levels in the nearby trout stream or outstanding or exceptional resource water are low.

54. Comment: Are there any rules about how many high capacity wells can be in a certain area? We have a number of them within a couple mile radius of our land and within 5 - 10 miles of a number of lakes. (37)

Response: The department does not have the authority to impose such a limit. See response to Comment 79.

55. Comment: Well approvals should be issued for a specific time period so that DNR can reassess the approval periodically. (68, 87)

Response: The department does not have statutory authority to impose a time period on approvals for high capacity wells. Well approvals are issued for the life of the well. Well approvals remain in effect unless the owner requests a change or the department revises the approval because the well is no longer in compliance with applicable regulatory requirements or specific conditions of the approval. Further, if the current approval system were replaced with a permitting approach mandating automatic periodic renewal and department review of all high capacity well approvals, it would require substantial additional funding and staff resources and would not significantly improve the effectiveness of the department's oversight of high capacity wells in the state.

56. Comment: All well approvals should require implementation of best management practices so that the water is used efficiently. (31, 68)

Response: The department does not have authority to require broad application of best management practices in all approvals. However, as mentioned in response to Comment52, under ch. NR 820, the department can include conditions related to conservation measures in

approvals for wells in groundwater protection areas, near springs or involving high water loss.

Springs

57. Comment: In regard to s. NR 820.31(4), what is a significant reduction in flow from a spring? (34)

Response: Section NR 820.31(5) provides some quantitative direction concerning allowable reductions in flow from a spring. That section states:

> *The department may not approve a proposed high capacity well that is predicted to result in a reduction in flow from a spring such that the spring does not flow at one cubic foot per second or greater 80% of the time or that will reduce the average flow from a spring by greater than 20%.*

58. Comment: The analysis of impacts to springs should include impacts to water bodies fed by the springs. (84, 92)

Response: The environmental analysis conducted by the department will not focus solely on the spring. It will also include evaluation of resources related to the spring. Further, s. NR 820.31(5)(c) requires the department to include conditions to prevent significant adverse environmental impacts to the "spring or critical resources related to the spring." Similarly, under s. NR 820.31(6), the department may require an owner of a high capacity well to implement a monitoring plan to "document conditions of the spring and related resources".

59. Comment: Sections NR 820.31(1).and (2) require an applicant to identify if there is a spring located "in the vicinity of the proposed well." The rule also refers to wells "located near a spring." The rule provides no guidance as to what "in the vicinity" or "near" means. DNR should establish a specific distance from a well rather than the vague and unenforceable language used in the current draft. (60, 61, 84)

Response: The rule has been changed to specify that the department will review applications for proposed high capacity wells to determine if there is a spring, as defined in the code, in the vicinity of the proposed well. While the applicant may be asked to disclose if they are aware of any springs, as defined in the rule, in the vicinity of the proposed well, the final determination will be made by the department.

60. Comment: The rule should include some type of guidance concerning the location of these springs. As spring locations are determined by the Department, those locations should be listed on a DNR website and/or publication that are referenced in the rule. (60)

Response: As stated in the preceding comment, the rule has been modified so that the department will be responsible for identification of springs in the vicinity of a proposed high capacity well. Currently, there is not a comprehensive and reliable statewide inventory of springs. There are a number of research projects underway that will form a starting point for such an inventory, but it will still be a number of years before a reliable database is developed.

61. Comment: Section NR 820.31(5)(c). The use of a standard of 20% of the 80% exceedance level for a spring presents the same problems as in s. NR 820.30(3)(a), with the added burden that there is no defined separation distance from the spring. In theory, an applicant for an approval could be forced to monitor a spring at any distance from a proposed high capacity well.(61)

Response: The conditions specified in s. NR 820.31(5)(c) are not the same as those pertaining to stream flow in earlier sections of the code. In regard to springs, the code specifies two separate conditions, both of which must be satisfied. First, the average flow from the spring may not be reduced by greater than 20 %. Second, the well may not cause a reduction in flow from the spring such that the spring no longer has a flow rate of at least 1 cubic foot per second at least 80% of the time. Since these provisions relate to flow from the spring itself, compliance with each of these conditions would be determined at the location of the spring.

Groundwater Management Areas

62. Comment: The criteria related to 150' of drawdown used for designation of groundwater management areas is too narrow and should be expanded. There are areas in the state with much less drawdown that have significant groundwater problems. (34, 58, 84)

Response: Section 281.34(9), Stats., directs the department to designate two groundwater management areas and specifies that those areas consist of areas in which the groundwater potentiometric surface has been reduced by 150 feet or more due to the effects of pumping. The department does not have statutory authority to expand the criteria applicable to designation of groundwater management areas.

The Groundwater Advisory Committee has recently submitted a report to the Legislature that includes a recommendation that the criteria for designating groundwater management areas be expanded. However, until the current statutes are changed, the existing criterion of 150' of drawdown will control the designation of these areas.

63. Comment: Areas of land that were previously included in the Town of East Troy are now in the Village of East Troy. Are those areas included in the area designated as a Groundwater Management Area in southeast Wisconsin? (84)

Response: Section NR 820.20(1)(a)6 specifies that the entire U.S. Public Land Survey township of East Troy is part of the Southeast Wisconsin Groundwater Management Area. The Village of East Troy is, for the most part, contained within the township and therefore is included in the groundwater management area. The small portion of the Village of East Troy that is in Troy Township is also considered to be part of the groundwater management area. This is the case because the approximate boundary of the area with 150 feet of drawdown lies beneath the eastern portion of the Village and therefore, in accordance with s. 281.34(9)(a) the entire area of the Village is included in the groundwater management area. The rule has been modified to explicitly state that the entire Village of East Troy is included in the groundwater management area.

64. Comment: The Tri-County area consisting of Polk, St. Croix and Pierce Counties should be designated as a Groundwater Management Area or a Groundwater Attention Area. Adequate

funding should be provided to support appropriate planning and management activities. (55, 70, 71)

Response: Section 281.34(9)(a) established the two groundwater management areas delineated in ch. NR 820. The area around St. Croix County was not included in the statutes and does not satisfy the criteria related to 150 feet of drawdown. The department does not have the authority to designate additional groundwater management areas.

In its recent report to the Legislature, the Groundwater Advisory Committee recommended that a new designation, Groundwater Attention Area, be created to encourage planning and proactive management in areas that could be experiencing groundwater quantity issues. The Groundwater Advisory Committee did not recommend designation of the St. Croix County area as either a groundwater management area or a groundwater attention area.

Definitions

65. Comment: Section NR 820.12(18) The definition of "public rights stage" is too vague. It should be redefined to include specific scientifically-based parameters. The state is obligated under the Public Trust doctrine to protect this principle. (84)

Response: The definition has been removed from the code. Due to other changes in the code, the term "public rights stage or flow" is no longer used in the rule.

66. Comment: The definitions for "high capacity property" and "one property" create the possibility that several low capacity wells used for a common purpose and clustered on separate properties, as in a subdivision, could lead to impacts equal to or greater than a single high capacity well but would remain essentially unregulated because the wells are on separate properties and under separate ownership. The permit process should be based on impacts, <u>not</u> ownership. The code should also be revised to require the regulation of low capacity wells that all serve the same project so as to not allow avoidance of high capacity well regulation by constructing several smaller wells. (4, 21, 45, 46, 47, 48, 54, 56, 65, 85, 92)

Response: The definition of "high capacity well" in s. 281.34(1)(b), Stats., includes the concept of considering high capacity wells to be those wells on the same property or "one property". The definitions referred to in the comment have existed for many years in ch. NR 812, Wis. Adm. Code, pertaining to well construction and pump installation. Under these definitions, the department has the ability to review the facts of a given situation and determine whether or not adjoining properties should be considered "one property". Because the definition of "one property" includes the phrase, "..or any other person having possessory interest.", the factors considered in making this determination go beyond simple ownership.

67. Comment: Section NR 820 needs to clarify the definition of "spring." The definition is too simplistic. Use the definition recommended by the Technical Advisory Committees and include small spring-fed ponds and areas of diffuse groundwater discharge. (4, 21, 45, 47, 56, 65, 75, 77, 85)

Response: The department has chosen to use the definition that was provided in the statutes {s. 281.34(1)(f)}. In an earlier draft of the rule, Department staff proposed a somewhat expanded definition of a spring that included small spring-fed ponds and areas of diffuse groundwater discharge. In addition, members of the Geology, Hydrogeology, Hydrology and

Public Health Work Group which provides support to the Groundwater Advisory Committee also suggested some refinements to the definition. However, based on input from the Groundwater Advisory Committee as a whole, it was determined to strictly follow the statutory definition. The Groundwater Advisory Committee is specifically charged with formulating recommendations regarding the statutory definition of spring and submitting those recommendations to the legislature in a report by the end of 2007.

68. Comment: The definition of spring is unclear and potentially ambiguous. It could be interpreted to include many lakes of varying size and the headwaters of many rivers in the state. It should be revised to better define the term "concentrated groundwater discharge" and also exclude those lakes that were not intended to be included as groundwater protection areas. (61)

Response: As discussed above, for the time being, the department intends to strictly follow the statutory definition of "spring". The department does not believe that the definition can be interpreted to include lakes unless, as provided in the definition, there is evidence of "concentrated groundwater discharge occurring at the surface of the land". It is more likely that the headwaters of a stream or river could be interpreted as a spring. However, there again needs to be evidence that the headwater area is fed by concentrated groundwater discharge and maintains a flow of at least 1 cubic foot per second at least 80% of the time.

