

**Wisconsin Department of Natural Resources
Natural Resources Board Agenda Item**

SUBJECT:

Request adoption of Board Order WA-07-20, proposed rules creating chapter NR 159 related to regulating fire fighting foam that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS)

FOR: January 2022 Board meeting

PRESENTER'S NAME AND TITLE: Mimi Johnson, Office of Emerging Contaminants Director

SUMMARY:

The department is proposing the creation of ch. NR 159, Wis. Adm. Code. The purpose of this rulemaking is to implement the non-statutory provisions under 2019 Wisconsin Act 101 ("Act 101"), which created s. 299.48, Wis. Stats. Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industry and consumer products worldwide since the 1950s. They do not break down in the environment for extremely long periods of time and they accumulate in the human body. Exposure to certain PFAS may cause adverse health effects. Some firefighting foams currently used to extinguish flammable liquid fires, including Class B and Class A/B foams, include intentionally added PFAS, meaning PFAS is a constituent of the foam.

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides that the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances. Section 299.48(3)(a), Wis. Stats., creates an exemption from the prohibition on use as part of an emergency fire fighting or fire prevention operation. Section 299.48(3)(b), Wis. Stats., creates an exemption from the prohibition on use for testing facilities, so long as the testing facility has implemented appropriate containment, treatment, and disposal or storage measures to prevent discharges of the foam to the environment. Appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging the foam into a storm or sanitary sewer. The proposed permanent rule provides appropriate containment, treatment, disposal, and storage measures.

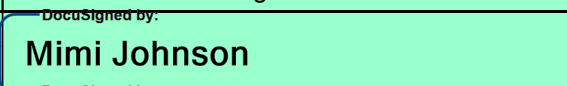


The rule is expected to have a moderate (level 2) impact on small business. The Board approved the scope statement for this rule and the corresponding emergency rule on June 24, 2020. The emergency rule, WA-06-20(E), was adopted by the Board on October 28, 2020, became effective on December 4, 2020, and was partially suspended by the legislative Joint Committee for Review of Administrative Rules (JCRAR) on December 18, 2020. Emergency rule WA-06-20(E), as partially suspended by JCRAR, is currently in effect and expires on February 7, 2023 or the date on which permanent rules take effect, whichever is sooner. The proposed permanent rule reflects the emergency rule that is currently in effect.

The department has completed the external review process for Board Order WY-07-20, which includes holding a public hearing and review by the Legislative Council Rules Clearinghouse. Comments received have been considered in the draft final rule. If the final rule language of WA-07-20 is approved, the rule will be submitted to the Governor and, if the Governor approves, to the legislature for review and approval. The 30-month time frame for submission of a final rule to the legislature for approval expires on September 30, 2022.

RECOMMENDATION: That the Board adopt Board Order WA-07-20.

LIST OF ATTACHED MATERIALS (check all that are applicable):

- Background Memo
- Fiscal estimate and economic impact analysis (EIA) form
- Response summary
- Attachments to background memo
- Board order/rule
- (insert document name)

Approved by	Signature	Date
Mimi Johnson, Office of Emerging Contaminants Director		12/14/2021 10:04 AM CST
Darsi J. Foss, Environmental Management Division Administrator		12/14/2021 1:25 PM CST
Preston D. Cole, Secretary		12/15/2021 10:02 AM CST

for

by Todd Ambos

cc: Board Liaison - AD/8

DS
WJR

Program attorney – LS/8

Department rule officer – LS/8

This page was intentionally left blank.

CORRESPONDENCE/MEMORANDUM

DATE: December 13, 2021

TO: All Members of the Natural Resources Board

FROM: Preston D. Cole, Secretary

SUBJECT: Background memo on Board Order WA-07-20, relating to creating chapter NR 159 to regulate firefighting foam that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS).

1. Subject of Proposed Rule.

Creation of ch. NR 159 to regulate fire fighting foam that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS).

2. Background.

The original draft rule was written to reflect the version of the emergency rule that is currently in effect with portions suspended by the Joint Committee for Review of Administrative Rules (JCRAR). The public comment period for the rule was between September 27 and November 11, 2021. Associated outreach for public comment included providing a public notice, updates to the department's proposed administrative rules web page and hearings and meetings calendar, hosting a public hearing on November 4, 2021, and distributing a notification email at the beginning of the public comment period to known stakeholders and subscribers to eight different PFAS-associated GovDelivery lists (Hazardous Waste Decoded, PFAS Contamination in Wisconsin, PFAS Contamination in the Marinette and Peshtigo Area, PFAS External Advisory Group, PFAS Technical Group, Remediation & Redevelopment Newsletter, Solid Waste News and Wisconsin PFAS Action Council (WisPAC)).

As a result of the comments from the public and the Legislative Council Rules Clearinghouse (LCRC), the department made the following clarifications to the board order and proposed rule:

- Clarified in the board order that under s. 227.26(2)(L), Wis. Stats., if JCRAR suspends an emergency rule, the department may not submit to the legislature the substance of the emergency rule as a proposed permanent rule during the time the emergency rule is suspended;
- Clarified in the board order that appropriate treatment measures render wastewater containing foam to no longer be subject to the statutory prohibition on discharge to storm or sanitary sewer;
- Clarified in proposed s. NR 159.02(4), Wis. Adm. Code, that discharges of foam to a storm or sanitary sewer are prohibited unless the discharge meets the treatment requirements of the chapter (added the word "treatment");
- Clarified in proposed s. NR 159.06, Wis. Adm. Code, that the storage requirements apply to a person that stores foam for testing purposes (added "for testing purposes");
- Clarified in proposed s. NR 159.08(1)(b)4., Wis. Adm. Code, that any treatment system (changed "the" to "any") shall be operated to minimize the level of PFAS substances in the effluent;
- Clarified in proposed s. NR 159.08(2)(b), Wis. Adm. Code, that "sludges or solids generated as a result of treatment and solidified" (instead of "foam treated") shall be disposed of at a licensed solid waste facility.

3. Why is the rule being proposed?

The department is proposing the creation of ch. NR 159, Wis. Adm. Code, to implement the non-statutory provisions under 2019 Wisconsin Act 101 ("Act 101"), which created s. 299.48, Wis. Stats.

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industry and consumer products worldwide since the 1950s. They do not break down in the environment for extremely long periods of time and they accumulate in the human body. Exposure to certain PFAS may cause adverse health effects. Some firefighting foams currently used to extinguish flammable liquid fires, including Class B and Class A/B foams, include intentionally added PFAS, meaning PFAS is a constituent of the foam.

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances. Section 299.48(3)(a), Wis. Stats., creates an exemption from the prohibition on use as part of an emergency fire fighting or fire prevention operation. Section 299.48(3)(b), Wis. Stats., creates an exemption from the prohibition on use for testing facilities, so long as the testing facility has implemented appropriate containment, treatment, and disposal or storage measures to prevent discharges of the foam to the environment. Appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging the foam into a storm or sanitary sewer. The proposed permanent rule provides appropriate containment, treatment, disposal, and storage measures.

4. Summary of the rule.

The proposed permanent rule contains the following summarized requirements and fulfills the statutory obligation to determine appropriate containment, treatment, and disposal or storage measures for testing facilities:

Prohibitions and use:

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances. Section 299.48(3)(a), Wis. Stats., creates an exemption from the prohibition on use as part of an emergency firefighting or fire prevention operation. Section 299.48(3)(b), Wis. Stats., creates an exemption from the prohibition on use for testing facilities, so long as the testing facility has implemented appropriate containment, treatment, and disposal or storage measures to prevent discharges of the foam to the environment. Appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging the foam into a storm or sanitary sewer. The proposed permanent rule provides appropriate containment, treatment, disposal, and storage measures.

Notification and recordkeeping:

Section 299.48(3m), Wis. Stats., provides situations where notification to the department must occur. To fulfill this requirement, the proposed permanent rule further describes that any person in possession of foam that may be used for these purposes must maintain records of the amounts of foam kept on site and its safety data sheets.

Storage:

The proposed permanent rule provides any person storing foam used for testing purposes shall manage the foam in accordance with safety data sheets and in a manner that will prevent discharges to

the environment. This includes self-inspection and spill containment plans, use of leak-proof, closed and labeled containers, and provisions for cleanup of discharges.

Containment:

The proposed permanent rule provides any person testing foam, including testing foam effectiveness and fire suppression systems, foam delivery systems and associated equipment or vehicles, must contain the foam in a manner that will prevent discharge of the foam to the environment. This includes: containment that meets industry and national association testing standards; testing and flushing of equipment, systems, and facilities using a containment system capable of capturing, diverting, and storing generated foam; measures to prevent foam that escapes containment from entering surface waters, groundwater, storm sewers or sanitary sewers; and a containment system design that takes into account location and use of the foam, the risk to the environment, the automatic or manually activated design of a foam system, and any other applicable local, state, or federal regulations.

Treatment:

The permanent rule proposes any person choosing to treat foam in Wisconsin shall ensure treatment is conducted in a manner that will prevent a discharge of foam to the environment, i.e. air, lands or waters of the state. One option for treatment is incineration or thermal destruction, which must be able to destroy PFAS. Prior to operation, a person operating the treatment system must submit documentation to the department that demonstrates that the incineration or thermal destruction treatment system can destroy PFAS and reduce or eliminate emissions, in accordance with the operational standards in the proposed permanent rule. The proposed rule clarifies appropriate treatment measures render wastewater containing foam to no longer be considered “foam” subject to the statutory prohibition on discharge to storm or sanitary sewer.

