NR 812 Revision Public Comments and DNR Responses
Natural Resources Board Order No. DG-25-19

January 7, 2022

This document presents a summary of public comments received on the proposed revisions of chapter NR 812, Wis. Adm. Code, and the Department of Natural Resources' (DNR's) responses.

OVERVIEW

The primary objectives of the proposed chapter NR 812, Wis. Adm. Code, revisions are to expand the allowable use of thermoplastic casing in drinking water wells, while maintaining protection of groundwater and public health.

In addition to the statutorily-required public comment opportunities, DNR sought input from a select number of stakeholders during the rulemaking process, in the form of a "PVC Study Group." The group consisted of three well drillers selected by the Wisconsin Water Well Association (WWWA) and three well drillers selected by the DNR, as well as DNR staff from the Bureau of Drinking and Groundwater. The study group met four times, although only the first and fourth meetings were attended by the entire study group. The DNR kept members updated on study group progress through the use of a DNR web page: https://dnr.wisconsin.gov/topic/Wells/PVCStudyGroup.html.

Economic Impact Analysis (EIA) – A 30-day public comment period on the draft EIA occurred from May 10 to June 9, 2021. DNR received written comments from one commenter on the EIA during this period. The comments addressed economic factors in only a general way, while the other comments were on the draft rule language. The EIA-commenter also commented on the rule revisions during the public notice period, and all of the non-EIA comments were repeated during the public notice period and at the public hearing.

Public Hearings and Comment – The public comment period for the draft rule occurred from September 14, 2021 to October 14, 2021. DNR emailed a summary of the proposed ch. NR 812, Wis. Adm. Code, changes to all licensed drillers and pump installers on September 13 and October 5, 2021. During the public comment period, 11 people submitted written comments. The public hearing on the draft rule was held on October 7, 2021. Six people testified at hearing; three of them also submitted written comments during the public comment period.

At the hearing, three options were presented for comment. The first (Option #1) is the draft rule language. The second (Option #2) is proposed by the WWWA, and would allow the expansion of use of thermoplastic casing only under a variance process. The third (Option #3) is no change to the current rule. See attached "Three Options for the Use of Thermoplastic (PVC) Casing in Wisconsin."

Forty percent of commentors expressed overall satisfaction with Option #1, the proposed rule revision; however, they had questions or comments on some specific sections of the draft rule. Many of the comments had multiple points to make on specific sections. Nine comments expressed opposition to Option #1 (six in favor of Option #2; three in favor of Option #3), suggested changes, or asked questions about the proposed changes, while six comments were in support of the draft rule.

ECONOMIC IMPACTS ANALYSIS

EIA-Related Comments:

- *The Department estimates that 25 percent of the wells drilled in the past 3 years that could have used thermoplastic casing actually used it. What is being referenced is the use of PVC into unconsolidated formations. We believe, based on a survey of our Board members, that the estimate of wells that will be drilled using PVC in consolidated formations is over-stated (See #14).*

DNR Response: No change to EIA. The DNR used seven quotes for identical wells constructed with steel vs. thermoplastic casing supplied by the two of the members of the PVC study group who supplied the requested hypothetical quotes. No other external members of the PVC study group responded to the request.

The DNR asked the WWWA for any additional data they could supply to refute the DNR's estimate. Response received from WWWA representative in an email dated June 15, 2021, did not include any verifiable data that could be used to refute or adjust the analysis that the DNR had completed.

- *The Department suggests that PVC wells into consolidated formations will be less expensive because of material cost savings. Our drillers report that the labor costs involved with PVC installations often absorb most or all those savings. If price is not a factor, we believe that end users will, on the recommendation of their drillers, choose steel casing.*

DNR Response: No change to EIA. As stated in the first excerpt above, the DNR asked for the WWWA for data to support this claim and did not receive any verifiable data that could be used to adjust the estimate of compliance cost provided by the DNR. The DNR's estimates are based on the best available data it could gather.

