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

DIVISION OF EXECUTIVE BUDGET AND FINANCE
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ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis
☒ Original ☐ Updated ☐ Corrected

2. Date
10/12/2021

3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable)
NR 809, Safe Drinking Water

4. Subject
Promulgation of new drinking water maximum contaminant levels for Per- and Polyfluoroalkyl Substances (PFAS) including Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA). Board order DG-24-19

5. Fund Sources Affected
☒ GPR ☒ FED ☐ PRO ☐ PRS ☐ SEG ☐ SEG-S

6. Chapter 20, Stats. Appropriations Affected
401 and 441

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).

The implementation and compliance cost of this rule is estimated to be $5,600,397.07 in the first year after rule promulgation. The estimated costs include monitoring costs and costs for systems that may be required to mitigate for an exceedance of the PFOA and PFOS drinking water standards. The ongoing costs of monitoring will fluctuate slightly from year to year based on when systems are required to conduct routine monitoring. The average annual compliance cost for years 2 through 6 is estimated to be $3,947,739.57. The maximum implementation and compliance cost in any two consecutive years is estimated to be $9,350,949.15.

The department assumes that nine municipal systems will exceed the PFOA and PFOS drinking water standards and will opt for treatment using granular activated carbon (GAC) treatment systems. For these nine systems, the department anticipates that municipalities will use the Safe Drinking Water Loan program to finance the cost of compliance. This is the regular practice of municipalities for such projects and is consistent with past experience for implementing similar regulatory changes. These systems are estimated to cost a total of $1,762,527.42 per year over a 20-year period ($35,250,548.50 including interest charged over the period) and a total annual maintenance cost of $1,980,893.33 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

The implementation and compliance cost estimates in any two consecutive years does not exceed $10 million. The first year and second year after the rule is promulgated will be the most costly, estimated at a total of $9,350,949.15. After that, each two-year period for years 2 to 6 are estimated to be $ 7,501,104.16. The cost is anticipated to further decrease after year 6.

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11. Policy Problem Addressed by the Rule

The objective of the proposed rule is to amend ch. NR 809, Wis. Adm. Code, to establish drinking water standards, referred to as Maximum Contaminant Levels (MCLs), for certain Per- and Polyfluoroalkyl substances (PFAS), including the contaminant compounds perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFAS contaminants are human-made chemicals that are widespread and do not break down easily. PFAS contaminants are a threat to the environment and human health, including surface water and groundwater resources. PFAS in surface water and groundwater source that supplies Wisconsin's drinking water is a threat to public health, welfare, and safety. Establishing enforceable maximum contaminant levels for certain PFAS in drinking water is necessary to protect public health. If maximum contaminant levels are exceeded, a corrective action plan must be implemented to maintain protection of public health, welfare, and safety in drinking water.

Scientific studies show adverse health effects associated with exposure to PFOA and PFOS contaminants. Adverse health effects include an increase in cholesterol, liver damage, thyroid disease, and a decrease in fertility and birth weight. The EPA and international studies have classified PFOA and PFOS as possibly carcinogenic to humans.

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.

The proposed rule will affect the following entities:

- Municipal community water systems (cities, townships, sanitary districts).
- Other-than-municipal community (OTM) water systems (mobile home parks, apartment buildings, condominium associations).
- Non-transient non-community (NN) water systems (small businesses with 25 or more employees that are not on a municipal source).
- Laboratories certified to perform PFOS and PFOA analysis in drinking water.

The department has contacted these groups for comments on the economic impact.

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

The department received comments from the League of Wisconsin Municipalities and the Wisconsin Counties Association.

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)

Promulgating PFOA and PFOS maximum contaminant levels will result in monitoring costs and mitigation costs. The department anticipates that first-year costs will be higher than ongoing costs due to initial monitoring costs and mitigation of initially discovered systems with a PFOA or PFOS maximum contaminant level exceedance.