Other appropriate treatment options include treating foam using technologies specified in the proposed permanent rule, which state that before a person may discharge treated foam directly to waters of the state or to a sanitary sewer, specified technology must be employed that reduces PFAS concentrations to the maximum degree achievable. Appropriate treatment requires system design and operational standards to remove PFAS that include preliminary treatment, filtration, a minimum of three granular activated carbon adsorption units in series, and at least one anion-exchange resin polishing unit to remove trace PFAS compounds. This type of treatment system has been proven through research and real-life application in Wisconsin to remove optimum levels of PFAS. The department may, on a case-by-case basis, approve an alternative treatment technology – or modifications to the specified treatment – if the applicant can demonstrate that the proposed alternative treatment system or modification will achieve treatment equivalent to or better than the system specified in the proposed permanent rule to prevent foam from discharging to a storm or sanitary sewer. All analytical sample results for PFAS must be made available to the department upon request.

Disposal:

The proposed permanent rule specifies any person choosing to dispose of foam generated as result of testing in Wisconsin shall ensure the foam is treated in accordance with this proposed permanent rule or solidified by mixing with cementitious materials or a comparable process prior to disposal to effectively immobilize the PFAS and restrict leaching or migration. The rule requires foam disposed of in Wisconsin to only be disposed of at a licensed solid waste facility.

5. How does this proposal affect existing policy?

The proposed permanent rule will not affect existing policy. The proposed rule reflects the version of the emergency rule that is currently in effect, with portions suspended by JCRAR.

6. Has Board dealt with these issues before?

Yes. The Board approved the scope statement and conditionally authorized hearings for WA-07-20 and the corresponding emergency rule, WA-06-20(E) at its June 2020 meeting. The emergency rule, WA-06-20(E), was adopted by the Board on October 28, 2020, became effective on December 4, 2020, and was partially suspended by the legislative Joint Committee for Review of Administrative Rules (JCRAR) on December 18, 2020. Emergency rule WA-06-20(E), as partially suspended by JCRAR, is currently in effect and expires on February 7, 2023 or the date on which permanent rules take effect, whichever is sooner. The proposed permanent rule reflects the version of the emergency rule that is currently in effect, with portions suspended by JCRAR.

7. Who will be impacted by the proposed rule? How?

Potentially affected parties include three main types of sectors: (1) entities using foam for emergency firefighting or fire prevention operations; (2) entities using foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test a firefighting foam delivery system or equipment; and (3) entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam. The most significant impacts of the proposed rule are the proposed containment, treatment, disposal or storage measures for entities that test with PFAS-containing foam. Without the rule, these entities could decide for themselves what standards are appropriate. This would likely result in additional and more significant discharges of PFAS-containing foam to the environment. However, many of the provisions in the proposed rule could still be necessary in order to legally dispose of foam, wastewater and/or treatment media.

8. Soliciting public input on economic impact synopsis.

The department solicited comments on the economic impact of the rule from July 22, 2021 through August 21, 2021. Comments were solicited from potentially affected parties, including: (1) entities using foam for emergency firefighting or fire prevention operations; (2) entities using foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test a firefighting foam delivery system or equipment; and (3) entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam.

In addition to the broad notice soliciting comments, the department solicited comments from the following entities:

- Wisconsin Airport Management Association
- Wisconsin State Fire Chiefs Association
- League of Wisconsin Municipalities
- Wisconsin Towns Association
- Wisconsin Technical College System
- Wisconsin Department of Safety and Professional Services
- Wisconsin Department of Transportation
- Major private entities in the manufacturing and testing industry
- Wisconsin Business Associations
- Wisconsin Environmental Groups
- League of Wisconsin Municipalities
- Wisconsin Towns Association
- Wisconsin County Association
- Other Interested Public

As a result of the public comments for the EIA, DNR made three changes to the EIA in Section 15:

- Added information about potential healthcare costs related to PFAS;
- Added information about potential recreation value lost due to PFAS; and

- Revised the EPA reference that describes adverse health effects of PFOA and PFAS.

9. Small Business Analysis.

The department does not know how many of the potentially impacted entities meet the statutory definition of small business. Without actual data on how many of these entities are small businesses, the department cannot estimate the actual cost to these entities as a share of the total compliance cost of this proposed permanent rule. However, in an effort to develop a conservative estimate, the department assumed a majority are small businesses. Based on this assumption, the department reasonably expects that the impact on small businesses will be less than the average compliance cost to all businesses (\$2,300,000 per year with \$4,000,000 per year as the higher end of the range for all businesses impacted).

Small businesses impacted by this proposed permanent rule include various facilities that use Class B firefighting foam in their fixed fire suppression systems. These would be facilities that have a need for suppression of possible liquid (gasoline, oil) fires. Small businesses would also be entities using foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test a firefighting foam delivery system or equipment; and entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam.

Containment, treatment and disposal is expected to have a moderate economic impact. It is estimated that there are approximately 150-200 fixed fire suppression systems within public and private facilities that utilize Class B firefighting foam. A limited survey of facilities with fixed foam systems indicated that these fixed systems are primarily in areas with existing containment, resulting in minimal to no economic impact. Industry experts estimated that system testing and resultant foam disposal costs will increase for these facilities, and cost approximately \$3,000 to \$20,000 per facility. Assuming 200 facilities in the state, the statutory and rule requirements would range in impact from approximately \$600,000 to \$4,000,000 per year, with the midpoint estimate of \$2,300,000. This is a high cost estimate because some of these costs would already be incurred as a result of s. 299.48, Wis. Stats., which prohibits discharging foam into a storm or sanitary sewer. Costs are also expected to lessen over time with adoption of alternative methods such as surrogate and water equivalency testing and using replacement foams that do not contain PFAS.

Additionally, some manufacturers with foam testing operations in Wisconsin have been phasing out the use of PFAS in foam products and testing, which may increase as alternatives become more readily available. Any current system tests that generate Class B foam with intentionally added PFAS must use appropriate containment, treatment, and disposal or storage methods. Although they are not small businesses, the department is aware of only a few foam manufacturing facilities in Wisconsin that would conduct testing. One manufacturer is developing its own treatment facility and others may be using contractors to collect and manage foam generated from testing.

Drafter: Jason Lowery

This page was intentionally left blank.

Public Comments and DNR Responses Natural Resources Board Order WA-07-20

December 8, 2021

This document presents a summary of public comments received on proposed rules creating chapter NR 159 related to regulating fire fighting foam that contains intentionally added perfluoroalkyl and polyfluoroalkyl substances (PFAS).

OVERVIEW

The department is proposing the creation of ch. NR 159, Wis. Adm. Code. The purpose of this rulemaking is to implement the non-statutory provisions under 2019 Wisconsin Act 101 (“Act 101”), which created s. 299.48, Wis. Stats.

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industry and consumer products worldwide since the 1950s. They do not break down in the environment for extremely long periods of time and they accumulate in the human body. Exposure to certain PFAS may cause adverse health effects. Some firefighting foams currently used to extinguish flammable liquid fires, including Class B and Class A/B foams, include intentionally added PFAS, meaning PFAS is a constituent of the foam.

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances. Section 299.48(3)(a), Wis. Stats., creates an exemption from the prohibition on use as part of an emergency firefighting or fire prevention operation. Section 299.48(3)(b), Wis. Stats., creates an exemption from the prohibition on use for testing facilities, so long as the testing facility has implemented appropriate containment, treatment, and disposal or storage measures to prevent discharges of the foam to the environment. Appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging the foam into a storm or sanitary sewer. The proposed permanent rule provides appropriate containment, treatment, disposal, and storage measures.

The DNR held two public comment periods associated with the proposed rule. The public comment period to solicit information on the economic impacts occurred from July 22 to August 21, 2021 and the public comment period on the rule occurred from September 27 to November 11, 2021.

Associated outreach included public notices for both public comment periods, updates to the department’s proposed administrative rules web page and hearings and meetings calendar, a public hearing on November 4, 2021, and notification emails at the beginning of both public comment periods to known stakeholders and subscribers to PFAS-associated GovDelivery lists (Hazardous Waste Decoded, PFAS Contamination in Wisconsin, PFAS Contamination in the Marinette and Peshtigo Area, PFAS External Advisory Group, PFAS Technical Group (only for the later public comment period), Remediation & Redevelopment Newsletter, Solid Waste News and Wisconsin PFAS Action Council (WisPAC).

In addition, the department met with the Wisconsin State Fire Chiefs Association (WSFCA) on October 27 and November 11, 2021.

ECONOMIC IMPACT ANALYSIS

A 30-day public comment period on the draft EIA occurred from July 22 to August 21, 2021. The department received comments from nine individuals and organizations on the EIA during this period. These included the following excerpts (only select or representative language is provided for longer comments):

A) One comment indicating that the rule should include treatment indicator parameters;

“I think rules controlling PFAS and acceptable limits of them should be adopted. I resent Wi. Manufacturer's and Commerce opposing health safety rules on this issue.”

DNR RESPONSE: Under s. 227.26(2)(L), Wis. Stats., if JCRAR suspends an emergency rule, the department may not submit to the legislature the substance of the emergency rule as a proposed permanent rule during the time the emergency rule is suspended.