69. Comment: Can the definition of "spring" be construed to include groundwater-fed lakes? If not, why not? Under the Public Trust doctrine, these lakes must also be protected. (51, 84, 92)

Response: As discussed in the response to the preceding comment, it is unlikely that a groundwater-fed lake would meet the definition of a spring. The department agrees that these lakes are afforded certain protections under the Public Trust doctrine, but for purposes of regulation specifically under ch. 281, Stats., the only water bodies affected are those that are trout streams, outstanding resource waters and exceptional resource waters. As stated in response to Comment 67, the definition of "spring" will be considered by the Groundwater Advisory Committee this year.

70. Comment: The definition of springs should include seepage lakes. (74, 75)

Response: See the responses to Comments 30 and 31. Seepage lakes would not typically satisfy the statutory definition of a spring.

71. Comment: The definition of "Significant adverse environmental impact" must also include considerations of biological and ecological impacts from groundwater pumping. (11, 14, 18, 26, 29, 30, 62, 73, 77, 78, 81, 85)

Response: The definition has been modified to clarify that the evaluation of environmental impacts will include biological and ecological aspects. The revised definition now reads:

> "Significant adverse environmental impact" means alteration of groundwater levels, groundwater discharge, surface water levels, surface water discharge, groundwater temperature, surface water temperature, groundwater chemistry, surface water chemistry, or other factors to the extent such alterations cause significant degradation of environmental quality <u>including biological and ecological aspects.</u>

In addition, the Groundwater Advisory Committee is required to submit additional recommendations to the legislature by the end of 2007 concerning the factors to be considered by the department of natural resources in determining whether a high capacity well causes significant environmental impact.

72. Comment: Vague terms such as "significant adverse impact" and "significant environmental impact" should be better defined. (34, 46)

Response: The department has reviewed the rule and replaced these terms and the term, "significant impact", with, "significant adverse environmental impact", a term that is defined in the rule {s. NR 820.12(20)}.

73. Comment: Define the term "significant adverse environmental impact". (10)

Response: A definition of the term is provided in s. NR 820.12(20)

74. Comment: The distinction between a GMA and GPA should be clear. (34)

Response: Definitions for these two terms are provided in sections NR 820.12(8) and (9). The department believes that the definitions are clear and sufficiently distinct. A Groundwater Management Area (GMA) is based primarily on the condition that groundwater levels in the area must have dropped by at least 150 feet, while a groundwater protection area (GPA) is predicated on proximity to a Class 1, 2 or 3 trout stream, outstanding resource water or exceptional resource water.

75. Comment: The proposed code makes frequent use of qualitative terms such as "significant", "extreme", "adverse", "unreasonable", and "permanent and irreversible" which are subjective and subject to interpretation by the reader. (59)

Response: Use of such terms is common in drafting environmental laws and rules. While they are subjective in nature, they also adequately convey a sense of priority and provide direction to the regulatory agency in terms of how impacts or other action should be evaluated. They further reflect the recognition that many permissible activities result in some degree of impact and that there can be a balance between allowing those activities and minimizing the severity of the resultant impacts. While determinations by department staff as to what constitutes an acceptable level of impact will involve some exercise of professional judgment, they will be documented and supported with accepted scientific methods and tools.

76. Comment: Section NR 820.12(20) attempts to define the term "significant adverse environmental impact" but uses the term "significant degradation" in the definition, which leaves it open to interpretation and opinion. (59)

Response: See the response to the preceding comment. Definition of "significant adverse environmental impact" in absolute terms that would be reasonable and appropriate in all instances is not feasible. Significance of environmental impacts can only effectively be determined on a case-by-case basis, taking into account the unique conditions of each situation. Further, as stated in response to Comment 71, the Groundwater Advisory Committee will be reviewing this issue in 2007 and formulating recommendations to the legislature.

77. Comment: Does the term "lake" include flowages and constructed or augmented water bodies?(59)

Response: Chapter. NR 820 refers to lakes only in the context of whether the lake is an outstanding or exceptional resource water. Sections NR 102.10 and 102.11, Wis. Adm. Code, identifies the water bodies in the state that have been designated as outstanding resource waters and exceptional resource waters, respectively. The "lakes" identified in ch. NR 102 include natural lakes and flowages.

78. Comment: The definition of "high capacity well" in s.NR 820.12(11) should be clarified to reference a well's pumping capacity. Thus, the draft would state that a high capacity well means "a well, that together with all other wells on the same property, has a pumping capacity of more than 100,000 gallons per day. (60)

Response: The definition of "high capacity well" is a statutory definition {s. 281.34(1)(b)}. The department interprets that definition to be referring to the pumping capacity of a given well.

79. Comment: "Outstanding and exceptional resource waters" should be defined in the rule and the rule should include a list of such waters, and/or note the DNR website and publications where a list of such waters can be located.(46, 60)

Response: A note has been added after s. NR 820.30(1)(a) indicating that a list of outstanding and exceptional resource waters is contained in ch. NR 102, Wis. Adm. Code, and including instructions for obtaining a copy of the rule. In addition, ch. NR 102 is available at the following internet address:
http://www.legis.state.wi.us/rsb/code/nr/nr102.pdf

Public Notice/Local Involvement

80. Comment: Public notice provisions should be added to sections NR 820.30, 820.31, 820.32, and 820.33 to require the Department to give 30 days public notice and an opportunity for citizens to request a hearing before it approves a high capacity well near a protected lake, river, stream, or spring. At a minimum, the rule should include a process by which a concerned citizen or other party would be able to challenge or appeal the Department's waiver of the Environmental Assessment process upon a finding of no significant adverse environmental impact. (11, 18, 26, 29, 30, 37, 62, 63, 73, 77, 78, 81, 84, 85, 86)

Response: The rule {ss. NR 820.30(4), 820.31(5) and 820.32(3)} includes publication of a news release for those well applications involving preparation of an environmental assessment. The department does not believe that public notice and explicit opportunity to request a hearing are necessary for other well applications. Such a requirement would unnecessarily lengthen the approval time for these wells. Finally, ss. 227.42 and 227.52, Stats., already allow for contested case hearings and judicial review of department decisions, including issuance of high capacity well approvals.

81. Comment: DNR should be required to work with the local government and get approval before issuing a high capacity well approval (16)

Response: There is no statutory basis for requiring consultation with and concurrence of local units of government as part of the approval process for high capacity wells. Requiring local government consultation and concurrence would be inconsistent with the approval process contemplated in the statutes. Decision-making authority for issuance of high capacity well approvals lies solely with the department while control over land use issues generally rests with local units of government.

Pumpage Reporting

82. Comment: Section NR 820.13 should be clarified. It is not clear if it applies to a property with pumping capacity of greater than 100,000 gallons per day or single wells with that capacity. The rule should specify the actual methods of data collection and reporting. (34)

Response: Section NR 820.13 applies to all owners of high capacity wells. This would include owners of any wells that are classified as high capacity wells which by definition include any well on a property with a combined pumping capacity of greater than 100,000 gallons per day. The individual pumping capacity of a high capacity well can be less than 100,000 gallons per day. The acceptable methods of collecting and reporting the pumping data will be provided to owners through distribution of program guidance.

83. Comment: Current and future high capacity wells should be required to monitor static and pumping water level and also water quality. More detailed monitoring of water usage should be required in addition to monthly pumping data.(39, 50, 53, 55)

Response: The statutes {sections 281.34(5)(e)2 and 281.34(6)(a)} only require owners of high capacity wells to submit annual pumping data. The department does not have the authority to broadly require collection and submittal of water level data for each high capacity well. However, under ch. NR 820, the department could require this type of monitoring as a condition of approval for wells within groundwater protection areas, near a spring or involving high water loss if such information were necessary to document stream flow or lake level conditions in the vicinity of the well. In addition to requiring static and pumping water level, which is of limited value in terms of monitoring environmental conditions, the department could also require installation of dedicated observation wells to monitor groundwater conditions.

The department does not have statutory authority to require ongoing water quality monitoring for high capacity wells, other than those wells which are part of a public water supply.

General

84. Comment: I think we need a more concerted effort to study water problems in Wisconsin and develop extensive policies and regulations to assure that we have water for years to come. At this point in time massive amounts of water can be pumped from our lakes without obtaining a permit, as was the recent case of water pumped from Twin Lake in Waushara County. We have fertile soil in landbanks that do not need extensive use of high volume water pumps to be productive, this is an issue that needs to be reviewed. Get the sandy soil into the landbanks or plant trees that do not need mass quantities of water to be productive. (8)

Response: Comment noted. The department understands the concerns expressed but does not have the authority to act on the suggestions. Further, ch. NR 820 would not apply to withdrawal of water directly from a lake. Such withdrawals are subject to restrictions and requirements imposed under ch. 30, Stats., and related administrative rules.

85. Comment: I agree with ch. NR820 and the role that the DNR is taking on this important issue. Even if only a few other states feel it is important, I definitely recommend that Wisconsin addresses this issue. (17)

Response: Comment noted.