The implementation and compliance cost of this rule is estimated to be $5,600,397.15 in the first year after rule promulgation. For subsequent years, the costs will be significantly lower, and will fluctuate slightly based when systems conduct routine monitoring (occurs every 3 to 6 years). For example, the estimated implementation and compliance costs for year 2 are expected to be $3,750,552. The average implementation and compliance cost per year for years 2 through

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6 is estimated to be $3,947,739.57. The maximum in any two consecutive years for all compliance and implementation (monitoring and mitigation) is expected to occur in years 1 and 2 and is estimated to be $9,350,949.15.

The estimates include an annualized cost for GAC treatment systems of $1,762,527.42 per year over a 20-year period ($35,250,548.50 including interest charged over the period) and a total annual maintenance cost of $1,980,893.33 per year.

Under the revised rules, the department will require testing at a frequency similar to other synthetic organic compounds having Safe Drinking Water Act maximum contaminant levels. This testing would occur at least every six years but may be as often as every quarter for a small subset of public water systems, depending upon the levels of PFAS contaminants detected. This will affect approximately 2,000 public water systems. Currently, the cost of a sample analysis is $375 per sample.

Monitoring

The ongoing costs of monitoring will fluctuate slightly from year to year based on when systems are required to conduct routine monitoring. Following the same monitoring frequency requirements for other synthetic organic compounds, PFAS monitoring will fall into four basic categories:

- Initial monitoring – One-time entry point plus quarterly for detects.
- Routine monitoring – Entry Point (once every three years)
- Maximum contaminant level monitoring – (quarterly)
- Reduced monitoring – No detects (every six years)

To estimate the number of systems for each type of monitoring, the department used an average of national occurrence data gathered as part of the Unregulated Contaminant Monitoring Rule (UCMR) and data gathered in Michigan (2% and 0.63% results greater than 20 ppt respectively). This estimate assumes that 1.35% of Wisconsin systems will have results greater than the proposed standard of 20 ppt. For perspective, data gathered in Ohio also had 1.22% of entities sampled above 20ppt. The department estimates 10% of entry points will need to sample quarterly in the initial monitoring period.

Table 1. Estimated Wisconsin monitoring frequencies

Water System Type	Number of Entry Point Samples	Initial All systems
Community Water Systems	1,949	$950,250
Non-transient Non-community water systems	981	$478,125
Grand Total	2930	$1,428,375

The proposed initial monitoring schedule is as follows:

(a) Public water systems serving a population greater or equal to 50,000 [3 months after the rule becomes effective].
(b) Public water systems serving a population 10,000 to 49,999 [6 months after the rule becomes effective].
(c) Public water systems serving a population less than 10,000 [9 months after the rule becomes effective].

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Impacted Stakeholders

Stakeholders that will be impacted by new PFAS safe drinking water requirements fall into two broad categories.

- Community water systems – Public water systems which serve at least 15 service connections used by year-round residents or regularly serve at least 25 year-round residents, including cities, some mobile home parks, apartment complexes, and subdivisions.
- Non-transient non-community – Public water systems that are usually smaller than community water systems but regularly serve at least 25 of the same people over 6 months per year, including schools and some small businesses.

Predicted Maximum Contaminant Level Exceedances

During the EPA's Unregulated Contaminant Monitoring Rule 3 (UCMR 3) from 2013 to 2015, the PFAS contaminants PFOA and PFOS were identified in the drinking water at several Wisconsin public water systems. Of the 90 systems that sampled during the UCMR 3 period for PFOA and PFOS in Wisconsin, three had detects and two had results over 20 for PFOA, PFOS, or combined (Appendix B). This ratio is similar to the national data from this sampling effort (Appendix B).

Note: Minimum Reporting Levels under UCMR 3 - PFOS = 40 ppt, PFOA = 20 ppt

Several states have completed sampling programs that provide occurrence data that can be referenced for comparison (Appendix A). For example, the Michigan study of over 1,700 public water systems from 2017 – 2019 indicated 0.63 % of sampled systems exceeded the 20 ppt PFAS level for PFOS, PFOA, or combined. Other states' drinking water sampling efforts have shown approximately 1% to 2% of water systems with PFAS detections above 20ppt (Appendix A).