- *The Department estimates that 20 percent of the drillers will retool at a cost of $3,125.00. Feedback from the industry suggests that this estimated expense is on the end. What is not reflected, however, is the cost to drill into a consolidated formation requires a rotary drill costing $500,000.00 to $1,000,000.00. That is, there will be few new entrants into this market. Only those with rotary drills would likely look at the potential drilling into consolidated formations would afford.*

DNR Response: No change to EIA. As stated above, the DNR requested for a verifiable data on this assertion from the WWWA and did not receive any. In addition, the DNR disagrees that thermoplastic casing can only be installed in consolidated formations using a rotary drill rig. Thermoplastic casing can also be installed in consolidated formations using a cable tool rig.

- *Already, market coverage with existing well drillers is strained. It is unlikely, therefore, that drillers will abandon their local markets to the pursue growth projects in and around the state and, if they do, the travel alone will eat up any savings on the materials.*

DNR Response: No change to EIA. This was not part of the EIA analysis because the DNR agrees that this scenario is unlikely.

- *Thus, the growth in the number of available drillers would come from those who have the right equipment, but who may lack the requisite experience to do this work. This, we believe, introduces unnecessary risk related to groundwater contamination and public safety.*

DNR Response: No change to EIA. The DNR addressed this concern with the WWWA when this was originally brought up by the Government Relations Advisor to the Wisconsin Water Well Association after the PVC Study Group meetings had ended. Under s. NR 146.08(8), Wis. Adm. Code, licensed individual water well drillers are required to provide direct supervision on the first 10 water wells drilled by any employee or any individual who has no experience in a water well drilling method which is new to the employee or individual. Additionally, DNR committed to providing extra compliance monitoring for well constructors who are new to the use of thermoplastic casing during this time. In other words, the above referenced scenario would only likely occur as a violation of a well driller's license, and if s. NR 146.08(8), Wis. Adm. Code, is followed, the DNR would be providing enhanced compliance monitoring to ensure the risk would be minimized.

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE (21-070)

Comments received from the Wisconsin Legislative Council Rules Clearinghouse (21-070) were largely formatting and editorial in nature. DNR made all requested changes.

PUBLIC COMMENTS ON DRAFT RULE BY TOPIC AREA

A summary of specific comments and DNR response are listed below by topic and in order of ch. NR 812, Wis. Adm. Code, section. Three types of nonspecific comments were also received: 1) general comments about the rule revision, 2) clarification and/or rhetorical questions which did not fall under specific sections of the draft rule, and 3) comments based on misunderstanding the revisions in the draft rule. Where comments required a clarification or response, they are included below. Comments not specifically seeking a response from DNR were noted and have been retained in the comment record.

1. **General/Uncategorized Comments:**

Comment: One commenter objected to the hearing and public comment format on the grounds that allowing hearing and comment period participants to comment on three options was procedurally improper and made it difficult to address specific concerns and issues in any of the three options.

> **DNR Response:** No Action Required. After drafting the proposed rule language, the DNR learned that certain stakeholders did not support the proposed rule and would instead advocate for a variance process. The DNR provided three rulemaking options for comment to gauge public opinion on the proposed rule versus a variance option. In its notice of public hearing, the DNR provided the three options in the hearing notice along with the draft rule language. The DNR also provided 30 days for public comment. After assessing public comments, the DNR is proceeding with the initial proposed rule language. The proposed final rule is within in the bounds of the statement of scope.

Comment: Three hearing participants opposed the draft rule on the grounds that expanding the allowable use of thermoplastic casing is moving too quickly for Wisconsin well drillers to gain necessary experience and training in the use of thermoplastic casing, and the resulting risk to groundwater and public health would be unacceptable.

> **DNR Response:** No Change. Under s. NR 146.08 (8), Wis. Adm. Code, licensed water well drillers must provide direct supervision on the first 10 water wells drilled by any employee for any method or material with which the employee has no experience. In addition, the DNR plans to exercise its authority under s. NR 812.03 (1), Wis. Adm. Code, to require any driller new to thermoplastic casing to give notification to the department no later than the work day prior to to the day on which the well construction will be commenced for at least the first 10 wells. The

DNR will use this information to provide enhanced compliance monitoring for well drillers who are new to the use of thermoplastic casing.