86. Comment: Although the Great Lakes are not specifically covered by NR 820, our concern is that high-volume wells could take water from an aquifer that feeds the lakes and divert it out of the Great Lakes Basin. We urge you to consider this before approving the regulation. We encourage further research into aquifers in the state to determine where their water comes from and goes.(24)

Response: Comment noted. The department is fully aware of the issues related to potential diversion of water from the Great Lakes and will continue to place a high priority on protection of the Great Lakes.

87. Comment: I am concerned about the waste generated by all of the plastic used in bottled water. I would like all those involved to consider adding the bottled water industry into the soda/beer recycling efforts. With a deposit on these bottles consumers would consider re-use or alternate sources of water thus reducing the waste flow of plastic and providing an additional source of plastic for recycling.(15)

Response: Comment noted. Issues related to recycling of plastic water bottles fall outside of the realm of the laws pertaining to regulation of high capacity wells.

88. Comment: I would like to know who appointed this group (Groundwater Advisory Committee) and why interests representing the tourism or lakes are not represented. It appears that this group is strongly slanted toward agricultural, commercial, industrial and municipal interests. (34)

Response: 2003 Wisconsin Act 310 created the Groundwater Advisory Committee and provided explicit direction in regard the composition of the committee and the appointment of its members. Following is the specific language from Act 310:

(b) There is created a groundwater advisory committee consisting of the following members:
1. Three persons appointed by the governor.
2. Four persons appointed by the speaker of the assembly.
3. Four persons appointed by the majority leader of the senate.
3g. One member appointed by the minority leader of the assembly.
3r. One member appointed by the minority leader of the senate.
4. The secretary of natural resources or the secretary's designee.
(c) Each appointing authority under paragraph (b) 2. and 3. shall appoint one member representing each of the following interests:
1. Industrial.
2. Agricultural.
3. Environmental.

4. Municipal.

(cm) The governor shall appoint one member of the groundwater advisory committee representing well drillers.

The governor, the minority leader of the assembly, and the minority leader of the senate shall consult regarding the other 4 appointees under paragraph (b) 1., 3g., and 3r. to ensure that one represents each of the interests under paragraph (c) 1. to 4.

89. Comment: As owners of lakefront property, please know that it is our wish that you do all in your power to protect Wisconsin's lakes from the impact of high-capacity wells. (27)

Response: Comment noted.

90. Comment: Should our lakes dry up from the environmental changes and very loosely regulated pumping of water, our Counties and the State of Wisconsin will lose: 1)a great deal of revenue from the declining property values 2)a substantial amount of tourism 3) many of its natural resources that bring people to this state and make Wisconsin the wonderful place it is today. (31, 66)

Response: Comment noted. The department believes that ch. NR 820 will be effective in minimizing impacts due to high capacity wells on springs, trout streams, outstanding resource waters and exceptional resource waters.

91. Comment: Section NR 820.10 – Change the wording in the first sentence to replace "so extreme" with "such" or "great enough". (42, 77)

Response: The rule has been revised as suggested. In addition, a reference to s. 281.34(9)(a), Stats., has been added so it is clear that designation of groundwater management areas is based on the criteria specified in the statutes (i.e., areas where groundwater levels have declined by at least 150 feet due to pumping).

92. Comment: Section NR 820.30(2), line 3, seems to be missing some words or have added words; as currently crafted this clause does not make sense. (59)

Response: The verbiage in the rule is correct, but the sentence was missing a comma. The rule has been modified.

93. Comment: Section NR 820.33 has several repetitions of the word "include" that make interpretation of the meaning of this section difficult at best. Rephrasing the central portion of this section is strongly recommended prior to any proposed adoption. (59)

Response: Section NR 820.33 has been modified to improve its clarity.

94. Comment: The Department has the statutory authority to provide exemptions from the definition of high capacity wells in order to address inequities created by 2003 Wisconsin Act 310. The rule should develop the concept of "actual capacity" to recognize that some types of wells—although deemed high capacity wells under a narrow reading of the statute—will not function as such or will only be used sparingly. Wisconsin Act 310 includes many wells that would not normally be considered high capacity wells but, through guilt by association, are deemed high capacity wells because they are on property where actual high capacity wells are located. Examples include residential wells and wells to be only used sporadically. In such a manner, the Department would be recognizing that the "actual capacity" of the well is

in reality smaller than the statutory definition. Applications for such wells would only require a $50 application fee rather than $500, and the wells would also be exempt from the onerous application requirements associated with groundwater protection areas. (60)

Response: The comment is accurate in stating that some wells, such as a residential well on a high capacity property, are considered high capacity wells even though they pump a small quantity of water. Section 281.34(1)(b), Stats., defines high capacity well as "a well that, together with all other wells on the same property, has a capacity of more than 100,000 gallons per day." It should also be pointed out that the definition of "high capacity well" in 2003 Wisconsin Act 310 originally defined a high capacity well as "a well that, together with all other wells on the same property, has a capacity **and rate of withdrawal** of more than 100,000 gallons per day" but the underlined phrase was vetoed in the final version of the law. The department does not have the discretion to change that definition by rule. Therefore, the department cannot create the concept of "actual capacity" suggested in the comment.

In regard to the portion of the comment pertaining to fees, s. 281.34(2), Stats., requires that all applicants seeking approval for construction of a high capacity well pay a fee of $500. As above, the department lacks statutory authority to waive or change the fee that is imposed on applicants for approval of a high capacity well.

95. Comment: Sufficient funding must be made available to implement policies to protect water resources from the impacts from high capacity wells. (87)

Response: Comment noted.

Legislative Council Rules Clearinghouse Comments

96. Comment: Section 281.34 (4) (a), Stats., provides that the Department of Natural Resources must review an application for approval of certain high capacity wells using the environmental review process contained in its rules promulgated under s. 1.11, Stats. Sections NR 820.30 (2) and 820.31 (3) appear to provide for approval of certain high capacity wells without using the environmental review process contained in the department's rules promulgated under s. 1.11, Stats. If this is the case, what is the statutory authority for the approach taken in the rule provisions? Or, can these rules be categorized as the result of the broad application of the environmental review process, in accordance with the statutes, to situations of minor environmental impact?

Response: See the response to Comment 12. The department is committed to reviewing the environmental implications of all high capacity well application near springs and within groundwater protection areas. The review process enumerated in ch. NR 820 is consistent with the environmental review process contained in the department's rules promulgated under s. 1.11, Stats., Chapter NR 150.

97. Comment: In s. NR 820.12, the introductory material should be deleted and replaced with "In this chapter:". [See s. 1.01 (7) Manual.]

Response: The rule has been revised accordingly.

98. Comment: In s. NR 820.12 (13) Note, the notation "Stats.," and appropriate surrounding punctuation should be removed from the quoted material in order to accurately reflect the text of the statutes. [See also s. NR 820.12 (22).]

Response: The rule has been revised accordingly.

99. Comment: In s. NR 820.20 (1) (intro.), the first sentence should conclude with a colon and the second sentence, appropriately redrafted, should be placed in a new sub. (2). Further, in the second sentence, how is a local governmental unit explicitly excluded? If the exclusion is referring to the exceptions provided in sub. (1) (a) 6. and 7., than the phrase is unnecessary. If a local governmental unit is explicitly excluded by some other process, than the rule should state how the exclusion occurs.

Response: The rule has been revised accordingly.

100. Comment: In s. NR 820.30 (1) (intro.), "all of" should be inserted before "the following." In sub. (1) (a), it appears that "identified under s. 281.15, Stats.," should be inserted after "outstanding resources waters," and "exceptional resource waters." The entire rule should be checked for this problem. In sub. (1) (b), "class 1, 2, or 3" should be inserted before "trout stream." The same problem occurs in sub. (1) (e), and the entire rule should be checked for this problem. In subsections (1) (a) to (d), articles should be inserted at the beginning of the subsections; for example, in sub. (1) (a), "The" should be inserted before "Name." In sub. (3) (a) 5., "could" should be changed to "may."

Response: The rule has been revised accordingly.

101. Comment: In s. NR 820.30 (2), the introduction should be renumbered as par. (a); the reference to pars. (a) to (d) should be replaced by a reference to pars. (b) to (e); and pars. (a) to (d) should be renumbered pars. (b) to (e). Similar comments apply to s. NR 820.31 (3).

Response: The rule has been revised accordingly.

102. Comment: Section NR 820.30 (4) should begin with the phrase "all of." A similar comment applies to s. NR 820.31 (5).

Response: The rule has been revised accordingly.

103. Comment: In s. NR 820.31 (5), the subsection beginning with "Following receipt…" should be numbered as par. "(c)," and the remaining paragraphs should be renumbered accordingly.

Response: The rule has been revised accordingly.

104. Comment: The entire rule should be reviewed for the use of consistent terminology. For example, although the term "well" is defined in both the statutes and in the rule, it appears that in many cases the rule is referring to another defined term, "high capacity well." Also, s. 281.34, Stats., in a number of places refers to a "significant environmental impact." However, the rule in numerous places refers to a "significant adverse environmental impact" and also defines the term. If there is a purpose to making use of the additional word "adverse" the department should explain that purpose.

Response: The rule has been reviewed and revised as needed.

105. Comment: Section NR 820.13 (1) refers to forms provided by the department. The department should ensure that the requirements of s. 227.14 (3), Stats., are met.