Using the national occurrence data (UCMR3) and our closest state's data (MI), the department predicts that 1.35% of public water systems will exceed the PFOA or PFOS maximum contaminant levels.

Prediction of Detects and Non Detects:

Systems that have detected levels of PFOA or PFOS but have not exceeded the maximum contaminant levels will be required to conduct more frequent monitoring. In order to predict the percentage of entities that may have detects and non-detects of PFOA and PFOS in Wisconsin, the department used Michigan's testing data and conservatively skewed the data to account for the difference between the assumed 1.35% of entities in Wisconsin with PFOA and PFOS above 20 ppt. In other words, the department skewed its potential detects percentage higher and non-detects percentage lower compared to Michigan's data. As an example, Michigan found 92% of non-transient non-community entities to have non detect while the department skewed data used 83%. Using this scale, the tables below present the number of entities with PFOS or PFOA > 20ppt, PFOS or PFOA detects, PFOS or PFOA non-detects and the compliance cost for monitoring and routine testing.

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Table 2: Estimated Number of Entities in Each Category of Compliance Cost

Water System Type	Detects Exceeds MCL (>20 ppt)	No Detect	Detects Less than MCL (<20 ppt)
Community	13	1891	58
Non-Transient Non-Community	13	814	167
Total	**26**	**2705**	**225**

Table 3: Estimated Compliance Cost of Monitoring

	Routine Testing Wells (wells with detects) Every 3 years	MCL (>20 ppt) (4 times per year)	Reduced (No detects) Every 6 years
Community Water Systems	$ 21,750	$ 39,467	$ 709,125
Non-transient Non-community water systems	$ 62,625	$19,865	$ 305,250
Grand Total	**$ 84,375**	**$ 59,333**	**$ 1,014,375**

Mitigation Costs

The three main options for mitigating PFOS and PFOA in drinking water are to: 1) drill a new well that is not affected by the contaminants, 2) abandon the affected source, or 3) install treatment. The department assumes that smaller systems would most likely drill a new well, while larger municipal systems would install treatment, or abandon contaminated sources if possible. The cost of abandoning an affected source is significantly lower than treatment. However, for the purposes of this economic analysis, the department had taken the conservative approach of assuming all large municipalities with exceedances of PFOA or PFOS will opt for treatment. Treatment costs for PFOS and PFOA depend on the type of treatment being used, maintenance costs, and the amount of water being treated.

Estimated Treatment Costs

In order to estimate mitigation cost for community water systems that will require treatment, the department relied on a study done by the State of New Hampshire. This study reported system installation costs and their associated maintenance costs based on the gallons of water needing to be treated.

- New Hampshire reported treatment installation sized by the number of gallons requiring treatment is between $2.90/gal and $8.10/gal with an average of $5.50/gal. For example, a system that treats 100,000 gallons of water per day is expected to cost approximately $550,000 to install. A plant treating 1 million gallons per day would cost approximately $5.5 million to install.

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- The average daily pumping rate for municipal public water systems in Wisconsin is 668,000 gallons per day. (This average daily pumping rate excluded municipalities that have recently voluntarily sampled their water and have shown evidence of no potential PFAS).
- Installation of treatment plants for municipal public water systems is then expected to cost $30.3 million dollars for 5.5 million gallons of treated water per day for an estimated nine municipal systems. Annualized over 20 years, the cost is $1,762,527 per year. This assumes that entities will secure a loan from the Clean Water Fund Program (CWFP) and Safe Drinking Water Loan Program (SDWLP) fund with a 20-year loan interest rate from 0.00% to 1.485%. This analysis used a 1.485% interest rate (approximately $4,945,560 in interest is paid over 20 years).
- Maintenance of treatment is estimated at $0.000959/gal. This is estimated to be $1,928,692 per year (average gallons *$0.000959/gal *365days)

Table 4: Estimated GAC treatment costs for a municipal system

	Annual Cost
GAC Installation Cost	$1,762,527.42
GAC Maintenance Cost	$1,928,692.15
Total Estimate	**$3,691,219.57**

Small Community and Non-Community System Mitigation Cost:

A new well at a small community system is estimated to average $50,000. A new well at a small non-community system is estimated to average $15,000. Based on the estimate of 1.35% of systems over the proposed standard in these categories, the department estimates that 6 community systems and 13 non-community systems will be impacted respectively for one-time new well costs.