B) Six comments mostly related to information about costs resulting from PFAS pollution such as impacts on health, property values, tourism, agriculture, and/or recreation. One of these commenters also indicated a need to obtain additional information regarding the cost to fire departments;

1. 2. and 3. (generally identical): “... we (or I) urge the Department to include an estimation and analysis of the adverse effects to human health and the link to economic impacts in Wisconsin AND the economic BENEFITS of preventing exposures to PFAS, including populations at risk such as firefighters, first responders, persons with suppressed immune response, expectant and nursing mothers, infants and many others.”

4. “Economic analyses from other states with PFAS regulations indicate a net benefit”; “Two studies have quantified health care costs associated with PFAS exposure”; “Diseases linked to PFAS have a large economic cost in the US”; “PFAS contamination affects home values”; “PFAS groundwater contamination can affect agricultural product quality”; “Fish consumption advisories negatively affect the recreational fishing industry”; “PFAS contamination disproportionately affects disadvantaged and minority communities”

5. “I am very disappointed at the lack of Health Concerns to people and that medical costs will continue to increase from exposure to PFAS compounds. It seems there is a heavily weighted concern over economic impact of the PFAS pollutants. The cancer caused by PFAS compounds and loss of property values will dwarf any polluter economic impact.”

6. “DNR adds, however, that the estimated \$2,300,000 is not the total compliance cost since the cost to fire departments will need to be added when the data from these entities is received. It appears therefore that the estimate of the cost of implementing the rule is incomplete.”; “The benefit portion of the draft EIA is even more incomplete. Several benefits are mentioned but no estimates of their value are provided. Any economic impact analysis should at least attempt a serious discussion of the benefits.”; “Lastly, the economic benefits from supporting Wisconsin’s tourism and recreation industries by protecting fish and game, as well as the health benefits for residents for whom fish are an important source of food should be recognized.”

DNR RESPONSE: The department added language in Section 15 of the EIA regarding potential healthcare costs and recreation value lost due to PFAS impacts. The department did conduct additional, targeted outreach to the Wisconsin State Fire Chiefs Association (WSFCA) regarding costs specific to firefighters. However, the WSFCA indicated that the rule would have a limited impact on the firefighting community and did not provide cost-related data.

C) One comment indicating that a manufacturer would have to consider using a less effective firefighting foam as a result of the rule:

“The proposed rule puts American Packaging Corporation in an uncomfortable position of having to make a choice regarding a less effective means of protection life and property by using a non PFAS-containing foam that would not be suitable for alcohols. Please advise.”

DNR RESPONSE: The rule does not prohibit the use of PFAS foam in emergency situations.

D) One comment indicating that the EIA improperly generalized all PFAS, inaccurately characterized the health effects of PFOA and PFOS, and should consider the cost and feasibility of out of state treatment and disposal:

DNR RESPONSE: The department revised the EPA reference to one that describes adverse health effects of PFAS in general instead of PFOA and PFOS specifically. The EIA already incorporates the cost and feasibility of out of state treatment and disposal since most if not all waste concentrated PFAS firefighting foams and treatment media were already disposed of out-of-state prior to implementation of the emergency rule.

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE

The Legislative Council Rules Clearinghouse submitted comments on statutory authority, and clarity, grammar, punctuation and use of plain language. Changes to the proposed rule were made to address all recommendations by the Legislative Council Rules Clearinghouse.

PUBLIC COMMENTS ON DRAFT RULE

A public comment period for the draft rule occurred from September 27, 2021 to November 11, 2021 with a public hearing on November 4, 2021. The public hearing included 42 attendees. The department received a total of 11 (written and/or verbal) comments during the public comment period. These included the following (only select or representative language is provided for longer comments):

A) Two comments indicating that PFAS in firefighting foam should be banned;

1. “I believe that PFAS in fire-fighting foam should be banned by the Wisconsin DNR and enforced by public fire inspectors for all public buildings and private companies that require periodic fire inspections. All fire extinguishers used in Wisconsin need to be required to have labeling certified by the manufacturer or refilling company that that fire foam contents are free of PFAS type chemicals. Public buildings and private companies requiring periodic fire inspections should be cited for failure to obtain new PFAS-free fire extinguishing foam.”

2. “Outlawing the manufacturing and the use of the product should be done. The damage that has been done is not worth the benefits the product has.”

DNR RESPONSE: The scope of the proposed permanent rule is implementation of s. 299.48, Wis. Stats., including determining appropriate containment, treatment, and disposal or storage measures for testing facilities.

B) Seven comments in support of stronger and/or additional regulations. Some of these comments also included general support for the rule:

1. “This rule for PFAS-containing firefighting foam is the very least we could be doing right now.”; “Wisconsinites are demanding that our decision makers take PFAS seriously, but the Wisconsin legislature continues to undermine progress. In this 2021-2022 legislative session, only three PFAS-related bills have been introduced – two of which work against the progress needed to address this challenge.”; “Until the Wisconsin legislature takes meaningful action to address PFAS, it is more important than ever for the DNR to adopt these administrative rules. We applaud the DNR for working on this rule as an important first step and appreciate you doing everything you can to meet the moment by promulgating substantive surface, ground, and drinking water standards for PFAS. At the moment, fighting for these rules is the best chance we have to protect Wisconsinites from these dangerous forever chemicals.”
2. Verbal comment at November 4 public hearing: Commenter expressed disappointed that legislature "watered down" the emergency rule and hopes that there will be future opportunities to strengthen regulations, if necessary. The rule is a minimal, but still an important end product.
3. Verbal comment at November 4 public hearing: Commenter indicated that this work is crucial, PFAS are a threat to human health, and regulations are lacking in WI. Comment would like DNR to put language back into the rule that JCRAR suspended.
4. and 5. (generally identical): “Doing this work to regulate PFAS is crucial...”; “Regulations in Wisconsin are severely lacking, and it’s putting drinking water, safety and health at risk.”; “Last December, the JCRAR struck out some of the strongest language in this rule. The legislature is not made up of scientists, and we should not be relying on them to make science-based decisions like this. Wisconsin residents, who are being harmed daily because of our lack of PFAS regulation, should be centered and prioritized in the rulemaking process, not the business groups who are polluting and who our legislature is protecting. So I ask that you incorporate strong PFAS regulations that will protect Wisconsinites into this rule.”
6. “This rule is an important first step in the process of addressing source control associated with the use of firefighting foam which intentionally added PFAS.”; “While we would prefer that the final rule incorporate the provisions contained in the proposed initial emergency rule we understand the need to adopt a rule acceptable to JCRAR and the legislature. We support WA-07-02 as proposed.
7. “JCRAR weakened the rule based on a questionable statutory analysis and has to a certain extent frustrated these legislative purposes by preventing the Wisconsin Department of Natural Resources (“DNR”) from including monitoring provisions designed to ensure appropriate treatment based on scientifically based and technically feasible indicator parameters.”; “Act 101 requires and explicitly authorizes DNR, through a permanent administrative rulemaking, to “determine appropriate containment, treatment, and disposal or storage measures for testing facilities.” Wis. Stat. § 299.48(5).”; “...JCRAR removed the monitoring parameters for 14 PFAS contained in Table 1 of the Emergency Rule that would gauge the appropriateness of treatment measures for the purposes of Wis. Stat. § 299.48(3)(b).”; “JCRAR’s suspension created a broad compliance and enforcement loophole that frustrates the purpose and function of §299.48, allowing the exception to swallow the rule.”; “...without the suspended parts of EmR2045, regulated facilities are not required to measure and monitor the effectiveness and appropriateness of employed treatment technologies.”; “...without monitoring standards providing data to “gauge appropriate treatment effectiveness,” § 299.48 cannot be duly administered and implemented. JCRAR’s suspension based on a questionable statutory analysis ultimately handicaps the statutory directive of 2019 Wisconsin Act 101: “prevent or try to minimize new discharges of PFAS-containing fire-fighting foams from negatively impacting communities, business and citizens in the future.”

DNR RESPONSE: The department clarified in the board order under s. 227.26(2)(L), Wis. Stats., if JCRAR suspends an emergency rule, the department may not submit to the legislature the substance of the emergency rule as a proposed permanent rule during the time the emergency rule is suspended.

C) One comment suggesting the following changes:

- In s. NR 159.06, revise the term “a person that stores foam” to “a person that stores foam at a facility that tests foam” to make the requirement consistent with the scope of Act 101.
- Clarify that only wastewater residuals generated from the treatment of *foam disposed of within Wisconsin* must be treated with cementitious materials by the generator or at the solid waste facility prior to placement at a Wisconsin licensed solid waste facility; that such residuals may be disposed of at a licensed facility out of state without being mixed with cement before shipment; and that other PFAS leachate management measures may be approved by the department on a case-by-case basis.
- Eliminate the requirement to use only granular activated carbon sourced from bituminous coal so entities may source bio-mass granulated activated carbon, for example, and allow for additional technologies to be to be determined to be BAT.
- Create a new s. NR 159.08(1)b.2, specifying that treatment of used foam may include shipment out of state to a licensed deep-well injection facility, and renumber “alternative treatment technology” to s. NR 159.08(1)b.3.