Response: Comment noted. A note has been added to the rule indicating that reporting forms will be sent to owners of high capacity wells each year and also providing instructions for requesting a copy of the form.

106. Comment: In s. NR 820.30 (7), a more specific citation should be used instead of "ch. 280, Stats."

Response: The rule was not changed. This section of the rule is structured after s. 281.34(8)(d), Stats., which also includes this broad reference to ch. 280.

107. Comment: In the plain language analysis section of the rule analysis, in the second paragraph, "trout stream" should be changed to "trout streams." In the effect on small business section of the rule analysis, "Department" should be changed to "department."

Response: The rule has been revised accordingly.

108. Comment: In the table of contents for the newly created ch. NR 820, the description of the title for s. NR 820.20 is not consistent with the title in the text of the rule.

Response: The rule has been revised accordingly.

109. Comment: In s. NR 820.10, it appears that the second sentence should be rewritten to read: "…outstanding resource waters, and exceptional resource waters and involving groundwater withdrawals with high water loss."

Response: The rule has been revised accordingly.

110. Comment: In s. NR 820.11, "utility district" should be changed to "utility districts." In the last sentence, both instances of the word "that" should be changed to "who."

Response: The rule has been revised accordingly.

111. Comment: In s. NR 820.12 (2), "is" should be inserted before "classified." This problem also occurs in subs. (3) and (4). In sub. (3), a comma should be inserted after "next." In sub. (13), the extra parentheses around "(c)" should be deleted.

Response: The rule has been revised accordingly.

112. Comment: In s. NR 820.13 (1), "methods and forms provided by the department" is vague. The "methods" the department will use should be clarified, and a note indicating where and how the forms can be obtained should be added. In sub. (3), the "method prescribed by the department" should be clarified in the rule. This problem also occurs in sub. (4). Also in sub. (4), it appears that the terms "individual capacity to withdraw," "maximum pumping capacity," and "individual maximum pumping capacity" are intended to refer to different things, but it is unclear what each term means. Can the department clarify this provision?

Response: The department clarified the wording of sub. (4). A note has been added to the rule indicating that the methods and forms used for annual reporting of pumping data will be provided to all owners of high capacity wells.

113. Comment: In s. NR 820.30 (1) (e), it appears that the first occurrence of the word "and" should be replaced by a comma. Also, in pars. (g) and (h), why are the phrases "or level" and "and level" used in view of the definition of the term "80% exceedance flow" in s. NR 820.12 (7)?

Response: The rule has been revised accordingly.

114. Comment: In s. NR 820.30 (2) (intro.), can the department clarify what "conditions to ensure that the well will not result in significant adverse environmental impacts" will include? In sub. (4) (d), can the department clarify what "critical resources" and "critical aquatic resources" include?

Response: Section NR 820.30(2)(intro) has been revised to indicate the types of conditions that could be incorporated into an approval to ensure that significant environmental impacts will not occur as a result of construction and operation of the proposed well. The department did not revise the rule to clarify "critical resources" and "critical aquatic resources". The determination of what constitutes a critical resource will be made on a case-by-case basis and is dependent on the specific nature of the water body.

115. Comment: In s. NR 820.31 (5) (c), it appears that the phrase "at least" should be inserted before the number "80%."

Response: The rule has been revised accordingly.

Individuals/Organizations Providing Comments on Proposed Ch. NR 820

1. Raymond & Ann Powers, Long Lake, Waushara County
2. Cris van Houten, President, Huron Lake Association, Waushara County
3. Barbara Le Duc, Fall Creek, WI
4. Green Bay Chapter of Trout Unlimited, Paul Kruse, Green Bay, WI
5. Mr. & Mrs. James Pace, Long Lake Association
6. Carol Nichols, Twin Lake, Springwater Township, Waushara County
7. Richard Kronzer, Solon Springs, WI
8. Jim Johnson, Fond du Lac
9. Steve Hoppman, Fond du lac, WI
10. Lynn Markham, Stevens Point
11. Sandy Gillum, Eagle River, WI
12. Eric Andersen, Kaukauna WI
13. Sam Lewis, President, Lake Nancy Protective Association, Washburn County
14. John M. Coughlin, Bass Lake Rehabilitation District in St. Croix County, WI
15. Daniel Medow, Huntington Woods, MI
16. Richard Nowacki, Pewaukee, WI
17. Joseph A. Homel, P.E., President, Anderson Lake Association
18. Terri Lyon, Kiel, WI
19. Scott Schara
20. Charles Webb, Twin Lake Association President, Waushara County
21. Jim & Cheryl Congdon, Solon Springs, WI
22. Dennis Clear, Plainfield, WI
23. Connie Norton and Wendy Billington, Huron Lake , Waushara County
24. Wisconsin Great Lakes Coalition, Jim Te Selle, President,
25. Linda Clear, Long Lake, Waushara County
26. Laura Novak, South Milwaukee, WI
27. William & Maureen Murley, Westfield, WI
28. Ann Berglund, Spooner, WI
29. Wisconsin Association of Lakes, Peter T. Murray, Executive Director,
30. Shawn Nead, Cedarburg, WI
31. Tony Wagner, Twin Lake, Waushara County
32. Russ Romanelli
33. Gary & Karen Kirschke, Plainfield WI
34. Tom Catlin, Waupaca, WI
35. Susan Knight, Boulder Junction, WI
36. Jack Burkart, President Crystal Lake Advancement Assoc., Sheboygan County
37. Marcia Loofboro, Supervisor Town of Sampson, Chippewa County, WI
38. Bruce Paterson, Huron Lake, Waushara County
39. Sierra Club – Chippewa Valley Group, Barbara Thomas, Menomonie, WI
40. Jacob Barnes, Amherst, WI
41. Byron Shaw, Stevens Point, WI
42. George Kraft, UW-Stevens Point
43. Charles Lemke, Fort Atkinson, WI
44. Jim & Darlene Jakusz
45. Golden Sands Resource Conservation & Dev. Area, Amy Thorstensen, Stevens Point, WI
46. Citizens for Safe Water Around Badger, Laura Olah, Merrimac, WI
47. Friends of Milwaukee's Rivers, Cheryl Nenn, Milwaukee, WI
48. Kim McCarthy, Wisconsin Trout Unlimited – Northeast Region, Green Bay, WI
49. Brian Wolf, Kenosha, WI

50. Charles Nichols, Fond du Lac, WI
51. Steve Barber, Phantom Lake Management District, Waukesha, WI
52. Paul Didier, Lake Beulah Protective & Improvement Assn., Middleton, WI
53. Dan Trudell, Huron Lake Association, Oregon, WI
54. River Alliance of Wisconsin, Michael Engleson, Madison, WI
55. Neil Koch, Menomonie, WI
56. Jacob Koivisto, Trout Unlimited – Green Bay Chapter, Green Bay, WI
57. Kathy Powell, Portage County
58. Michael Hinrichs, Friends of Tomorrow River, Portage County
59. Jeffrey A. Thornton, Waukesha, WI
60. Wisconsin Water Well Association, Curt Pawlisch
61. John Jansen, Waukesha, WI
62. John Lammers, Mukwonago, WI
63. Midwest Environmental Advocates, Jodi Habush Sinykin, Milwaukee, WI
64. Alan Drum, Presque Isle, WI
65. Michael Mather, Trout Unlimited – Frank Hornberg Chapter
66. Meg Marshall, Eau Claire, WI
67. Kristin Charlton, Lake Eau Claire
68. Tim Fox, Brooklyn, WI
69. Jerry & Kathryn Lester, Slinger, WI
70. Polk County (Land and Water Resources Dept. and Land Information Department)
71. St. Croix County (Land Water Conservation Committee, Planning and Zoning Committee, Land and Water Conservation Dept., Planning and Zoning Dept.)
72. Virginia Laughrin, Hilbert, WI
73. Paul Schumacher, Clark Lake Advancement Association
74. John Council, Appleton, WI
75. Wendell Kumlien, Mukwonago, WI
76. Ronald Roberts, Long Lake District, Neenah, WI
77. Clean Wisconsin, Will Hoyer, Madison, WI
78. Sawyer County Lakes Forum, Chris Jeffords, Hayward, WI
79. Lars Graf, Kohler, WI
80. Jessica Rice, Summit, WI
81. Ed Kissinger, Wautoma, WI
82. Spencer Schroeder, Wood Lake (Marquette County)
83. Wisconsin Realtors Association, Thomas Larson, Madison, WI
84. Lake Beulah Management District, William Scott, Milwaukee, WI
85. Sierra Club – John Muir Chapter, Carla Klein, Madison, WI
86. Nate Rice, Oconomowoc, WI
87. Barb Follett Schweger, Coloma, WI
88. Mary Luhman, Eau Claire, WI
89. Nancy Turyk, Amherst, WI
90. Barb Feltz, Stevens Point, WI
91. Jo Seiser, Stevens Point, WI
92. Adams County Planning & Development Committee, Al Sebastiani, Adams, WI

Wisconsin Department of Administration
Division of Executive Budget and Finance
DOA-2048 (R10/2000)

Fiscal Estimate — 2007 Session

☒ Original ☐ Updated	LRB Number	Amendment Number if Applicable
☐ Corrected ☐ Supplemental	Bill Number	Administrative Rule Number Ch. NR 820

Subject

Proposed Ch. NR 820, Groundwater Quantity Protection

Fiscal Effect

State: ☒ No State Fiscal Effect
☐ Indeterminate

Check columns below only if bill makes a direct appropriation or affects a sum sufficient appropriation.