Comments: Of the six commentors at the public hearing, three were generally in favor of Option #1, and three were generally in favor of Option #2. No one at the hearing was in favor of Option #3. Of the submitted written comments, five were generally in favor of Option #1, four were generally in favor of Option #2, and three were in favor of no change to the current rule (Option #3). Note that three of the written comments were provided by people who also testified at the public hearing. In total, six commenters favored Option #1, six commenters favored Option #2, and three commenters favored Option #3.

DNR Response: No Change. There is not a clear favorite between options #1 and #2. After investigating current research on the use of thermoplastic casing for water wells, the DNR feels that there is sufficient empirical evidence to allow the draft rule to advance without additional risk to groundwater and public health.

Comment: One commentor stated that the potential costs savings of PVC versus steel casing did not warrant a change to the current rule, because the cost of *everything* has gone up, and "there is no reason to cut corners because of a price fluctuation."

DNR Response: No Change. Cost issues were addressed in the EIA, and despite price increases across the board, thermoplastic casing has historically been and continues to be less expensive than steel. The DNR believes that the proposed rule will allow for thermoplastic casing to be used for bedrock wells without compromising pubic safety or groundwater quality.

Comments: Six commentors discussed the continued prohibition on drilling through thermoplastic casing. The comments broke cleanly along the lines of those opposed to Option #1 and those in favor of it. Two commentors opposed to Option #1 agreed with keeping the existing prohibition against drill-through, while four commentors in favor of Option #1 argued in favor of allowing the practice, one of which is a driller licensed in Illinois (as well as Wisconsin) where the practiced is allowed. This commentor pointed out that the practice can be performed safely with little risk of damage to the casing. Those opposed to drilling through thermoplastic casing also pointed out the potential for damage to the casing from drill cuttings as well as the drill bit and rods.

DNR Response: No Change. Although the DNR staff on the PVC Study Group initially proposed allowing the ability to drill through thermoplastic casing, it was removed from the final board order due to an abundance of caution, and the objections of some of the industry members of the PVC Study Group.

2. NR 812.13 (4) (b) – "A packer or shale trap *may* be used to provide a sand seal between the bottom of a well casing pipe and the top of a screen."

Comments: Two commentors agreed and one commentor partially agreed with the revision from "shall" to "may." The commentor who partially agreed with the change implied that the entire section could be removed as "it is impossible to sand pack a screen with those items in place."

DNR Response: No Change. This change was suggested by one of the members of the PVC Study Group, and met with no objections from PVC Study Group members.

3. NR 812.13 (7) (b) 4. – Maximum annular space

Comments: Two commentors agreed with the proposed rule language, although one commentor agreed "conditionally." The conditional agreement was couched in the idea that for the rule to be truly performance based, the well driller should be held responsible for knowing and understanding the processes that might limit performance of (and cause possible damage to) thermoplastic casing.

In subsequent discussions with members of the drilling industry, it was agreed that there are times when a larger annular space is warranted, and the rule provides sufficient protection against casing damage from larger annular spaces.

> **DNR Response:** Changed. Maximum annular space requirement has been removed.

4. **NR 812.13 (8) (a), NR 812,13 (8) (d) 3. and 4. and NR 812.15 (2) (c) - Grouting**

Comments: Two commentors specifically agreed with the allowance of cementous grout on all thermoplastic wells. One commentor mistakenly believed that this allowance was only for thermoplastic wells terminating in bedrock, and stated that it should also be allowed for unconsolidated wells.

> **DNR Response:** No Change. Cementous grout would be allowed for all thermoplastic wells under the revised rule.

5. **NR 812.14 (3) (a) – Material**

Comment: Four comments were submitted on allowing thermoplastic casing to terminate in bedrock. Three agreed with the proposed rule change, one was opposed on the grounds that thermoplastic casing can't be firmly seated in bedrock.