DNR RESPONSE: The department clarified in proposed s. NR 159.06, Wis. Adm. Code, that the storage provisions are specifically for testing facilities and eliminated the words “in Wisconsin” from ss. NR 159.02(3) and 159.08, Wis. Adm. Code, for the sake of consistency and eliminating confusion. While the department cannot regulate activities that occur out-of-state, it is not customary or necessary for each rule to explicitly state that Wisconsin Administrative Code applies to activities within Wisconsin. The department did not include bio-mass granular activated carbon in the default treatment system specified in proposed s. NR 159.08(1)(b)1.c., Wis. Adm. Code, because the bio-mass granular activated carbons have not been thoroughly demonstrated to be as effective as the granular activated carbons sourced from bituminous coals. However, bio-mass granular activated carbons may still be allowed as an alternative treatment technology under proposed s. NR 159.08(1)(b)2., Wis. Adm. Code, if the applicant can demonstrate that it will achieve treatment equivalent to the default treatment system.

D) One comment requesting the prescriptive design not be assumed to be the best available technology:

“Design of effective treatment systems for treatment and removal of PFAS from AFFF is a continually developing science. Care should be taken not to assume that the prescriptive design that is written into the rule is the current state of the art or “Best available technology”. Clear and concise requirements for demonstrating the effectiveness of a filtration system should be included in the rule for ALL proposed systems. This would prevent a situation where development of newer and more effective technologies are stigmatized and held to a higher burden of proof.”

DNR RESPONSE: The default treatment system specified in proposed s. NR 159.08(1)(b)1., Wis. Adm. Code, provides minimal specification for a treatment system. However, proposed s. NR 159.08(1)(b)3., Wis. Adm. Code, indicates that both the prescribed and alternative treatment systems require plan review and approval prior to commencement of construction.

This page was intentionally left blank.

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

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

ADMINISTRATIVE RULES Fiscal Estimate & Economic Impact Analysis

<p>1. Type of Estimate and Analysis <input type="checkbox"/> Original <input checked="" type="checkbox"/> Updated <input type="checkbox"/> Corrected</p>	<p>2. Date 12/8/21</p>
<p>3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable) NR 159 – Management of Class B Firefighting Foam (CR 21-073)</p>	
<p>4. Subject Regulating firefighting foam that contains certain contaminants. WA-07-20</p>	
<p>5. Fund Sources Affected <input type="checkbox"/> GPR <input type="checkbox"/> FED <input type="checkbox"/> PRO <input type="checkbox"/> PRS <input type="checkbox"/> SEG <input type="checkbox"/> SEG-S</p>	<p>6. Chapter 20, Stats. Appropriations Affected --</p>
<p>7. Fiscal Effect of Implementing the Rule <input checked="" type="checkbox"/> No Fiscal Effect <input type="checkbox"/> Increase Existing Revenues <input type="checkbox"/> Increase Costs <input type="checkbox"/> Decrease Costs <input type="checkbox"/> Indeterminate <input type="checkbox"/> Decrease Existing Revenues <input type="checkbox"/> Could Absorb Within Agency's Budget</p>	
<p>8. The Rule Will Impact the Following (Check All That Apply) <input type="checkbox"/> State's Economy <input checked="" type="checkbox"/> Specific Businesses/Sectors <input checked="" type="checkbox"/> Local Government Units <input type="checkbox"/> Public Utility Rate Payers <input checked="" type="checkbox"/> Small Businesses (if checked, complete Attachment A)</p>	
<p>9. Estimate of Implementation and Compliance to Businesses, Local Governmental Units and Individuals, per s. 227.137(3)(b)(1). Approximately \$2,300,000 per year is reasonably expected, with \$4,000,000 per year as the higher end of the range. There are potential additional compliance costs related to additional storage, containment, treatment and disposal costs for firefighting foam with intentionally-added PFAS (foam) incurred by fire departments. Correspondence from the Wisconsin State Fire Chiefs Association on June 14, 2021 indicated that the rule would have a limited impact and there are limited Wisconsin fire departments that currently test with foam that contains intentionally added PFAS. The portions of emergency rule WA-06-20(E) that were suspended by JCRAR have been omitted from this rule. This results in a proposed permanent rule that is less expensive to implement because it is more limited in scope. This proposed permanent rule is consistent with common business best practices already in place from the entities affected by this proposed permanent rule. This proposed permanent rule only applies to treatment and disposal of intentionally-added PFAS-containing firefighting foams in Wisconsin that are generated as a result of activities regulated in this proposed permanent rule.</p>	
<p>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)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
<p>11. Policy Problem Addressed by the Rule The department is proposing the creation of ch. NR 159, Wis. Adm. Code. The purpose of this rulemaking is to implement the non-statutory provisions under 2019 Wisconsin Act 101 ("Act 101"), which created s. 299.48, Wis. Stats. Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industry and consumer products worldwide since the 1950s. They do not break down in the environment for extremely long periods of time and they accumulate in the human body. Exposure to certain PFAS may cause adverse health effects. Some firefighting foams currently used to extinguish flammable liquid fires, including Class B and Class A/B foams, include intentionally added PFAS, meaning PFAS is a constituent of the foam.</p>	

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances. Discharge of foam is prohibited to a storm or sanitary sewer or to the environment unless the discharge meets the requirements of the proposed permanent rule.

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.

Potentially affected parties include three main types of sectors: (1) entities using foam for emergency fire fighting or fire prevention operations; (2) entities using foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test a firefighting foam delivery system or equipment; and (3) entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam. The department solicited comments on this EIA from all sectors. In addition to the broad notice soliciting comments, the department solicited comments from the following entities:

- Wisconsin Airport Management Association
- Wisconsin State Fire Chiefs Association
- League of Wisconsin Municipalities
- Wisconsin Towns Association
- Wisconsin Technical College System
- Wisconsin Department of Safety and Professional Services
- Wisconsin Department of Transportation
- Major private entities in the manufacturing and testing industry
- Wisconsin Business Associations
- Wisconsin Environmental Groups
- Other Interested Public

Some of the entities listed above were contacted during the emergency rulemaking process to establish compliance costs and to ascertain the potential impacts of this rule on respective entities.

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

League of Wisconsin Municipalities, Wisconsin Towns Association and Wisconsin County Association were contacted for the opportunity to participate in the final 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)

The discharge of PFAS to the environment may impose costs on both public and private entities and members of the public. Under ch. 292, Wis. Stats., any person who uses firefighting foam with intentionally added PFAS that results in a hazardous substance discharge to the environment must take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands or waters of this state. The costs for appropriate containment, treatment, disposal and storage of firefighting foam containing intentionally added PFAS under s. 299.48, Wis. Stats., and the proposed permanent rule are anticipated to be less than the costs that otherwise would result from uncontrolled discharges of PFAS to the environment. As of June 2021, there had been approximately 36 PFAS firefighting foam spills reported to department and approximately 20 of these occurred since April 2018. The primary economic implications of the rule are related to containment, treatment, and disposal or storage measures for

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

foam containing intentionally added PFAS for testing facilities or for public or private entities that conduct those activities.

(A) Economic Impact on Specific Business and Business Sectors:

The department evaluated the costs for entities that use PFAS foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test firefighting foam delivery systems or equipment, and entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam.

- i. Prohibitions and use: no economic impact anticipated. The proposed permanent rule does not ban use for firefighting or fire prevention and does not regulate disposal of foam. It conditionally allows for testing of fire suppression systems.
- ii. Notification: minimal economic impact if any. When testing foam, public or private systems must immediately notify the department of any discharge of foam to the environment. This is a statutory requirement found in s. 299.48(3m)(b), Wis. Stats., repeated in this proposed permanent rule. Notification cost is anticipated to be minimal to none.
- iii. Recordkeeping: minimal economic impacts. Management of existing documentation of safety data sheets creates minimal new paperwork requirements. The recordkeeping cost that may be reasonably expected is minimal.
- iv. Storage at testing facilities: minimal additional economic impact expected on managing foam generated as a result of testing. New requirements for facilities may lead to the purchase of additional storage/containers needed for foam, additional labor costs associated with labeling and inspection, and the purchase of materials to prevent discharge to the environment. There will be additional costs associated with these requirements, but these are not anticipated to be significant. The total costs that are estimated in the next section below include storage costs.
- v. Containment, treatment and disposal at testing facilities: moderate economic impact expected. It is estimated that there are approximately 150 to 200 fixed fire suppression systems within public and private facilities that utilize Class B firefighting foam. A limited survey of facilities with fixed-foam systems indicated that these fixed systems are primarily in areas with existing containment, resulting in minimal to no economic impact. Industry experts estimated that system testing and resultant foam disposal costs will increase for these facilities, and cost approximately \$3,000 to \$20,000 per facility. Assuming 200 facilities in the state, the statutory and rule requirements would range in impact from approximately \$600,000 to \$4,000,000 per year, with the median estimate of \$2,300,000. This is a high cost estimate because some of these costs would already be incurred as a result of s. 299.48, Wis. Stats., which prohibits discharging foam into a storm or sanitary sewer. Costs are also expected to lessen over time with adoption of alternative methods such as surrogate and water equivalency testing and using replacement foams that do not contain PFAS. Other state laws, such as ch. 289, Wis. Stats., may also apply to disposal of foam.

Additionally, some manufacturers with foam testing operations in Wisconsin have been phasing out the use of PFAS in foam products and testing with PFAS foam, which may continue as non-PFAS alternatives become more readily available. Any current system tests that generate Class B foam with intentionally added PFAS must use appropriate containment, treatment, and disposal or storage methods. Although they are not small businesses, the department is aware of only a few foam manufacturing facilities in Wisconsin that would conduct testing. One manufacturer is developing its own treatment facility and others may be using contractors to collect and manage foam generated from testing. The foam manufacturer building a new testing facility expressed to the department that it had plans to transition from manufacturing foam with PFAS to manufacturing and testing foams that are PFAS-free.