☐ Increase Existing Appropriation ☐ Increase Existing Revenues
☐ Decrease Existing Appropriation ☐ Decrease Existing Revenues
☐ Create New Appropriation

☐ Increase Costs — May be possible to absorb within agency's budget.
☐ Yes ☐ No

☐ Decrease Costs

Local: ☒ No Local Government Costs
☐ Indeterminate

1. ☐ Increase Costs
☐ Permissive ☐ Mandatory
2. ☐ Decrease Costs
☐ Permissive ☐ Mandatory
3. ☐ Increase Revenues
☐ Permissive ☐ Mandatory
4. ☐ Decrease Revenues
☐ Permissive ☐ Mandatory
5. Types of Local Governmental Units Affected:
☐ Towns ☐ Villages ☐ Cities
☐ Counties ☐ Others _____
☐ School Districts ☐ WTCS Districts

Fund Sources Affected

☐ GPR ☐ FED ☒ PRO ☐ PRS ☐ SEG ☐ SEG-S

Affected Chapter 20 Appropriations

Assumptions Used in Arriving at Fiscal Estimate

2003 Wisconsin Act 310, enacted in April 2004, substantially expands the Department's authority over proposed high capacity wells. Act 310: authorizes the Department to include consideration of impacts to certain sensitive water resources; requires annual reporting of groundwater pumping from high capacity wells; and directs the Department to designate two groundwater management areas. The proposed rule implements those provisions of 2003 Wisconsin Act 310.

The proposed rule does not create any processes or requirements that were not contemplated and evaluated at the time that Act 310 was enacted. The fiscal impacts associated with Act 310 were recognized by the Legislature; there are no additional state or local government fiscal impacts associated with this proposed rule.

Long-Range Fiscal Implications

None

Prepared By:	Telephone No.	Agency
Joe Polasek	266-2794	Department of Natural Resources
Authorized Signature	**Telephone No.**	**Date (mm/dd/ccyy)**
	266-2794	02/14/2007

Fiscal Estimate — 2007 Session

Page 2 Assumptions Narrative Continued

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number

Assumptions Used in Arriving at Fiscal Estimate – Continued

Wisconsin Department of Administration
Division of Executive Budget and Finance
DOA-2047 (R10/2000)

Fiscal Estimate Worksheet — 2007 Session

Detailed Estimate of Annual Fiscal Effect

☐ Original	☐ Updated	LRB Number	Amendment Number if Applicable
☐ Corrected	☐ Supplemental	Bill Number	Administrative Rule Number

Subject

Proposed Ch. NR 820, Groundwater Quantity Protection

One-time Costs or Revenue Impacts for State and/or Local Government (do not include in annualized fiscal effect):

None.

Annualized Costs:	Annualized Fiscal Impact on State Funds from:	
A. State Costs by Category	Increased Costs	Decreased Costs
State Operations — Salaries and Fringes	$	$ -
(FTE Position Changes)	(FTE)	(- FTE)
State Operations — Other Costs		-
Local Assistance		-
Aids to Individuals or Organizations		-
Total State Costs by Category	$	$ -
B. State Costs by Source of Funds	Increased Costs	Decreased Costs
GPR	$	$ -
FED		-
PRO/PRS		-
SEG/SEG-S		-
State Revenues — Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fee, etc.)	Increased Revenue	Decreased Revenue
GPR Taxes	$	$ -
GPR Earned		-
FED		-
PRO/PRS		-
SEG/SEG-S		-
Total State Revenues	$	$ -

Net Annualized Fiscal Impact

	State	Local
Net Change in Costs	$	$
Net Change in Revenues	$	$

Prepared By:	Telephone No.	Agency
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Authorized Signature	Telephone No.	Date (mm/dd/ccyy)
	266-2794	02/14/2007

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCE BOARD
CREATING RULES

The Wisconsin Natural Resource Board proposes an order to create ch.NR 820 pertaining to annual reporting of groundwater pumping information from high capacity wells, designation of groundwater management areas, environmental review of high capacity well applications for impacts on groundwater protection areas and springs and evaluation of wells with greater than 95% water loss.

DG-37-06

Analysis Prepared by the Department of Natural Resources

Statutes Interpreted: Section 281.34, Stats.

Statutory Authority: Sections 281.12, 281.34 and 227.11 (2) (a), Stats.

Explanation of Agency Authority: The Department of Natural Resources has been designated as the state agency with general supervision and control over the waters of the state, including groundwater. 2003 Wisconsin Act 310, enacted in April 2004, expands the Department's authority over high capacity wells to include consideration of impacts to certain sensitive water resources, explicitly requires annual reporting of groundwater pumping and directs the department to designate two groundwater management areas. The proposed rule implements the provisions of 2003 Wisconsin Act 310.

Related Statute or Rule: Chapters NR 812, 102 and 150.

Plain Language Analysis: Under the proposed code, all owners of high capacity wells will be required to submit annual pumping reports to the department. The rule also establishes the areal extent of two groundwater management areas, one in the southeast part of the state and another in the northeast part of the state. The two areas include the entire area of each city, village and town in which the level of the underlying groundwater has dropped by at least 150 feet as a result of groundwater pumping.

Proposed Ch. NR 820 establishes processes and criteria to guide the review of proposed high capacity wells near springs, trout streams, outstanding resource waters (ORW) and exceptional resource waters (ERW). The rule includes screening criteria that will be used to determine the necessary level of environmental review for wells that are proposed to be located near springs or within a groundwater protection area (within 1200 feet of a trout stream, ORW or ERW). Applicants for high capacity wells near springs or in groundwater protection areas will be required to submit information to demonstrate that the proposed well will not result in significant adverse environmental impact to the surface water resource. When it is determined that a proposed high capacity well could result in a significant adverse environmental impact, the applicant may be required to submit an environmental impact report and the department will prepare an environmental assessment prior to approving or denying the proposed well. Any approval issued for a high capacity well near a spring or within a groundwater protection area must include conditions to ensure that significant adverse environmental impact does not result from construction and operation of the well. Similarly, the proposed rule requires that the department prepare an environmental assessment for any high capacity well that has a water loss of greater than 95%. In addition, the department must include conditions in its approvals to ensure that wells with high water loss do not result in significant adverse environmental impact to nearby water resources.

Federal Regulatory Analysis: There are no comparable federal regulations pertaining to groundwater withdrawals.

Analysis of Similar Regulations in Adjacent States: Iowa, Michigan and Minnesota all require their larger quantity groundwater users to submit annual summaries of the volume of groundwater used. In addition to requiring pumping information, Minnesota and Michigan each also assess an annual reporting fee.

The states vary in terms of how they evaluate impacts to surface waters as result of groundwater withdrawals. Illinois does not have specific requirements in place to consider such impacts.

Iowa places conditions on groundwater withdrawals to minimize impacts to surface water. Specifically, for withdrawals from unconfined aquifers adjacent to a stream with a drainage basin less than 50 square miles, withdrawals within ¼ mile of a stream cannot exceed 200 gallons per minute. In addition, any withdrawals within 1/8 of a mile from any stream shall cease when the stream flow is below the designated "protected flow". Finally, for streams with a drainage basin greater than 50 square miles, withdrawals between 1/8 and ¼ mile from the stream shall cease when the stream flow is at or below the 7Q10 flow (the lowest 7-day average flow that occurs (on average) once every 10 years).

Michigan may not approve a large quantity groundwater withdrawal if the withdrawal would cause an "adverse resource impact" to a designated trout stream and beginning in the spring of 2008 may not approve a large quantity withdrawal if the withdrawal would cause an adverse resource impact to any stream. The recently enacted statute directs the Michigan regulatory agencies to develop a water withdrawal assessment screening tool by July 2007 which will be used to determine whether or not proposed wells can go forward without further review by the agency. The screening tool will consider the fishery value of the stream, the proposed pumping rate and schedule, the low flow characteristics of the stream and the nature of the groundwater flow system near the stream. In the absence of the assessment tool, it is presumed that a withdrawal will not cause adverse resource impacts if the well is located more than 1,320 feet from a stream or the well is at least 150 feet in depth.

Minnesota conducts an environmental review of proposed commercial and industrial groundwater appropriations that average 30 million gallons per month (~700 gallons per minute) and proposed appropriations that will be used to irrigate 540 or more acres. This review would include an assessment of the possible impacts to surface waters as a result of groundwater withdrawal and could lead to limitations being placed on the appropriation. Minnesota does not have definitive quantitative criteria to judge when an impact is significant, rather it is a subjective assessment based on the professional judgment of the review staff. Minnesota also has the ability to limit existing groundwater appropriations if it is determined that there is a direct relationship between the ground and surface water such that adverse impacts would result. The decision to suspend a groundwater appropriation would be made on a case-by-case basis taking into consideration site-specific information and concerns. To date few, if any, such suspensions have been issued.

