STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R09/2016)

DIVISION OF EXECUTIVE BUDGET AND FINANCE
101 EAST WILSON STREET, 10TH FLOOR
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MADISON, WI 53707-7864
FAX: (608) 267-0372

ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis	2. Date
☒ Original ☐ Updated ☐ Corrected	June 16, 2021

3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable)
NR 812 – Well Construction and Pump Installation

4. Subject
NR 812 establishes construction, pump installation, inspection, and filling and sealing standards for private and noncommunity water systems and heat exchange systems. Board order DG-25-19

5. Fund Sources Affected	6. Chapter 20, Stats. Appropriations Affected
☐ GPR ☐ FED ☐ PRO ☐ PRS ☒ SEG ☐ SEG-S	N/A

7. Fiscal Effect of Implementing the Rule

☒ No Fiscal Effect	☐ Increase Existing Revenues	☐ Increase Costs	☐ Decrease Costs
☐ Indeterminate	☐ Decrease Existing Revenues	☒ Could Absorb Within Agency's Budget	

8. The Rule Will Impact the Following (Check All That Apply)

☐ State's Economy	☒ Specific Businesses/Sectors
☐ Local Government Units	☐ Public Utility Rate Payers
	☒ Small Businesses **(if checked, complete Attachment A)**

9. Estimate of Implementation and Compliance to Businesses, Local Governmental Units and Individuals, per s. 227.137(3)(b)(1).
$62,500 or Level 2 Moderate (Between $50,000 - $5 million) one time cost to well drilling businesses, and an estimated annual compliance benefit (savings) to new well owners of $893,095 per year.

10. Would Implementation and Compliance Costs Businesses, Local Governmental Units and Individuals Be $10 Million or more Over Any 2-year Period, per s. 227.137(3)(b)(2)?
☐ Yes ☒ No

11. Policy Problem Addressed by the Rule
Currently, Wisconsin lags behind all of its neighboring states (and almost ALL states) in the allowed use of thermoplastic well casing. This puts Wisconsin's well drillers and homeowners at a disadvantage when it comes to safe and affordable options for well construction. Specific edits include:

1. Allows construction of wells using thermoplastic casing to terminate in bedrock formations.
2. Allows the use of cementous grout as an annular space seal for wells with thermoplastic casing.
3. Allows clamp-on, bolt-on, or bolt-through pitless adapters for all wells (currently these are only allowed for wells serving single families).
4. Adds more complete specifications for thermoplastic casing to the rule.
5. Adds maximum annular space requirements for wells constructed with thermoplastic casing and cementous grout to prevent damage from pressure and heat of hydration.
6. Clarifies s. NR 812.13(4)(b), Wis. Adm. Code, making the use of a packer or shale trap to provide a sand seal between the bottom of a casing and the top of a screen optional rather than required.
7. Allows the department to investigate wells that it suspects have suffered damage to thermoplastic casing.

12. Summary of the Businesses, Business Sectors, Associations Representing Business, Local Governmental Units, and Individuals that may be Affected by the Proposed Rule that were Contacted for Comments.
Well drillers contributed to the analysis. Well drillers were represented on a "PVC Study Group" that examined and addressed issues surrounding the use of thermoplastic well casing in Wisconsin. The department contacted all these entities during the economic impact analysis (EIA) comment period via email. Other entities that may have interest in this rule, including Small Business Environmental Council and Wisconsin Manufacturers and Commerce, were contacted during the EIA comment solicitation period.

13. Identify the Local Governmental Units that Participated in the Development of this EIA.

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This rule does not impact local government units directly. However, the department notified the League of Wisconsin Municipalities and the Wisconsin Counties Association via email during the commnet solicitation period. No local governmental units submitted comments on the EIA.

14. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economy as a Whole (Include Implementation and Compliance Costs Expected to be Incurred)

(A) Economic Impact on Businesses:

The majority of the economic impacts of this rule are a compliance benefit or saving in cost of well construction that could potentially use thermoplastic casing instead of steel. A detailed discussion of these benefits will be presented in question #15.

The anticipated compliance of of this rule eminates from drillers that may have to re-tool in order to take advantage of the flexibility provided in this rule. Based on the department's data approximately 25% of total wells drilled in the past 3 years that could have used thermoplastic casing actually used it. Using this ratio we predict that the total number of additional wells that will be drilled with thermoplastic casing as a result of this rule will be approximately 970 wells over 3 years (323 wells per year). These wells were drilled by approximately 80 - 82 entities.

Based on the WDNR's expertise with data reported to the agency and the type of drilling methods we anticipate approximately 20% of these entities will have to re-tool to take advantage of this rule.

The total economic impact (compliance and implementation) of this rule expected to be incurred by these entities is estimated to be $62,500 (Level 2 Moderate). This cost was computed as follows:

- Cost of mud pump and accessories – an average cost of $3,125 per equipment and accessories.
- An estimate of 20 entities impacted.
- As a result, a one-time cost of $62,500 to select drilling businesses for additional equipment to construct wells terminating in bedrock using thermoplastic casing (this cost assumes that entities do not already have the requisite equipment).

(B) Economic Impacts on Local Governments, Utility Rate Payers and Public Entities:

The department does not anticipate that local governments, utility rate payers, or public entities will be economically impacted by the implementation of the proposed rules.