(B) Economic and Fiscal Impact on Local Government Units and Public Entities

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

- i. Prohibitions and use: no additional economic impacts are anticipated. The proposed permanent rule does not ban use for firefighting or fire prevention and does not regulate disposal of foam
- ii. Notification: no additional economic impacts are anticipated. Fire departments must report discharges to the environment and provide safety data sheets, but costs are anticipated to be minimal to none.
- iii. Recordkeeping: no additional economic impacts are anticipated. minimal economic impacts. Management of existing documentation of safety data sheets creates minimal new paperwork requirements. The recordkeeping cost that may be reasonably expected is minimal
- iv. Storage at testing facilities: minimal additional economic impacts from this proposed permanent rule are anticipated. If fire departments use foam for testing purposes, new requirements for storage may lead to the purchase of additional storage/containers needed for foam, additional labeling and inspection, and the purchase of materials to prevent discharge to the environment. There will be additional costs associated with these requirements, but these costs are not anticipated to be significant. The department has solicited data on anticipated storage costs for fire departments as a result of testing through the Wisconsin State Fire Chiefs Association. Correspondence from the Wisconsin State Fire Chiefs Association on June 14, 2021 indicated that there are limited Wisconsin fire departments that currently test with foam that contains intentionally added PFAS.
- v. Containment, treatment and disposal at testing facilities: minimal additional economic impacts are anticipated. If fire departments use foam for testing purposes, they must use appropriate containment, treatment, and disposal or storage methods for foam generated by testing, if treated or disposed of in Wisconsin. We anticipate that the additional costs would be minimal because fire departments are already typically disposing of firefighting foam at licensed facilities. Fire departments are also converting to testing with non-PFAS foams. The department has solicited data on anticipated containment, treatment and disposal costs for fire departments as a result of testing through the Wisconsin State Fire Chiefs Association. Other state laws, such as ch. 289, Wis. Stats., may also apply to disposal of foam

(C) Fiscal Impact on the department: The proposed permanent rule is intended to be substantially self-implementing and no additional costs are expected to be incurred by the department.

- i. Prohibitions and use: self-implementing, no fiscal impact. The department's Forestry Division determined that it currently does not use any firefighting foam with intentionally added PFAS.
- ii. Notification and recordkeeping: no fiscal impact.
- iii. Recordkeeping: no fiscal impact.

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

Section 299.48(5), Wis. Stats., requires the department to promulgate rules to implement and administer the section, including to determine appropriate containment, treatment, and disposal or storage measures for testing facilities.

Benefits of implementing the proposed permanent rule include reduction in the discharge of PFAS to the environment and the very significant potential costs savings of avoiding the need to cleanup PFAS discharges. PFAS accumulate in the environment and in the human body, and exposure to certain PFAS may cause adverse health effects.

According to the U.S. EPA¹, the documented adverse health effects 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);
-

¹ United States Environmental Protection Agency. Basic Information on PFAS. <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

- Liver effects (e.g., tissue damage);
- Immune effects (e.g., antibody production and immunity); and
- Thyroid effects and other effects (e.g., cholesterol changes).

Potential Costs Associated with PFOA/PFOS Contamination, if Left Unregulated

A. Healthcare Costs:

This assessment utilized the value transfer method from two reports on the health economics of exposure to PFAS. 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 billion². We assumed 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 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). Goldenman, et al. 2019 estimated that the cost of potential widespread hypertension in Europe related to PFOA to be €10.7 – 35 billion³ annually (\$12.6 - \$41.3 billion USD). Applying similar occurrence from Gretta, et al. 2019 study to Wisconsin, and taking the lower end of that range, we estimated the cost of widespread hypertension that could be related to PFOA in Wisconsin to be \$99.9 million annually (approx. \$103.9 million in 2021 dollars). Even though these assessments are based on some assumptions, they show that there are some economic health benefits (avoided cost) to the promulgation of these proposed thresholds of public health significance. It is important to note that the two studies cited above were specific to PFOA and low birth weights and hypertension. Total health-related costs associated with total PFAS reported by Goldenman et al. (2019) were between €52 billion to €84 billion annually in Europe, which could be several billions of dollars for the United States and hundreds of millions for Wisconsin if the quantified values are transferred⁴

B. Recreation Value Lost:

Damage to surface water with PFOS will potentially result in a decrease in use and non-use economic value. Sunding (2017), in a study of the impact of PFOS advisory on a water body and its effect on public visitation to parks estimated that a PFOS advisory decreases the total park visitations by approximately 2.9% (upper bound of 5.9%) within the Minneapolis metropolitan area⁵. This study also found that the economic value of damage to anglers as a result of PFOS contamination in three Minneapolis-area counties (Washington, Dakota, Ramsey) was \$28.48 per trip (approx. \$31.50 in 2021 dollars) for both popular and unpopular species. Sunding (2017), estimated that the annual damage of PFOS contamination to the tri-county anglers to be \$3.87 million per year (approx. \$4.28 million in 2021 dollars). Out of 35 water bodies (mostly in the Madison Metro area) tested by the department, 34% (12) have had PFOS fish advisories since 2006⁶. It is plausible to assume that PFOS advisories will be issued on more water bodies as the department continues its testing efforts to protect public health. The value of economic damage to anglers can be significant if Wisconsin anglers place a similar value on the damage caused by PFOS advisories as the Minneapolis area anglers (\$28.48 per trip). As a reference, the department estimates that 1.3 million anglers fished in Wisconsin on average 17 days in a year⁷.

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, et al. 2019. The cost of inaction: A socioeconomic analysis of environmental and health impacts linked to exposure to PFAS. Nordic Council of Ministers. <https://norden.diva-portal.org/smash/get/diva2:1295959/FULLTEXT01.pdf>

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.

⁶ <https://dnr.wisconsin.gov/topic/PFAS/Advisories.html>

⁷ <https://dnr.wisconsin.gov/topic/Fishing/outreach/AdvertisingFishRegulations.html>

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

Alternatives to the Promulgating this Rule Analysis

Alternatives to implementing this rule primarily consist of (1) not implementing the rule and relying entirely on the statutory authority of s. 299.48, Wis. Stats.; or (2) implementing a more robust rule to prevent any discharge of PFAS to the environment from the testing of Class B foams. The department is pursuing this rule to fulfill its statutory objective and rejects the first alternative because this rule helpfully provides more specific narrative types of treatment technology at testing facilities, codifies best management practices for storage, and clarifies the need for retention of safety data sheets for entities that test these foams to improve the understanding of what foam products are in use. The department is not pursuing the second alternative to ensure consistency with the emergency rule in effect.

16. Long Range Implications of Implementing the Rule

Long range fiscal implications of the rule are related to containment, treatment, and disposal or storage measures. The benefits of implementing the rule could lead to an overall fiscal benefit because of the reduction of PFAS impacting the environment, reduced need for clean-up, and reduced impact on human health.

17. Compare With Approaches Being Used by Federal Government

The federal Defense Authorization Act of 2020 (the Act) included several PFAS-related provisions, largely because PFAS contamination of water supplies have been identified at or around several military installations. The Act specifies in section 323 that PFAS-containing firefighting foam may only be released for purposes of an emergency response. A non-emergency release of PFAS foam may be made for the purposes of testing of equipment or training of personnel, if complete containment, capture, and proper disposal mechanisms are in place to ensure no foam is released into the environment. It also requires the military to develop a fluorine-free foam specification by January 31, 2023 and sets a deadline for banning the use on military bases in the future.

The Act establishes guidelines for the proper disposal of firefighting foam at military sites and directs the military to develop guidance to address these issues. Specifically, all incineration of firefighting foam containing PFAS chemicals must be conducted at a temperature range adequate to break down PFAS chemicals, while also ensuring the maximum degree of reduction in emission of PFAS chemicals and must be conducted in accordance with the Clean Air Act at a facility permitted to receive the waste. The Act also requires the Environmental Protection Agency (EPA) to publish interim guidance on the destruction and disposal of PFAS substances and materials. A draft of the guidance was released for public comment on December 18, 2020.

The Federal Aviation Administration (FAA) Reauthorization Act of 2018 was passed on October 5, 2018 and states that no later than three years after the date of enactment, the FAA shall no longer require the use of fluorinated chemicals (e.g. PFAS) to meet the performance standards accepted under federal regulations. As a result of this change, the FAA and FAA-regulated facilities will no longer be required to use firefighting foams that contain PFAS.

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

Illinois had legislation proposed in 2020, [SB3154](#), that would prohibit the knowing manufacture, sale, offering for sale, distribution for sale, or distribution for use of foam containing intentionally added PFAS. This legislation would also require manufacturers of foam containing intentionally added PFAS to register with the Illinois EPA and pay to the EPA an annual registration fee of \$5,000. This legislation wasn't voted upon but was re-introduced in 2021 as [SB0561](#). Additional proposed firefighting foam-related legislation, [HB5003](#), proposed prohibition of the use of foam containing intentionally added PFAS for training purposes and also testing purposes, unless the facility has implemented appropriate containment, treatment and disposal measures. This legislation wasn't voted upon but was re-introduced in 2021 as [HB3635](#) and [SB2512](#). Bill [HB3190](#) was also introduced in 2021 and proposes prohibition of incineration of any PFAS substance, including Aqueous Film Forming Foam .