Summary of the Factual Data and Analysis that Support the Proposed Rule: 2003 Wisconsin Act 310 recognizes the interrelation between groundwater and surface waters and contemplates a process through which the department can evaluate proposed high capacity wells to identify, evaluate and minimize the impacts of such wells on important surface water resources. The proposed rule includes screening criteria to assist the department in identifying those high capacity wells that can be approved without conducting a detailed review of the potential impacts to related water resources. Generally, the screening criteria consider the relative ratio of the proposed pumping capacity to the low flow or level conditions of the nearby water body or spring. The department believes that a comparison of the proposed pumping rate with the low flow conditions of the water body provides for a conservative assessment of the potential impacts from the well. When the proposed pumping capacity constitutes a relatively small percentage of the water balance of the water body, the proposed high capacity well can proceed through the approval process without a detailed assessment of potential impacts to surface waters. Otherwise, a more detailed review will be required and in some cases an environmental assessment will be prepared.

The areas making up the groundwater management areas are based on results of modeling by the U.S. Geological Survey and other researchers that evaluate the extent of drawdown and related impacts from groundwater pumping that have developed since the settlement of the eastern portion of the state. The models depict portions of the state that have experienced lowering of regional groundwater levels of several hundred feet. The department used the model results to determine those areas in which

groundwater levels have been reduced by at least 150 feet and, as required under Act 310, has designated those areas as two separate groundwater management areas.

Analysis and Supporting Documentation in Support of the Determination of the Rule's Effect on Small Business: High capacity wells are owned by a wide range of entities including individuals, municipalities, other units of government, large corporations and small businesses. The review and approval processes specified in the proposed rule for high capacity well applications submitted by small businesses are the same as those for applications submitted by any other applicant. While the proposed rule creates a screening process to identify those high capacity wells that will be subject to more comprehensive evaluation, the criteria are related to the characteristics of the proposed well rather than the nature of the owner. The potential impacts on small businesses will be the same as the impacts experienced by other applicants. It is anticipated that only a small number of high capacity well applications will require an extensive environmental review and only a few of those will involve small businesses. Therefore, the proposed rule will not have a significant impact on a substantial number of small businesses.

Effect on Small Business: Any entity, including small businesses, proposing to construct a high capacity well must receive approval from the department prior to beginning construction. If the proposed high capacity well is located in a groundwater protection area, near a spring, or involves an activity with high water loss additional information must be submitted with the application. In addition, the proposal may be subject to an extensive environmental review to determine whether placement of the well would cause significant adverse environmental impact. The environmental review will result in a longer review period and may result in increased review and approval costs, potential alteration of well construction and operation plans, or in some cases, approval being denied for the construction of high capacity wells. However, these requirements are necessary to ensure protection of springs, trout streams and other valuable surface water resources.

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SECTION 1. **Chapter NR 820 is created to read:**

Chapter NR 820
GROUNDWATER QUANTITY PROTECTION

Subchapter I – General Provisions
NR 820.10 Purpose
NR 820.11 Applicability
NR 820.12 Definitions
NR 820.13 High Capacity Wells Annual Pumping Reports
Subchapter II – Groundwater Management Areas
NR 820.20 Groundwater Management Area Designation
Subchapter III – Environmental Review of High Capacity Well Applications
NR 820.29 Review Periods
NR 820.30 High Capacity Wells in Groundwater Protection Areas
NR 820.31 High Capacity Wells near Springs
NR 820.32 Projects with High Water Loss
NR 820.33 Public Utility Wells

Subchapter I - General Provisions

NR 820.10 Purpose. The purpose of this chapter is to designate areas of the state, consistent with s. 281.34(9)(a), Stats., in which impacts from groundwater drawdown and pumpage are such that regional planning and management is necessary to avoid, minimize and manage future impacts. This chapter also establishes review criteria applicable to high capacity well applications involving wells situated near springs, trout streams, outstanding resource waters, and exceptional resources waters, and involving groundwater withdrawals with high water loss.

NR 820.11 Applicability. This chapter applies to all counties, cities, towns, villages, utility districts under s. 66.0827, Stats., that provide water, public inland lake protection and rehabilitation districts that have town sanitary district powers under s. 33.22(3), Stats., joint water authorities created under s. 66.0823, Stats., and municipal water districts under s. 198.22, Stats. This chapter also applies to persons who are owners of high capacity wells and high capacity well systems including persons that propose to construct a high capacity well.

NR 820.12 Definitions. In this chapter:

(1) "Approval" means an approval issued by the department under s. 281.17(1), 2001 Stats., s. 281.34(2) or 281.41, Stats., prior to construction of a high capacity well.

(2) "Class 1 trout stream" means a stream, portion of a stream or a farm drainage ditch with a prior stream history that contains a self-sustaining population of trout and is classified as such in Wisconsin Department of Natural Resources publication PUB-FH-806 2002, Wisconsin Trout Streams. Farm drainage ditches that support self-sustaining populations of trout but do not have a prior stream history are not trout streams for purposes of this chapter.

Note: Copies of this document may be obtained from the Department of Natural Resources, Bureau of Fisheries Management and Habitat Protection, 101 South Webster Street, Natural Resources Building, PO Box 7921, Madison, Wisconsin 53707-7921.

(3) "Class 2 trout stream" means a stream, portion of a stream or a farm drainage ditch with a prior stream history that contains a population of trout made up of one or more age groups, above the age one year, in sufficient numbers to indicate substantial survival from one year to the next, but in which stocking is necessary to fully utilize the available trout habitat or to sustain the fishery and is classified as such in Wisconsin Department of Natural Resources publication PUB-FH-806 2002, Wisconsin Trout Streams. Farm drainage ditches that meet these criteria but do not have a prior stream history are not trout streams for purposes of this chapter.

(4) "Class 3 trout stream" means a stream or portion of a stream that has marginal trout habitat with no natural reproduction of trout occurring, requiring annual stocking of trout to provide trout fishing, and generally without carryover of trout from one year to the next and is classified as such in Wisconsin Department of Natural Resources publication PUB-FH-806 2002, Wisconsin Trout Streams. Farm

drainage ditches that meet these criteria but do not have a prior stream history are not trout streams for the purpose of this chapter.

(5) "Consumptive use coefficient" has the meaning specified in s. NR 142.02(4).

Note: s. NR 142.02(4), Stats., defines "consumptive use coefficient" to mean "a constant numerical measure, as determined under s. NR 142.04(1) to (4) which is used to determine the consumptive use portion of a facility's withdrawal".

(6) "Department" means the department of natural resources.

(7) "80% exceedance flow" means the flow in a stream that, based on statistical probability, will be exceeded 80% of the time on an annual basis.

(8) "Groundwater management area" means a multi-jurisdictional area including towns, cities, villages and counties within which the level of the groundwater potentiometric surface in any of its underlying aquifers has been reduced by 150 feet or more from the level at which the potentiometric surface would be if no groundwater withdrawals had occurred.

(9) "Groundwater protection area" has the meaning specified in s. 281.34(1)(a), Stats.

Note: s. 281.34(1)(a), Stats., defines "groundwater protection area" to mean "an area within 1,200 feet of any of the following:

(a) An outstanding resource water identified under s. 281.15 that is not a trout stream.

(b) An exceptional resource water identified under s. 281.15 that is not a trout stream.

(c) A class 1, class 2, or class 3 trout stream, other than a class 1, class 2, or class 3 trout stream that is a farm drainage ditch with no prior stream history as identified under sub. (8)(a).

(10) "High capacity property" has the meaning specified in s. NR 812.07(52).

Note: s. NR 812.07(52) defines "high capacity property" to mean "one property on which a high capacity well system exists or is to be constructed."

(11) "High capacity well" has the meaning specified in s. 281.34(1)(b), Stats.

Note: s. 281.34(1)(b), Stats., defines "high capacity well" to mean "a well that, together with all other wells on the same property, has a capacity of more than 100,000 gallons per day."

(12) "High capacity well system" has the meaning specified in s. NR 812.07(53).

Note: s. NR 812.07(53) defines "high capacity well system" to mean "one or more wells, drillholes, or mine shafts used or to be used to withdraw water for any purpose on one property, if the total pumping or flowing capacity of all wells, drillholes or mine shafts on one property is 70 or more gallons per minute based on the pump curve at the lowest system pressure setting, or based on the flow rate."

(13) "Local governmental unit" has the meaning specified in s. 281.34(1)(c), Stats.

Note: s. 281.34(1)(c), Stats., defines "local governmental unit" to mean a "city, village, town, county, town sanitary district, utility district under s. 66.0827 that provides water, public inland lake protection and rehabilitation district that has town sanitary district powers under s. 33.22(3), joint local water authority created under s. 66.0823 or municipal water district under s. 198.22.

(14) "One property" has the meaning specified in s. NR 812.07(68).

Note: s. NR 812.07(68) defines "one property" to mean "all contiguous land controlled by one owner, lessee, or any other person having a possessory interest. Lands under single ownership bisected by highways or railroad right-of-ways are considered contiguous."

(15) "Owner" has the meaning specified in s. 281.34(1)(d), Stats.

Note: s. 281.34(1)(d), Stats., defines "owner" to mean "a person who owns property on which a well is located or proposed to be located or the designated representative of that person."

(16) “Potentiometric surface” has the meaning specified in s. 281.34(1)(e), Stats.

Note: s. 281.34(1)(e), Stats., defines “potentiometric surface” to mean “a measure of pressure of groundwater in an aquifer based on the level to which groundwater will rise in a well placed in the aquifer.”

(17) “Prior stream history” means a determination made by the department that an artificial waterway or a portion of such waterway was originally a navigable stream before it was ditched or channelized.