Table 5: Estimated new well costs

	One-time Cost
Community System	$292,275.00
Non-Community Systems	$188,527.50
Total Estimate	**$480,802.50**

Total Economic Impact

Promulgating PFOA and PFOS maximum contaminant levels will result in monitoring costs and mitigation costs. The department anticipates that first-year costs will be higher than ongoing costs due to initial monitoring costs (Table 6) and mitigation of initially discovered systems with a PFOA or PFOS maximum contaminant level exceedance.

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Table 6. Estimated Compliance Cost

Cost	One-time Cost (Year 1)	Annual Year 2
Monitoring	$ 1,428,375	$ 59,333
Mitigation	$ 4,172,022	$ 3,691,220
Total Estimate	**$ 5,600,397**	**$ 3,750,552**

The department expects that municipal systems installing treatment will receive Safe Drinking Water Loan program funding to cover the one-time mitigation expense. The typical loan period is 20 years.

Impact on Local Government:
These costs are the same as the costs for municipal systems detailed above. The total implementation and compliance cost to all municipal community systems are expected to be $4,641,469.57 in the first year. The estimated average annual cost for years 2 through 6 is $3,856,124.32.

Public Utility Rate Payers:
Any cost to utility rate payers will be compliance and implementation costs that may be passed on from local government units. At this time, the department cannot anticipate if any of the compliance and implementation cost of local government units will be passed on to utility rate payers.

Impact on State Economy and Fiscal Impact:
The department does not anticipate an adverse impact of this rule to the state's economy.

The department anticipates additional staff time will be required to manage the additional workload with respect to monitoring follow-up, and treatment evaluation and approval. The department anticipates that an additional FTE position for a Water Supply Specialist will be required to absorb the additional workload created by this rule. Using the median hourly rate for a Water Supply Specialist ($35.09), including fringe and indirect benefits, at a total hourly rate of $52.037, the department estimates the cost of hiring additional staff to be $108,238 per year.

15. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule
The economic benefits of the avoided cost of impacts on human health may greatly outweigh the costs of monitoring and mitigating drinking water for PFOA and PFOS.

The PFOA and PFOS standards in the proposed rule are based on recommendations from the Wisconsin Department of Health Services (DHS). In making its recommendations, DHS considers health-based guidance values from national and international agencies, scientific literature, and studies with significant scientific certainty. For carcinogenic substances, DHS uses the cancer risk level established in ch. 160, Wis. Stat.

According to U.S. EPA study[1], the documented adverse health effect of PFOA and PFOS include:

- Developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations)
- Cancer (e.g., testicular, kidney)
- Liver effects (e.g., tissue damage)
- Immune effects (e.g., antibody production and immunity)
- Thyroid effects and other effects (e.g., cholesterol changes).

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The data on these adverse effects and its link to PFOA and PFOS in Wisconsin are unknown at this time. Nevertheless, there are documented negative health effects caused by long-term exposure to PFOS and PFOA, the citizens of Wisconsin would be unprotected from risks of exposure from most discharges of PFOS and PFOA to Wisconsin's drinking water.

Two groups that may be particularly at risk are those residents who obtain their drinking water from municipal water systems that use surface water and ground water as their sources. Secondly, Wisconsin residents who own property near areas of known PFAS contamination may experience diminished property values, depressing their personal net worth as well as the wealth of local communities, as evidenced by Minnesota's experience with PFOS contamination from a 3M facility[5]. Thirdly, if PFOS and PFOA remain largely unregulated, Wisconsin's economy may be adversely affected.