ADMINISTRATIVE RULES

Fiscal Estimate & Economic Impact Analysis

Indiana’s House Bill 1189 was signed into law on March 30, 2020 as [IC-36-8-10.7](#). This law prohibits the use of Class B firefighting foam containing an intentionally added PFAS: (1) for training purposes; and (2) for testing purposes, unless the testing facility has implemented appropriate measures to prevent releases of the firefighting foam to the environment.

As of May 2021, Iowa has a non-binding guidance “action plan” to identify and minimize PFAS exposures, prevent future releases, and provide education and outreach. [HF 2241](#) failed to pass last session. HF 2241 would have prohibited the manufacture and sale of firefighting foam containing PFAS, prohibited the use of PFAS foam for training purposes, and required manufacturers of firefighter protective equipment to disclose the inclusion of PFAS in their products. Iowa DNR is developing a plan to assess risk to public water supplies from PFAS and may sample the higher risk facilities in the future.

Michigan has created by executive order a PFAS action team to identify, recommend, and implement responses to PFAS contamination. In 2020 the Michigan Legislature enacted legislation focused on fire departments and fire fighter activities. The statutory changes from those acts include the creation of the following sections: [Section 324.14705](#), MCL, which establishes a PFAS firefighting foam collection program at the Department of Environment, Great Lakes, and Energy (EGLE), [Section 324.14703](#), MCL, which requires immediate reporting of the use of firefighting foams with intentionally added PFAS, [Section 29.369c](#), MCL, which bars the use of PFAS firefighting foam in firefighting training, and requires proper training for the emergency use, handling, storage, disposal and cleanup of PFAS foam, and [Section 408.1014r](#), MCL, which calls for rulemaking to be promulgated by the Department of Labor to establish best practices for handling and storing PFAS foam by emergency responders, ban the use of PFAS foam for training purposes, and to end the use of PFAS foam for equipment calibration unless certain stringent conditions have been met. Michigan recently announced it had collected and disposed of approximately 51,400 gallons of PFAS-containing firefighting foam through a clean sweep type program. Michigan recommends that fire departments use only Class A foam unless Class B foam is needed to protect human life or critical infrastructure, and that they train only with Class A foams.

Minnesota enacted legislation that took effect on July 1, 2020 ([Section 325F.072](#) of MN Statutes) requiring that any Class B firefighting foam containing PFAS that is used on a fire must be reported to the State Fire Reporting System within 24 hours. It also prohibits use of PFAS-containing firefighting foam for testing and training unless appropriate containment, treatment, and disposal measures are implemented to prevent releases of foam to the environment. Minnesota is currently working on guidance related to proper containment, treatment and disposal measures.

As of January 2021, Arizona, Georgia, Indiana (as mentioned above), Kentucky, Maryland, Minnesota (as mentioned above), Virginia and Wisconsin have enacted legislation prohibiting the use of foam with intentional added PFAS with a testing exemption. Of those states, Arizona, Indiana, Maryland, Minnesota, Virginia and Wisconsin include the word “appropriate” regarding the measures needed for containment, treatment and disposal. Wisconsin is the only state that directed an agency to conduct rulemaking regarding their PFAS-containing foam legislation. Wisconsin is the only state tasked with determining the “appropriate” measures to prevent discharges of PFAS-containing foam to the environment. New Hampshire’s ban on PFAS-containing foams included a provision that allowed for testing of Class B foams only if evaluated by their department of environment agency. The New Hampshire legislature did not direct the department to promulgate criteria for determining such evaluation

Washington, New York, and Colorado have prohibited the use of PFAS-containing foams with no exception for testing or emergency use and therefore have considerably more strict regulations than proposed in this permanent rule.

19. Contact Name	20. Contact Phone Number
Mimi Johnson	(608) 590-7287

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

ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis**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 department does not know how many of the potentially impacted entities meet the statutory definition of small business. Without actual data on how many of these entities are small businesses, the department cannot estimate the actual cost to these entities as a share of the total compliance cost of this proposed permanent rule. However, in an effort to develop a conservative estimate, the department assumed a majority are small businesses. Based on this assumption, the department reasonably expects that the impact on small businesses will be less than the average compliance cost to all businesses (\$2,300,000 per year with \$4,000,000 per year as the higher end of the range for all businesses impacted).

Small businesses impacted by this proposed permanent rule include various facilities that use Class B firefighting foam in their fixed fire suppression systems. These would be facilities that have a need for suppression of possible liquid (gasoline, oil) fires. Small businesses would also be entities using foam for testing, including foam and foam equipment testing facilities that test firefighting foam effectiveness or test a firefighting foam delivery system or equipment; and entities that contain, treat, and dispose or store foam from a testing facility or generated as a result of testing foam.

Containment, treatment and disposal: moderate economic impact expected, additional estimates under solicitation and evaluation by the department. It is estimated that there are approximately 150 to 200 fixed fire suppression systems within public and private facilities that utilize Class B firefighting foam. A limited survey of facilities with fixed foam systems indicated that these fixed systems are primarily in areas with existing containment, resulting in minimal to no economic impact. Industry experts estimated that system testing and resultant foam disposal costs will increase for these facilities, and cost approximately \$3,000 to \$20,000 per facility. Assuming 200 facilities in the state, the statutory and rule requirements would range in impact from approximately \$600,000 to \$4,000,000 per year, with the midpoint estimate of \$2,300,000. This is a high cost estimate because some of these costs would already be incurred as a result of s. 299.48, Wis. Stats., which prohibits discharging foam into a storm or sanitary sewer. Costs are also expected to lessen over time with adoption of alternative methods such as surrogate and water equivalency testing and using replacement foams that do not contain PFAS.

Additionally, some manufacturers with foam testing operations in Wisconsin have been phasing out the use of PFAS in foam products and testing, which may increase as alternatives become more readily available. Any current system tests that generate Class B foam with intentionally added PFAS must use appropriate containment, treatment, and disposal or storage methods. Although they are not small businesses, the department is aware of only a few foam manufacturing facilities in Wisconsin that would conduct testing. One manufacturer is developing its own treatment facility and others may be using contractors to collect and manage foam generated from testing.

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

Emails and calls were made to industry experts and facilities with fixed foam systems to determine foam amounts; any existing containment, storage, treatment, and disposal activities; testing activities; and current and potential costs.

Industry sectors and foam manufacturing facilities were also contacted for comments on draft emergency rule language during rule development.

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
-

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

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

ADMINISTRATIVE RULES Fiscal Estimate & Economic Impact Analysis

- 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

This proposed permanent rule is self-implementing and allows entities to choose containment, storage, treatment, and disposal methods that fit best with their facility designs and needs, while at the same time providing standards that will prevent discharge of foam to the environment. Entities may also elect to treat and dispose of PFAS foams outside the state. The provided standards and methods for the prevention of discharge of foam to the environment can help businesses avoid more costly cleanup procedures. The reporting and recordkeeping requirements provided in the rule impact all entities and increased associated costs are estimated to be minimal.

5. Describe the Rule's Enforcement Provisions

Under authorization in ch. 299, Wis. Stats., the rule shall be enforced by the attorney general (s. 299.95, Wis Stats.) and penalties and remedies may be assessed under s. 299.97, Wis. Stats.

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

- Yes No

This page was intentionally left blank.

12/8/21

The statement of scope for this rule, SS 015-20, was approved by the Governor on March 20, 2020, published in Register No. 771B on March 30, 2020, and approved by the Natural Resources Board on June 24, 2020. This rule was approved by the Governor on insert date.

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
CREATING RULES

The Wisconsin Natural Resources Board adopts an order to **create** NR 159 relating to regulating firefighting foam that contains certain contaminants and affecting small business.

WA-07-20

Analysis Prepared by the Department of Natural Resources

1. Statutes Interpreted: Sections 299.48 and 227.11(2)(a), Wis. Stats.; 2019 Wisconsin Act 101 (s. 2, nonstatutory provisions directing rulemaking)

2. Statutory Authority: Sections 299.48, and 227.11(2)(a), Wis. Stats.; 2019 Wisconsin Act 101 (s. 2, nonstatutory provisions directing rulemaking)

3. Explanation of Agency Authority: Section 299.48, Wis. Stats., regulates the use of firefighting foam that contains intentionally added PFAS and grants rule-making authority to the department. Specifically, s. 299.48(5), Wis. Stats., states that the department shall promulgate rules to implement and administer the section, including to determine appropriate containment, treatment, and disposal or storage measures for testing facilities.

Section 2 of 2019 Wisconsin Act 101 (“Act 101”) states that the department shall promulgate rules under s. 299.48(5), Wis. Stats., no later than the first day of the seventh month beginning after the effective date of the subsection. Emergency rules previously promulgated under this subsection remain in effect until three years after the effective date, or the date on which permanent rules take effect.

The department also has authority to promulgate rules under s. 227.11 (2)(a), Wis. Stats., necessary to effectuate the purpose of s. 299.48, Wis. Stats., requirements.

4. Related Statutes or Rules: Section 299.13, Wis. Stats. authorizes the department to engage in pollution prevention activities; and ch. 292, Wis. Stats. provides for remedial actions to address environmental pollution and hazardous substance discharges including notification requirements for the discharge of a hazardous substance under s. 292.11, Wis. Stats.

5. Plain Language Analysis: Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industry and consumer products worldwide since the 1950s. They do not break down in the environment for extremely long periods of time and they accumulate in the human body. Exposure to certain PFAS may cause adverse health effects.