(18) “Reconstruction” has the meaning specified in s. NR 812.07(85).

Note: s. NR 812.07(85) defines “reconstruction” to mean “modifying the original construction of a well. Reconstruction includes, but is not limited to deepening, lining, installing or replacing a screen, underreaming, hydrofracturing and blasting.”

(19) “Significant adverse environmental impact” means alteration of groundwater levels, groundwater discharge, surface water levels, surface water discharge, groundwater temperature, surface water temperature, groundwater chemistry, surface water chemistry, or other factors to the extent such alterations cause significant degradation of environmental quality including biological and ecological aspects of the affected water resource.

(20) “Spring” has the meaning specified in s. 281.34(1)(f), Stats.

Note: s. 281.34(1)(f), Stats., defines “spring” to mean “an area of concentrated groundwater discharge occurring at the surface of the land that results in a flow of at least one cubic foot per second at least 80% of the time.”

(21) “Water loss” has the meaning specified in s. 281.34(1)(g), Stats.

Note: s. 281.34(1)(g), Stats., defines “water loss” to mean “a loss of water from the basin from which it is withdrawn as a result of interbasin diversion, as defined in s. 281.35(1)(g) or consumptive use or both.”

(22) “Well” has the meaning specified in s. 281.34(1)(h), Stats.

Note: s. 281.34(1)(h), Stats., defines “well” to mean “any drillhole or other excavation or opening deeper than it is wide that extends more than 10 feet below the ground surface and is constructed for the purpose of obtaining groundwater.”

NR 820.13 High capacity wells annual pumping reports. (1) Owners of high capacity wells shall record pumpage data on a monthly basis and shall report the information to the department at no less than an annual frequency using methods and forms provided by the department. Reports of annual pumpage for a given calendar year shall be submitted to the department no later than the first day of March in the following calendar year.

Note: Appropriate forms, description of acceptable estimation methodology and reporting procedures will be sent to owners of each high capacity well each year by the department. Copies of these documents may be obtained from the Department of Natural Resources, Bureau of Drinking Water and Groundwater, 101 South Webster Street, Natural Resources Building, PO Box 7921, Madison, Wisconsin 53707-7921.

(2) Individual reports shall be prepared for any high capacity wells with the capacity to withdraw water at a rate of 100,000 gallons per day or more.

(3) If one high capacity property does not contain any single high capacity well with an individual capacity to withdraw water at a rate of 100,000 gallons per day or more, the annual pumpage may be

reported as a composite volume for the entire property based on estimated water usage using a method prescribed by the department.

(4) If one high capacity property contains high capacity wells with individual capacity to withdraw water at a rate of at least 100,000 gallons per day and high capacity wells with maximum pumping capacity less than 100,000 gallons per day, a composite pumpage volume based on estimated water usage using a method prescribed by the department may be reported for those wells with individual maximum pumping capacity less than 100,000 gallons per day.

Subchapter II – Groundwater Management Areas

NR 820.20 Groundwater management area designation. The areas specified in subs. (1) and (2) are designated as groundwater management areas. Any local governmental unit contained within these areas shall be considered to be part of the groundwater management area unless it is explicitly excluded in sub. (1) or (2).

(1) Southeast Wisconsin Groundwater Management Area consisting of the following:

(a) All of Kenosha county.

(b) All of Milwaukee county.

(c) All of Ozaukee county.

(d) All of Racine county

(e) All of Waukesha county.

(f) The portions of Walworth county consisting of the U.S. Public Land Survey townships of East Troy, Spring Prairie, Lyons, Bloomfield, Linn and Geneva, with the exception of the village of Williams Bay and city of Elkhorn, and including the portion of the U.S. Public Land Survey township of Troy that includes part of the Village of East Troy.

(g) All of Washington county with the exception of the U.S. Public Land Survey townships of Wayne and Kewaskum.

(2) Northeast Wisconsin Groundwater Management Area consisting of the following:

(a) All of Brown county.

(b) The portions of Calumet county consisting of the U.S. Public Land Survey townships of Woodville and Harrison and the village of Sherwood.

(c) The portions of Outagamie county consisting of the U.S. Public Land Survey townships of Grand Chute, Van den Broek, Buchanan, Freedom and Kaukauna, including the cities of Appleton and Kaukauna and the villages of Kimberly, Combined Locks and Little Chute.

Subchapter III – Environmental Review of High Capacity Well Applications

NR 820.29 Review periods. (1) HIGH CAPACITY WELLS IN GROUNDWATER PROTECTION AREAS. Unless another time period is specified by law, the department shall complete its review and make a determination on all applications for approval of proposed high capacity wells in groundwater protection

areas within 65 business days after receipt of a complete application unless the department notifies the applicant under s. NR 820.30(4)(a) or (b) that additional information is needed in order for the department to prepare an environmental assessment for the proposed high capacity well.

(2) HIGH CAPACITY WELLS NEAR SPRINGS. Unless another time period is specified by law, the department shall complete its review and make a determination on all applications for approval of proposed high capacity wells near springs within 65 business days after receipt of a complete application unless the department notifies the applicant under s. NR 820.31(4)(a) or (b) that additional information is needed in order for the department to prepare an environmental assessment for the proposed high capacity well.

NR 820.30 High capacity wells in groundwater protection areas. (1) Except as provided in sub. (2), an application for approval of a high capacity well within a groundwater protection area shall be supplemented to include all of the following information:

(a) The name of each class 1, 2 or 3 trout stream, outstanding resource water or exceptional resource water that is located within 1,200 feet of the proposed well location.

Note: Outstanding resource waters and exceptional resource waters are identified in ss. NR 102.10 and 102.11. Chapter NR 102 is available for viewing and printing at the internet site for the Wisconsin Legislature, Revisor of Statutes Bureau: http://www.legis.state.wi.us/rsb/code/nr/nr102.pdf. Paper copies of ch. NR 102 may be obtained from the Department of Natural Resources, Bureau of Watershed Management, 101 South Webster Street, Natural Resources Building, PO Box 7921, Madison, Wisconsin 53707-7921.

(b) The distance from each proposed high capacity well to the class 1, 2 or 3 trout stream, outstanding resource water or exceptional resource water.

(c) If the potentially affected water body is a stream, a description of the stream channel at the point nearest to the proposed well location including stream width, depth of water, publicly available information regarding seasonal flow and nature of the substrate.

(d) If the potentially affected water body is a lake or flowage, a description of the lake or flowage including identification and approximate flows of major inlets and outlets, surface area of the lake or flowage, approximate elevation of the current lake or flowage level, analysis of publicly available information pertaining to historic lake level fluctuations, and nature of the lake bed.

(e) A description of all other wells on the high capacity property including location relative to the class 1, 2 or 3 trout stream, or outstanding or exceptional resource water, maximum pumping capacity, estimated actual annual pumpage for each well and frequency of pumping for each well.

(f) A description of the hydrogeologic conditions in the vicinity of the proposed well including flow direction, groundwater elevation, depth to groundwater, and a description of the aquifer characteristics including approximate thickness of each aquifer.

(g) A discussion and analysis of alternative well locations and feasibility of siting the high capacity well outside of the groundwater protection area.

(h) A determination by a registered professional engineer, registered professional geologist or registered professional hydrologist of the 80% exceedance flow for the stream and associated water level at the location closest to the proposed well location.

(i) If the affected water body is a lake, a determination by a registered professional engineer, registered professional geologist or registered professional hydrologist of the 80% exceedance flow and associated water level for the primary surface water outlet and the invert elevation of the primary surface water outlet.

(j) The appropriate consumptive use coefficient.

(2)(a) The department may approve a high capacity well as described in pars. (b) to (e) within a groundwater protection area without preparing an environmental assessment if it determines that construction and operation of the proposed well will not result in significant adverse environmental impact. The information specified under sub. (1)(h) to (j) is not required for a proposed well if any of the conditions in pars. (b) to (e) apply. Based on information submitted by the applicant under sub. (1) and other available information, the department may determine that supplemental information and review is needed in order to issue or deny the necessary approval. The department shall include in any approval issued using the standards under s. 281.34, Stats., conditions to ensure that the high capacity well will not result in significant adverse environmental impacts to trout streams, outstanding resource waters and exceptional resource waters. The conditions may include but are not limited to conditions as to location, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow and conservation measures.

(b) The proposed high capacity well is a well that does not have a pump capacity of greater than 20 gallons per minute and the well is to be used solely for domestic purposes for a single residence.

(c) The proposed high capacity well is intended to be used for purposes such as fire suppression and similar non-commercial, non-industrial and non-agricultural irrigation purposes, and the well will only be used on a sporadic basis averaging less than 30 days each year and will generally operate for no more than 2 consecutive days.

(d) The high capacity well application is for reconstruction of an existing high capacity well and the application does not seek an increase in the approved pumping capacity of the well.

(e) The high capacity well application is for temporary dewatering of a single construction site in unconsolidated deposits and the duration of the project will not extend more than one construction season.

(3)(a) The department may approve a proposed high capacity well without completing an environmental assessment under ch. NR 150 if the proposed well is not a well described in sub. (2)(b) to (e) and the department determines that construction and operation of the proposed well will not result in significant adverse environmental impacts to the stream or lake and at least one of the conditions in subd. 1. to 5. is satisfied. In making this determination, the department shall consider impacts caused by other

wells on the high capacity property and take into account actual or current conditions of the Class 1, 2 or 3 trout stream, outstanding resource water or exceptional resource water.