Given that data specific to Wisconsin is not yet available, it is difficult to quantify in dollars the public health benefits from regulating PFOS and PFOA and reducing those contaminants in Wisconsin's drinking water.

Health Cost:
The proposed rule will have a significant economic benefit to Wisconsin as a result of reducing health problems caused by exposure to PFOA and PFOS in drinking water. To estimate the costs incurred to the State of Wisconsin as a result of *not* promulgating the proposed PFOS and PFOA rule, the department analyzed two reports with health data linked to exposure to PFAS that were submitted by commenters during the EIA solicitation process.

The first study estimated that the total cost of PFOA-attributable low birthweight births in the United States for 2003 through 2014 was $13.7 billion.[2] These costs included the direct hospital costs at the time of birth as well as lost economic productivity due to low birthweight births being associated with a variety of longer-term outcomes including lower lifetime earning potential.

The department does not have data on PFOS and PFOA- attributable health incidents in Wisconsin. Using a value transfer method, the department assumes a linear relationship between impacts of PFOA–attributable low birthweight births quantified by Malits et al. (2018) and the total United States population. The department estimates that, based on 1.8% of the US population living in Wisconsin, the total costs due to low birth weight from PFOA exposure for the period (2003 – 2014) studied by Malits et al. (2018) to be $246.6 million (approx. $ 276.2 million in 2021 dollars). This cost value is likely not robust, given that this is an extrapolation based on non-specific population data, and recognizing that promulgation of PFOA and PFOS drinking water standards alone will not alone end PFAS exposure. However, it shows that it is reasonable to expect significant economic health benefit (avoided cost) as a result of promulgation of these proposed thresholds of public health significance.

The second study examined background exposure to PFOA as it relates to widespread occurrence of hypertension. This study estimated that approximately 10.3 million Europeans would develop hypertension because of this exposure, which would cost Europe an estimated €10.7 – 35 billion[3] annually ($12.6 - $41.3 billion USD). Again, to use the value transfer method, the department assumed a linear relationship between European population and the estimated cost attributable to PFOA exposure. The department also assumed that the occurrence of PFOA-exposure related hypertension in the European population is the same in Wisconsin. Applying this occurrence to Wisconsin, and taking the lower end of that range, it's estimated that it would cost the state $99.9 million annually (approx. $103.9 million in 2021 dollars) if PFOA is not regulated.

It is important to note that the two studies cited above were specific to PFOA and low birthweights and hypertension. Total health-related costs associated with total PFAS reported by Goldenman, Gretta, et al. (2019) were between €52

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billion to €84 billion annually in Europe, which could be several billions of dollars for United States and hundreds of millions for Wisconsin if the quantified values are transferred.[4]

Housing Value:
In a study of the impact of PFAS groundwater contamination on property value in Oakdale Minnesota and other affected communities, Sunding (2017) found that the value of properties sold after PFAS contamination of groundwater decreased by 7.3% in Oakdale and 4.4% in other affected communities.[5] This translates to an annualized value of $288 per year (approx. $326 in 2021 dollars) in Oakdale and 231 per year (approx. $261 in 2021 dollars) in the other affected communities. In other words, households in the affected communities were willing to pay to avoid PFC contamination of groundwater.

The WDNR estimates that there are approximately 51 remediation sites in Wisconsin (within 25 communities) that have been discovered to date with PFAS contamination in groundwater. Hedonic models of property value are specific to a housing market. Nevertheless, this study gives us a sense of the potential impacts of PFAS contamination of groundwater on the property value for local communities in Wisconsin that rely on groundwater as a source of drinking water.