Act 101 created s. 299.48, Wis. Stats., which prohibits the use of Class B and dual action Class A and B firefighting foams that contain intentionally added PFAS as of September 1, 2020, except in the following two situations:

- When used as part of an emergency firefighting or fire prevention operation; or
- When used for testing purposes at a testing facility that has implemented appropriate containment, treatment and disposal or storage measures to prevent discharges of the foam to the environment, and does not flush, drain or otherwise discharge the foam into a storm or sanitary

12/8/21

sewer.

Section 299.48(3m), Wis. Stats., requires notification to the department when PFAS-containing foams are discharged to the environment in the following two situations:

- When PFAS-containing firefighting foam is used as part of an emergency firefighting or fire prevention operation, notify DNR immediately or as soon as practicable without hindering firefighting or fire prevention operations.
- When PFAS-containing firefighting foam is used for testing purposes, notify DNR immediately of any discharge of the foam to the environment.

This rule creates ch. NR 159, Wis. Adm. Code, to implement the legislature's directive to the department to promulgate rules to implement and administer s. 299.48, Wis. Stats. The proposed permanent rule contains the following summarized requirements and fulfills the statutory obligation to determine appropriate containment, treatment, and disposal or storage measures for testing facilities:

Prohibitions and use:

Section 299.48(1), Wis. Stats., prohibits the use of Class B firefighting foams with intentionally added PFAS, including for training exercises. Section 299.48(2), Wis. Stats., provides the use of foam is allowed for emergency firefighting, fire prevention operations, and testing purposes so long as certain requirements are met. These prohibitions and requirements are included in the proposed permanent rule and apply to foam that is in concentrate or that is mixed with water, liquids or other substances., Section 299.48(3)(a), Wis. Stats., creates an exemption from the prohibition on use as part of an emergency firefighting or fire prevention operation. Section 299.48(3)(b), Wis. Stats., creates an exemption from the prohibition on use for testing facilities, so long as the testing facility has implemented appropriate containment, treatment, and disposal or storage measures to prevent discharges of the foam to the environment. Appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging the foam into a storm or sanitary sewer. The proposed permanent rule provides appropriate containment, treatment, disposal, and storage measures. The proposed permanent rule is summarized as follows.

Notification and recordkeeping:

Section 299.48(3m), Wis. Stats., provides situations where notification to the department must occur. To fulfill this requirement, the proposed permanent rule further describes any person in possession of foam that may be used for these purposes must maintain records of the amounts of foam kept on site and its safety data sheets.

Storage:

The proposed permanent rule provides any person storing foam used for testing purposes shall manage the foam in accordance with safety data sheets and in a manner that will prevent discharges to the environment. This includes self-inspection and spill containment plans, use of leak-proof, closed and labeled containers, and provisions for cleanup of discharges.

Containment:

The proposed permanent rule provides any person testing foam, including testing foam effectiveness and fire suppression systems, foam delivery systems and associated equipment or vehicles, must contain the foam in a manner that will prevent discharge of the foam to the environment. This includes: containment that meets industry and national association testing standards; testing and flushing of equipment, systems, and facilities using a containment system capable of capturing, diverting, and storing generated foam; measures to prevent foam that escapes containment from entering surface waters, groundwater, storm sewers or sanitary sewers; and a containment system design that takes into account location and use of the

12/8/21

foam, the risk to the environment, the automatic or manually activated design of a foam system, and any other applicable local, state, or federal regulations.

Treatment:

The permanent rule proposes any person choosing to treat foam in Wisconsin shall ensure treatment is conducted in a manner that will prevent a discharge of foam to the environment, i.e. air, lands or waters of the state. One option for treatment is incineration or thermal destruction, which must be able to destroy PFAS. Prior to operation, a person operating the treatment system must submit documentation to the department that demonstrates that the incineration or thermal destruction treatment system can destroy PFAS and reduce or eliminate emissions, in accordance with the operational standards in the proposed permanent rule. The proposed rule clarifies appropriate treatment measures render wastewater containing foam to no longer be considered “foam” subject to the statutory prohibition on discharge to storm or sanitary sewer.

Other appropriate treatment options include treating foam using technologies specified in the proposed permanent rule, which state that before a person may discharge treated foam directly to waters of the state or to a sanitary sewer, specified technology must be employed that reduces PFAS concentrations to the maximum degree achievable. Appropriate treatment requires system design and operational standards to remove PFAS that include preliminary treatment, filtration, a minimum of three granular activated carbon adsorption units in series, and at least one anion-exchange resin polishing unit to remove trace PFAS compounds. This type of treatment system has been proven through research and real-life application in Wisconsin to remove optimum levels of PFAS. The department may, on a case-by-case basis, approve an alternative treatment technology – or modifications to the specified treatment – if the applicant can demonstrate that the proposed alternative treatment system or modification will achieve treatment equivalent to or better than the system specified in the proposed permanent rule to prevent foam from discharging to a storm or sanitary sewer. All analytical sample results for PFAS must be made available to the department upon request.

Disposal:

The proposed permanent rule specifies any person choosing to dispose of foam generated as result of testing in Wisconsin shall ensure the foam is treated in accordance with this proposed permanent rule or solidified by mixing with cementitious materials or a comparable process prior to disposal to effectively immobilize the PFAS and restrict leaching or migration. The rule requires foam disposed of in Wisconsin may only be disposed of at a licensed solid waste facility.

6. Summary of, and Comparison with, Existing or Proposed Federal Statutes and Regulations: The federal Defense Authorization Act of 2020 included several PFAS-related provisions, largely because PFAS contamination of water supplies has been identified at or around several military installations. The Act specifies in section 323 that PFAS-containing firefighting foam may only be released for purposes of an emergency response. A non-emergency release of PFAS foam may be made for the purposes of testing of equipment or training of personnel, if complete containment, capture, and proper disposal mechanisms are in place to ensure no foam is released into the environment. The Act requires the military to develop a fluorine-free foam specification by January 31, 2023 and sets a deadline for banning the use on military bases in the future.

The Defense Authorization Act also establishes guidelines for the proper disposal of firefighting foam at military sites and directs the military to develop guidance to address these issues. Specifically, all incineration of firefighting foam containing PFAS chemicals must be conducted at a temperature range adequate to break down PFAS chemicals, while also ensuring the maximum degree of reduction in emission of PFAS chemicals and must be conducted in accordance with the Clean Air Act at a facility

12/8/21

permitted to receive the waste. The Act requires the Environmental Protection Agency (EPA) to publish interim guidance on the destruction and disposal of PFAS substances and materials. A draft of the guidance was released for public comment on December 18, 2020.

The Federal Aviation Administration (FAA) Reauthorization Act of 2018 was passed on October 5, 2018 and states that no later than three years after the date of enactment, the FAA shall no longer require the use of fluorinated chemicals (e.g., PFAS) to meet the performance standards accepted under federal regulations. As a result of this change, the FAA and FAA-regulated facilities will no longer be required to use firefighting foams that contain PFAS.

The 2021 PFAS Action Act was introduced on April 13, 2021. This bill proposes requiring the EPA to promulgate rules regarding proper storage and disposal of PFAS-containing materials and fluorinated foam, and also proposes issuing guidance on minimizing the use of or contact with fluorinated firefighting foam by first responders.

7. If Held, Summary of Comments Received During Preliminary Comment Period

and at Public Hearing on the Statement of Scope: The department held a preliminary public hearing on the statement of scope on June 4, 2020. Seventeen members of the public attended the hearing, including two from the Department of Transportation, and one person spoke in support of the scope statement.

Only one comment was made at the hearing: The President of the Wisconsin State Fire Chiefs Association testified that the group has been involved from the beginning of the PFAS foam subject, partnering with the department on multiple occasions, and wants to be a partner in the solution. They want a safe environment for the public they serve. They are disappointed that the initiative doesn't include some type of depository system across the state for fire departments to dispose of their foams efficiently. Finding disposal options is a huge financial hardship for fire departments across the state. They want to support what is best, support this act going forward, but they need help with disposal.

The department received six written comments in support of the proposed statement of scope, with comments suggesting language changes or areas on which the rule should focus. A summary of the written comments is below:

- Include wholesale distributors of firefighting foam in the list of affected entities
- Ensure the rule encompasses all 36 PFAS compounds for which health-based standards are being researched by the Department of Health Services
- Suggestion that the rule may require product testing for fluorine content of firefighting foam
- The final rule should define “fluorine-free foam”
- “Safe disposal” should not include incineration
- Containment, treatment, and disposal and storage measures should be expanded to minimize release to the environment
- All entities using firefighting foam should keep records
- Rule should consider PFAS air emissions
- The department should provide guidance to any entity switching their equipment to fluorine-free formulations and on proper management of retired fire suppression equipment and products

The department considered these comments during the drafting of the emergency rule, WA-06-20(E).

8. Comparison with Similar Rules in Neighboring States: Illinois had legislation proposed in 2020, [SB3154](#), that would prohibit the knowing manufacture, sale, offering for sale, distribution for sale, or distribution for use of foam containing intentionally added PFAS. This legislation would also require manufacturers of foam containing intentionally added PFAS to register with the Illinois EPA and pay to

12/8/21

the EPA an annual registration fee of \$5,000. This legislation wasn't voted upon but was re-introduced in 2021 as [SB0561](#). Additional proposed firefighting foam-related legislation, HB5003, proposed prohibition of the use of foam containing intentionally-added PFAS for training purposes and also testing purposes, unless the facility has implemented appropriate containment, treatment and disposal measures. This legislation wasn't voted upon but was re-introduced in 2021 as [HB3635](#) and [SB2512](#). Bill [HB3190](#) was also introduced in 2021 and proposes prohibition of incineration of any PFAS substance, including AFFF firefighting foam.