(C) State Economy:

The department does not anticipate negative impacts to the state's economy.

(D) Fiscal Impacts:

There are no fiscal impacts to this rule. This rule will not require additional state staff to implement or affect state revenues.

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15. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule

Rule revisions will recognize modern construction methods, and provide more well construction options for businesses and the well owner. The revised rule is anticipated to provide increased potential for cost savings to well owners of an estimated $893,095 per year in cost savings wells constructed using thermoplastic, rather than steel, casing.

The department analyzed its data on 25,327 wells constructed between 2018 and 2020. Of those bedrock wells constructed using methods that can potentially construct wells using thermoplastic casing, the department estimated that if the suggestions in DG-25-19 were allowed, 3,852 additional wells could have been constructed into bedrock using thermoplastic casing. Of the total wells constructed between 2018 and 2020, 25% were constructed using thermoplastic casing. Extrapolating 25% of the *potential* wells (3,852) constructed using thermoplastic casing casing to the potential for thermoplastic casing in bedrock equals 970 wells over 3 years, or 323 wells per year. Using the cost estimates for equivalent wells constructed with steel vs. thermoplastic casing, and using the average (mean) casing depth for bedrock wells from 2018 to 2020, the department calculated the average cost savings per well terminating in bedrock and using thermoplastic casing is $2,765. $2,765 x 323 = $893,095 cost savings per year.

Greater protection of human health and groundwater is anticipated from increased use of thermoplastic casing in areas with groundwater contaminants, such as arsenic, which reacts unfavorably with steel casing.

Alternatively, not implementing the rule revisions will not produce these benefits. Additionally, it would lead to unnecessary costs to new well owners in the form of lack of an option for a more affordable (but equally safe) well.

16. Long Range Implications of Implementing the Rule

The long range implication will be the same as the short range implication of this rule.

17. Compare With Approaches Being Used by Federal Government

Private well construction and pump installation is not regulated by the federal government. There is no comparable federal government approach to this rule.

18. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota)

Illinois, Iowa, Michigan, and Minnesota have all allowed the construction of wells using thermoplastic casing terminating in bedrock for years. Of the neighboring states' regulations, Minnesota's regulations are generally more restrictive, and Illinois' regulations are generally less restrictive. For instance, drilling through the casing is not allowed for thermoplastic casing in Minnesota, but is allowed in Illinois. By reducing the restrictions on the use of thermoplastic casing, this rule revision makes Wisconsin's approach more similar to the simpler, less restrictive approach used in surrounding states.

19. Contact Name	20. Contact Phone Number
Frank Fetter	(608) 264-6139

This document can be made available in alternate formats to individuals with disabilities upon request.

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ATTACHMENT A

1. Summary of Rule's Economic and Fiscal Impact on Small Businesses (Separately for each Small Business Sector, Include Implementation and Compliance Costs Expected to be Incurred)

This rule provides a major net benefit to small businesses impacted by the rule. The department assumed that a majority, if not all, of the entities impacted by this rule are small bussinesses. Based on this assumption the total economic impact (compliance and implementation) of this rule is expected to be incurred by small business. The total economic impact is estimated to be a one time compliance cost of $62,500 (Level 2 Moderate). A detailed analysis of this compliance cost is provided in Question #14 of the DOA 2049 form above.

Rule revision will recognize modern construction methods, and provide more well construction options for businesses and the well owner. The revised rule is anticipated to provide increased potential for cost savings to well owners of an estimated $893,095 per year for wells constructed using thermoplastic, rather than steel, casing. A detailed assessment of this cost savings is provided in Question #15 of the DOA 2049 form above.

2. Summary of the data sources used to measure the Rule's impact on Small Businesses

Seven cost proposals for drilling and well installation from existing DNR well construction companies that construct wells using both steel and thermoplastic casing were used, as well as 25,327 Well Construction Reports (WCRs) from 2018-2020. The latter represents 95% of all wells constructed in Wisconsin for that period, and 100% of the WCRs that contained useable data for analysis. The well construction data analyzed were total number of wells, casing terminating in bedrock vs. unconsolidated formations, drilling method for wells terminating in bedrock, and number of well drilling businesses by well drilling method. The department also priced mud pumps and related equipment to estimate the cost for a subset of well drilling businesses to "re-tool" to construct compliant wells using thermoplastic casing terminating in bedrock. In addition, any numbers submitted by well drillers in response to the EIA and during the public comment period will be assessed and included in the final calculations where appropriate.

3. Did the agency consider the following methods to reduce the impact of the Rule on Small Businesses?

☒ Less Stringent Compliance or Reporting Requirements
☐ Less Stringent Schedules or Deadlines for Compliance or Reporting
☐ Consolidation or Simplification of Reporting Requirements
☒ Establishment of performance standards in lieu of Design or Operational Standards
☐ Exemption of Small Businesses from some or all requirements
☐ Other, describe:

4. Describe the methods incorporated into the Rule that will reduce its impact on Small Businesses

Reduced the number of processes requiring written DNR approvals. An example is no longer requiring a written DNR approval to install thermoplastic casing that terminates in bedrock in a private well.

5. Describe the Rule's Enforcement Provisions

NR 812 has civil and criminal provisions as well as citation authority for certain specific violations.

6. Did the Agency prepare a Cost Benefit Analysis (if Yes, attach to form)

☐ Yes ☒ No