[1] United States Environmental Protection Agency. Drinking Water Health Advisories for PFOA and PFOS. https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos#:~:text=These%20studies%20indicate%20that%20exposure,)%2C%20liver%20effects%20(e.g.%2C
[2] Malits J, Blustein J, Trasande L, Attina TM. 2018. Perfluorooctanoic acid and low birth weight: estimate of US attributable burden and economic costs from 2003 through 2014. International Journal of Hygiene and Environmental Health 221: 269-275.
[3] Goldenman, Gretta, et al. 2019. The cost of inaction: A socioeconomic analysis of environmental and health impacts linked to exposure to PFAS. Nordic Council of Ministers.[4] Environmental Science and Technology. The True Cost of PFAS and the Benefits of Acting Now. https://pubs.acs.org/doi/10.1021/acs.est.1c03565
[5] Sunding DL. 2017. Damage to Minnesota's Natural Resources Resulting from 3M's Disposal of PFASs in Washington County, MN. Prepared for the State of Minnesota in the matter of the State of Minnesota v. 3M Company. September 22, 2017.

16. Long Range Implications of Implementing the Rule

The long-range implications of this rule will be the same as the short-range implications of protecting drinking water and human health.

17. Compare With Approaches Being Used by Federal Government

The process for the proposed amendment to ch. NR 809, Wis. Adm. Code, to establish certain maximum contaminant levels for PFAS, including PFOA and PFOS standards, is consistent with the process for establishing rules for other drinking water contaminants regulated under the federal EPA Safe Drinking Water Act, specifically Title 40 - Protection of the Environment; Chapter 1 - Environmental Protection Agency; Subchapter D - Water Programs. The department has a primacy agreement with the EPA to implement the Safe Drinking Water Act.

As a result of the PFOA and PFOS findings from EPA's UCMR 3 national monitoring of public water supply systems (Appendix B), the EPA issued a PFOA and PFOS Health Advisory Level (HAL) in 2016. The PFOA and PFOS HAL was established based upon laboratory animal and epidemiological human studies indicating adverse health effects related to PFOA and PFOS exposure. Adverse health effects included developmental effects of fetuses during pregnancy or to breastfed infants, cancer, liver effects, immune effects, and thyroid effects, and other health effects.

In February 2019, the EPA released a Per- and Polyflouralkyl Substances (PFAS) Action Plan. One of the four primary actions in the PFAS Action Plan is initiating steps to evaluate the need for a maximum contaminant level as part of the Safe Drinking Water Act. The EPA is evaluating criteria to propose a national drinking water regulatory determination

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for PFOA and PFOS. The EPA is highlighting key PFOA and PFOS information gathered to date and additional data needs. The EPA issued a final determination in January 2021 that they will establish maximum contaminant levels for PFOA and PFOS. This federal regulatory process will take several years and Wisconsin will have three years after the EPA establishes the federal maximum contaminant level to incorporate the changes into state administrative code.

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

Other surrounding states have promulgated or proposed PFAS maximum contaminant levels or established Health Based Guidance Levels.

Illinois has proposed PFAS maximum contaminant levels for the following contaminants:
- PFBS - 140,000 parts per trillion
- PFHxS - 140 parts per trillion
- PFNA - 21 parts per trillion
- PFOA - 21 parts per trillion
- PFOS - 14 parts per trillion
- Total PFOA and PFOS - 21 parts per trillion

Iowa implements EPA's PFAS Health Advisory Level (HAL) for combined PFOA and PFOS at 70 parts per trillion.

Michigan has promulgated PFAS maximum contaminant levels for the following contaminants:
- PFOA - 8 parts per trillion
- PFOS - 16 parts per trillion
- PFNA - 6 parts per trillion
- PFHxS - 51 parts per trillion
- PFBS - 420 parts per trillion
- PFHxA - 400,000 parts per trillion
- GenX - 370 parts per trillion

Minnesota has established the health based guidance levels for the following PFAS contaminants:
- PFOA - 35 parts per trillion
- PFOS - 15 parts per trillion
- PFHxS - 47 parts per trillion

19. Contact Name	20. Contact Phone Number
Adam DeWeese	(608) 264-9229

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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)

The costs for small businesses can be estimated by using the costs presented above, removing large municipality costs, and assuming replacement or abandonment of wells will be the preferred mitigation option. Small businesses likely represent approximately 70% of the public water systems that could be subject to the proposed maximum contaminant levels.