In subsequent discussions with members of the drilling industry, it was agreed that allowing thermoplastic casing in crystalline bedrock (granite, rhyolite, quartzite, gabbro, basalt, gneiss, schist, diorite and greenstone) could present too many problems, especially for post-construction.

> **DNR Response:** No Change. Although the draft rule does not allow driving thermoplastic casing to a firm seat in bedrock it specifically allows for mechanical push/hold down of the casing to counteract potential buoyancy during casing setting and grouting (s. NR 812.14 (4) (d)). The DNR believes that this mechanism will allow thermoplastic bedrock wells to be firmly seated, so this sections remains as-is.

6. **NR 812.14 (3) (e) – Thermoplastic casing use restricted**

Comments: In subsequent discussions with members of the drilling industry, it was agreed that crystalline bedrock (granite, rhyolite, quartzite, gabbro, basalt, gneiss, schist, diorite and greenstone) presents additional challenges for construction of wells using thermoplastic casing, and should be excluded.

> **DNR Response:** Changed. NR 812.14 (3) (e) has been created to allow the use of thermoplastic casing in wells terminating in non-crystalline bedrock only.

7. **NR 812.14 (4) (d) – Mechanically Holding Down Thermoplastic Casing**

Comments: Each of the four commenters who mentioned driving casing agreed that it should be prohibited for thermoplastic casing, and one commentor called the entire concept a "red herring." Three

commentors specifically agreed with the concept of "seating" thermoplastic by mechanically holding down the casing during grouting to prevent the casing from floating.

DNR Response: No Change. There was no disagreement with this rule language.

8. NR 812.14 (5) (c) 3. – Maximum Thermoplastic Casing Depth of 5 Feet into Bedrock

Comments: Three commentors (who were otherwise generally in favor of Option #1) disagreed with this rule language. One commentor who "strongly disagreed" pointed out that shallow bedrock could "unnecessarily preclude" a thermoplastic cased well. In addition, the PVC Study Group generally discussed that thermoplastic casing deeper into sandstone would probably be acceptable.

DNR Response: No Change. DNR agreed that for the sake of simplicity and consistency in rule language, as well as consistency with surrounding states (specifically Minnesota), that this can be addressed in future rule revisions if deemed appropriate.

Three "Options" for the Use of Thermoplastic (PVC) Casing in Wisconsin

The department is seeking public comment and feedback on the following three options.

1. Option 1: Draft Rule Language (Board Order DG-25-19): expand the allowable use of PVC Casing.

   General Recommendations:

   - Materials - No change
   - Joints – No Change
   - UV Protection – No change
   - Drill-Through Casing – No
   - Allowed in Bedrock – Yes*
   - Depth of Casing into Bedrock - No more than 5' into "Top of Bedrock"
   - Drive Casing – No; allow mechanical push/hold down to address buoyancy and minor sloughing
   - Grout – Cement allowed for PVC in bedrock
   - Pitless Adapters – Allow non-welded on non-domestic wells
   - Packer/Shale Trap Issue - Clarify NR 812.13(4)(b); change "shall" to "may"
   - Add Maximum Annular Space Requirements – To address heat of hydration and pressure concerns*
   - Update Temporary Casing for HEX – PVC allowed

2. Recommendation of the Wisconsin Water Well Association: allow the use of PVC casing beyond the current rule with a variance only:

   > "[A] variance can be allowed and an expedited variance procedure could be developed between the industry and the Department, where there are clear understandings and expectations. Under a variance, careful review can be made – before, during and after construction. The use of variances allows a slow introduction of this techniques. The success (or failure) can be measured."
   >
   > - WWWA Written Testimony to DG-25-19 Economic Impact Analysis

3. No Change to current rule: use of PVC casing allowed for wells terminating in unconsolidated formations only, and cement grout allowed only for flowing wells.

* In subsequent discussions with the WWWA after the hearing, the draft rule was changed to restrict the use of thermoplastic casing in non-crystalline bedrock only, and to remove the maximum annular space requirement.