1. The potentially affected water body is a trout stream and the proposed pumping capacity of the high capacity well is less than 10% of the value for the 80% exceedance flow for the stream.

2. The potentially affected water body is an outstanding or exceptional resource water that is a stream and the proposed pumping capacity of the high capacity well is less than 10% of the value for the 80% exceedance flow for the stream.

3. The potentially affected water body is an outstanding or exceptional resource water that is a lake with a surface outlet and the proposed pumping capacity of the high capacity well is less than 10% of the value for the 80% exceedance flow for the primary surface outlet from the lake.

4. The potentially affected water body is an outstanding or exceptional resource water that is a lake with a surface water outlet and a surface area of at least 600 acres.

5. The potentially affected water body is an outstanding or exceptional resource water that is a lake with a surface water outlet, a surface area of less than 600 acres and the volume of water that would be pumped from the well in 30 days of continuous pumping at maximum capacity is less than 5% of the volume of the lake.

(b) The department shall include in any approval issued using the standards under s. 281.34, Stats., conditions to ensure that the high capacity well will not result in significant adverse environmental impacts to trout streams, outstanding resource waters and exceptional resource waters. The conditions may include but are not limited to conditions as to location, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow and conservation measures. The department may also modify the approvals or place additional conditions on the approvals of other previously approved wells on the high capacity property to prevent significant adverse environmental impacts.

(4) All of the following provisions shall apply to proposed high capacity wells that are not included under sub. (3)(a)1. to 5. and proposed wells that satisfy the conditions under sub. (3)(a)1. to 5. but for which the department has determined that the proposed well may have a significant adverse environmental impact on the trout stream, outstanding resource water or exceptional resource water:

(a) The department shall notify the applicant that the proposed high capacity well may have a significant impact on the stream or lake and may require additional information concerning flow characteristics of the affected stream or lake, site-specific geologic and hydrogeologic information and pertinent regional information.

(b) Within 65 business days of receipt of a complete application, the department shall identify additional informational requirements necessary to evaluate the proposed well and may determine that the applicant shall develop and submit an environmental impact report in accordance with s. NR 150.25.

(c) Following receipt of the requested information, the department shall prepare an environmental assessment in accordance with the procedures of s. NR 150.22 and shall develop and publish a news release in accordance with s. NR 150.21.

(d) If the department determines that operation of the proposed high capacity well will not result in significant adverse environmental impact on critical resources within the stream or lake and other uses of the stream or lake, the department shall approve the well and include in any approval issued using the standards under s. 281.34, Stats., conditions to ensure that operation of the proposed well will not cause significant adverse environmental impact to critical aquatic resources or other existing uses of the stream or lake. The conditions may include but are not limited to conditions as to location, depth of casing, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow, ultimate use and conservation measures. In the case of Class 1, 2 and 3 trout streams and outstanding or exceptional resource waters that contain warm water sport fisheries, flow conditions in the stream shall be maintained such that the fish populations and critical habitat are not adversely affected.

(5) As part of an approval issued using the standards under s. 281.34, Stats., the department may require the owner of the high capacity well to implement a monitoring plan to document stream flow or lake level conditions in the vicinity of any well located within a groundwater protection area and based on results of the monitoring program may revise the approval.

(6) The department may not issue an approval using the standards under s. 281.34, Stats., for a high capacity well within a groundwater protection area unless it is able to include and includes conditions that ensure that the well does not cause significant adverse environmental impact.

(7) The department may order the owner of a high capacity well constructed prior to May 7, 2004 that is located in a groundwater protection area to mitigate the effects of the well. Mitigation may include abandonment of the well, replacement of the well, if necessary, and management strategies. If mitigation is ordered, the department shall provide funding for the full cost of the mitigation, except that full funding is not required if the department is authorized under ch. 280, Stats., to require the well to be abandoned because of issues regarding public health.

NR 820.31 High capacity wells near springs. (1) For any application for approval of a high capacity well under s. 281.34, Stats., the department shall determine if there is a spring, as defined in this chapter, located in the vicinity of the proposed well.

(2) If the department determines that a proposed high capacity well is located near a spring the department shall assess the proposed well to determine whether construction and operation of the well will result in substantially reduced flow from the spring and significant adverse environmental impact to the spring. The department shall consider the location of the well relative to the spring, well construction details, information regarding construction and operation of all other wells on the property, available information concerning the geology and hydrogeology of the area, historical flow data for the spring and other pertinent information.

(3) If the department determines that construction and operation of the proposed high capacity well will not result in a substantial reduction in flow from the spring or result in significant adverse environmental impact to the spring, the department may approve the proposed well and shall include in any approval issued using the standards under s. 281.34, Stats., conditions to ensure that the well will not result in significant adverse environmental impact to the spring. The conditions may include but are not limited to conditions as to location, depth of casing, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow, ultimate use and conservation measures.

(4) All of the following provisions shall apply to proposed high capacity wells that are determined to reduce flow in a spring such that significant adverse environmental impact to the spring or related aquatic and terrestrial resources may result:

(a) The department shall notify the applicant that the proposed high capacity well may have a significant adverse environmental impact on a spring and may require additional information concerning flow characteristics of the affected spring, site-specific geologic and hydrogeologic information, a discussion and analysis of alternative well locations, and pertinent regional information.

(b) Within 65 business days of receipt of a complete application, the department shall identify additional informational requirements necessary to evaluate the proposed well and may determine that the applicant shall develop and submit an environmental impact report in accordance with s. NR 150.25.

(c) Following receipt of the requested information, the department shall prepare an environmental assessment in accordance with the procedures of s. NR 150.22 and shall develop and publish a news release in accordance with s. NR 150.21.

(d) If the department determines that operation of the proposed high capacity well will not result in significant adverse environmental impact to the spring and related resources, the department shall approve the well and include in any approval issued under s. 281.34, Stats., conditions to ensure that operation of the proposed well will not cause significant adverse environmental impacts to the spring or critical resources related to the spring. The conditions may include but are not limited to conditions as to location, depth of casing, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow, ultimate use and conservation measures. The department may approve a proposed high capacity well that is predicted to result in a reduction of flow in a spring only if the predicted reduction would not cause permanent and irreversible impacts to the spring and related resources. The department may not approve a proposed high capacity well that is predicted to result in a reduction in flow from a spring such that the spring does not flow at one cubic foot per second or greater at least 80% of the time or that will reduce the average annual flow from a spring by greater than 20%.

(5) As part of an approval issued using the standards under s. 281.34, Stats., the department may require the owner of the high capacity well to implement a monitoring plan to document conditions of

the spring and related resources and based on results of the monitoring program may revise the approval.

NR 820.32 Projects with high water loss. (1) For any application for approval of a high capacity well under s. 281.34, Stats., the applicant shall identify and the department shall verify whether the proposed use of the well will result in an annual water loss of greater than 95%. The department may require submittal of a detailed water balance as part of the application in order to determine the approximate water loss.

(2) If the department determines that a proposed high capacity well will result in an annual water loss of greater than 95%, the department shall notify the applicant that the proposed well may result in a water loss of greater than 95%. Within 65 business days of receipt of a complete application, the department shall identify additional informational requirements necessary to evaluate the proposed well and may determine that the applicant shall develop and submit an environmental impact report in accordance with s. NR 150.25.

(3) Following receipt of all requested information, the department shall prepare an environmental assessment in accordance with the procedures of s. NR 150.22, and shall develop and publish a news release in accordance with s. NR 150.21.

(4) If the department determines that construction and operation of the proposed high capacity well will not result in significant environmental impact to surface and groundwater resources, the department shall approve the well and include in any approval issued using the standards under s. 281.34, Stats., conditions to ensure that operation of the proposed well will not cause significant adverse environmental impact to surface water or groundwater resources. The conditions may include but are not limited to conditions as to location, depth of casing, depth of lower drillhole, depth interval of well screen, pumping capacity, pumpage schedule, months of operation, rate of flow, ultimate use and conservation measures.

(5) As part of an approval issued using the standards under s. 281.34, Stats., the department may require the owner of the high capacity well to develop and implement a water conservation and management plan that minimizes, to the extent technically and economically feasible, the degree of water loss related to operation of the high capacity well system.

(6) As part of an approval issued using the standards under s. 281.34, Stats., the department may require the owner of the high capacity well system to implement a monitoring plan to evaluate environmental impacts caused by operation of the high capacity well system and based on results of the monitoring program may revise the approval.

NR 820.33. Public utility wells. Sections NR 820.30 to 820.32 do not apply to proposed high capacity wells that are water supplies for public water systems operated by a public utility, as defined by s. 196.01, Stats., engaged in supplying water to or for the public, if the department determines that there is no other reasonable alternative location for the well and includes in the approval conditions that ensure

that the environmental impact of the well is balanced by the public benefit of the well related to public health and safety. Conditions of the approval for the well may include, but are not limited to, conditions as to location, depth, pumping capacity, rate of flow, and ultimate use.

SECTION 2. **EFFECTIVE DATE.** This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2) (intro.), Stats.

SECTION 3. **BOARD ADOPTION.** This rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated in Madison, Wisconsin_____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Scott Hassett, Secretary

(SEAL)