Based on these assumptions, we estimate that 70% of the Non-transient and Non-community water systems compliance cost can be assumed to be a small business cost. Table 1 below presents a detailed assessment of small Business cost derived from the Non-transient and Non-community water systems compliance cost in the first and second year.

Table 1: Total Cost for Non-transient Non-Community water systems & Other Than Municipal (OTM) community water systems.

	Initial Cost	Year 1+
Initial Monitoring Non-Transient Non-Community water systems	$ 478,125.00	
MCL Non-transient Non-Community water systems		$ 19,865.25
Non-Transient Non-community water systems - New Well Costs (1 time cost)	$ 188,527.50	
Other Than Municipal CWS (OTM) New Well Costs (1 time cost)	$ 292,275.00	
Total Cost	**$ 958,927.50**	**$ 19,865.25**
Small Business Cost (70% of Non-transient Non-Community water systems & OTM Cost)	**$ 671,249.25**	**$ 13,905.68**

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

The data sources used to predict the economic impact on small businesses include the typical cost of drilling a new well in Wisconsin based on data obtained by the department ($15,000 for NR 812 wells and $50,000 for NR 811 wells), and the PFAS occurrence data detected in the neighboring state of Michigan and the National UCMR data.

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:

The department will allow for monitoring waivers to reduce the frequency of required monitoring at public water systems with no detection levels of PFAS.

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

The proposed rule spreads out the schedule for monitoring to reduce the initial impacts to public water systems as a whole:

(a) Public water systems serving a population greater or equal to 50,000 [3 months after the rule becomes effective].
(b) Public water systems serving a population 10,000 to 49,999 [6 months after the rule becomes effective].
(c) Public water systems serving a population less than 10,000 [9 months after the rule becomes effective].

Public water systems may also apply for a waiver to reduce the frequency of monitoring. The department will consider the following criteria for granting a waiver:

(a) Whether a contaminant has been used.
(b) Whether previous analytical results show PFOA or PFOS.
(c) The proximity of the public water system to a potential point source of contamination.

5. Describe the Rule's Enforcement Provisions

The enforcement process for this rule will be the same as other maximum contaminant levels in ch. NR 809, Wis. Adm. Code. The department will issue a notice of violation with the expectation that a corrective action be implemented according to a schedule spelled out in a consent order.

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

☐ Yes ☒ No

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APPENDIX A
Other States Occurrence Data

State drinking water PFAS sampling program results

STATE	Number of systems sampled	Number of detections	Number >20ppt	%>20ppt
Ohio	1,478	67	18	1.22%
Michigan	1,754	70	11	0.63%
New Hampshire*	502	68	10	1.99%

*Note: New Hampshire sampling effort included additional PFAs contaminants besides PFOA and PFOS

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APPENDIX B
UCMR Data

National Data Summary

As part of the third Unregulated Contaminant Monitoring Rule (UCMR 3), the EPA required water systems to monitor for six PFAS. PFOS and PFOA were the most frequently detected PFAS; this is consistent with other reports on measured PFAS in finished drinking waters. During the UCMR 3 process, PFOS and PFOA were detected above the method reporting limit (40 and 20 ng/L, respectively) in drinking water in approximately 1.9% and 2.4% of Public Water Systems (PWSs), respectively.

WI Data Summary

As part of the EPA UCMR3 sampling, ninety systems were sampled. Three systems had PFAS detections. Two of the three systems with detects had levels of PFOA or PFOS above 20 ppt.

Number of Wisconsin Public Water Supply Systems with UCMR 3 PFAS Analytical Results				
System Population	# of Systems	System Size	# of Systems with PFAS Detections	# of Systems with NO PFAS Detections
PWS Population > 100,000	4	Large System	0	4
PWS Population > 10,000 and <99,999	71	Large System	1	70
PWS Population < 10,0000	15	Small System	2	13
Total	90		3	87