Indiana's House Bill 1189 was signed into law on March 30, 2020 as [IC 36-8-10.7](#) and prohibits the use of Class B firefighting foam containing an intentionally added PFAS: (1) for training purposes; and (2) for testing purposes, unless the testing facility has implemented appropriate measures to prevent releases of the firefighting foam to the environment.

As of May 2021, Iowa has a non-binding guidance "action plan" to identify and minimize PFAS exposures, prevent future releases, and provide education and outreach. HF 2241 failed to pass last session. HF 2241 would have prohibited the manufacture and sale of firefighting foam containing PFAS, prohibit the use of PFAS foam for training purposes, and require manufacturers of firefighter protective equipment to disclose the inclusion of PFAS in their products. Iowa DNR is developing a plan to assess risk to public water supplies from PFAS and may sample the higher risk facilities in the future.

Michigan has created by executive order a PFAS action team to identify, recommend, and implement responses to PFAS contamination. Several bills focused on fire departments and fire fighter activities have been passed by the MI legislature: [Section 324.14705](#) establishes a PFAS firefighting foam collection program at the Department of Environment, Great Lakes, and Energy (EGLE). [Section 324.14703](#) requires immediate reporting of the use of firefighting foams with intentionally added PFAS. [Section 29.369c](#) bars the use of PFAS firefighting foam in firefighting training, and requires proper training for the emergency use, handling, storage, disposal and cleanup of PFAS foam. [Section 408.1014r](#) calls for rulemaking to be promulgated by the Department of Labor to establish best practices for handling and storing PFAS foam by emergency responders, ban the use of PFAS foam for training purposes, and to end the use of PFAS foam for equipment calibration unless certain stringent conditions have been met. Michigan recently announced it had collected and disposed of approximately 51,400 gallons of PFAS-containing firefighting foam through a clean sweep type program. Michigan recommends that fire departments use only Class A foam unless Class B foam is needed to protect human life or critical infrastructure, and that they train only with Class A foams.

Minnesota passed legislation that took effect July 1, 2020 ([Section 325F.072](#) of MN Statutes) requiring that any Class B firefighting foam containing PFAS that is used on a fire must be reported to the State Fire Reporting System within 24 hours. It also prohibits use of PFAS-containing firefighting foam for testing and training unless appropriate containment, treatment and disposal measures are implemented to prevent releases of foam to the environment. Minnesota is currently working on guidance related to proper containment, treatment and disposal measures.

As of January 2021, Arizona, Georgia, Indiana (as mentioned above), Kentucky, Maryland, Minnesota (as mentioned above), Virginia and Wisconsin have enacted legislation prohibiting the use of foam with intentionally added PFAS, with a testing exemption. Of those states, Arizona, Indiana, Maryland, Minnesota, Virginia and Wisconsin include the word "appropriate" regarding the measures needed for containment, treatment and disposal. Wisconsin is the only state that has directed an agency to conduct rulemaking regarding their PFAS-containing foam legislation. Wisconsin is the only state tasked with determining the "appropriate" measures to prevent discharges of PFAS-containing foam to the environment. New Hampshire's ban on PFAS-containing foams included a provision that allowed for

12/8/21

testing of Class B foams only if evaluated by their department of environmental services. The New Hampshire legislature did not direct the department to promulgate criteria for determining such evaluation.

Washington, New York, and Colorado have prohibited the use of PFAS-containing foams with no exception for testing or emergency use and therefore have considerably more strict regulations than proposed in this permanent rule.

9. Summary of Factual Data and Analytical Methodologies Used and How Any Related Findings Support the Regulatory Approach Chosen: The department is required by statute to promulgate rules to implement and administer s. 299.48, Wis. Stats., including to determine appropriate containment, treatment, and disposal or storage measures for foam testing facilities.

The department reviewed extensive information from the Interstate Technology Regulatory Council (<https://pfas-1.itrcweb.org/>) that has developed fact sheets about PFAS and firefighting foam. Additional information was used from foam and PFAS guidance documents created by the U.S. Department of Defense, the National Fire Protection Association, the Commonwealth of Australia, and other states, including the Michigan PFAS Action Response Team. The department also discussed foam management issues with the Wisconsin State Fire Chiefs Association, Wisconsin Technical College staff (related to fire fighter and inspector training), the Wisconsin Airport Management Association, the Wisconsin Department of Safety and Professional Services staff, and colleagues in other states.

2019 Wisconsin Act 101 (Act 101) required the department to promulgate an emergency rule (WA-06-20 (E)) regarding appropriate containment, treatment and disposal or storage measures to prevent discharges of foam to the environment at testing facilities that would be in effect until three years after the effective date of s. 299.48, Wis. Stats., (February 7, 2023), or until a permanent rule takes effect. The emergency rule was approved by the Natural Resources Board on October 28, 2020. However, portions of the emergency rule were [suspended](#) by the Wisconsin Joint Committee for Review of Administrative Rules (JCRAR) on December 18, 2020. [JCRAR indicated](#) that the emergency rule exceeded statutory authority and failed to comply with legislative intent of Act 101. Legislation was also introduced ([2021 AB13](#) and [SB34](#)) to prevent the department from promulgating the portions of the emergency rule that were suspended. As of December 8, 2021, the proposed 2021 AB13 and SB34 have not been enacted. Under s. 227.26(2)(L), Wis. Stats., if JCRAR suspends an emergency rule, the department may not submit to the legislature the substance of the emergency rule as a proposed permanent rule during the time the emergency rule is suspended. Therefore, this proposed permanent rule reflects the version of the emergency rule as suspended by JCRAR.

10. Analysis and Supporting Documents Used to Determine the Effect on Small Business or in Preparation of an Economic Impact Report: In an effort to develop a conservative estimate, the department assumed a majority of business entities affected by the proposed permanent rule are small businesses. Emails and calls were made to industry experts and facilities with fixed foam systems to determine foam amounts; any existing containment, storage, treatment, and disposal activities; testing activities; and current and potential costs. Industry sectors were also contacted for comments on draft emergency rule language during rule development.

The estimated costs are based upon outreach conducted during the emergency rule writing process in 2020 and outreach conducted during the economic impact public comment period in 2021. The department has solicited additional input from the Wisconsin State Fire Chiefs Association regarding estimated costs to fire departments as a result of the rule. The portions of the emergency rule that were suspended by JCRAR have been omitted; the proposed permanent rule is consistent with the emergency

12/8/21

rule in effect and is generally consistent with common business practices already in place.

11. Effect on Small Business (initial regulatory flexibility analysis): Small businesses impacted by this proposed permanent rule include various facilities that use Class B firefighting foam in their fixed fire suppression systems, facilities that test foam, and facilities that provide storage, containment, treatment, or disposal services.

Storage: Minimal additional economic impact is expected; new requirements for facilities may lead to the purchase of additional storage/containers needed for foam, additional labor costs associated with labeling and inspection, and the purchase of materials to prevent discharge to the environment. There will be additional costs associated with these requirements, but these costs are not anticipated to be significant.

Containment, treatment and disposal: A moderate economic impact is expected. It is estimated that approximately 150 to 200 fixed fire suppression systems within public and private facilities utilize Class B firefighting foam. A survey of facilities with fixed-foam systems indicated that these fixed systems are primarily in areas with existing containment, resulting in minimal to no economic impact. Industry experts estimated that system testing and resultant foam disposal costs will increase for these facilities, and cost approximately \$3,000 to \$20,000 per facility. Assuming 200 facilities in the state, the statutory and rule requirements would range in impact from approximately \$600,000 to \$4,000,000 per year, with the midpoint estimate of \$2,300,000. However, costs are expected to lessen over time with adoption of alternative methods such as surrogate and water equivalency testing and using replacement foams that do not contain PFAS. This is a high cost estimate because much of these costs are already being incurred as a result of s. 299.48, Wis. Stats., which prohibits discharging foam into a storm or sanitary sewer.

Although they are not small businesses, the department is aware of only a few foam manufacturing facilities in Wisconsin that would conduct testing. One manufacturer is developing its own treatment facility and others may be using contractors to collect and manage foam generated from testing. The foam manufacturer building a new testing facility expressed to the department that it had plans to transition from manufacturing foam with PFAS, to manufacturing and testing foams that are PFAS-free.

Estimated costs for management, containment and proper disposal of firefighting foams with intentionally added PFAS are anticipated to be less than the cost to clean and remediate uncontrolled discharges to the environment and subsequent remediation. This rule does not prohibit the manufacture, sale, or distribution of Class B firefighting foam that contains intentionally added PFAS.

12. Agency Contact Person: Mimi Johnson; Department of Natural Resources, PO Box 7921, Madison, WI 53707-7921; melaniel.johnson@wisconsin.gov; (608) 590-7287.

13. Place where comments are to be submitted and deadline for submission:

A public comment period was held from September 27 to November 11, 2021, with a public hearing on November 4, 2021.

12/8/21

RULE TEXT

SECTION 1. NR 159 is created to read:

CHAPTER NR 159 MANAGEMENT OF CLASS B FIREFIGHTING FOAM

NR 159.01 Purpose. The purpose of this chapter is to establish the appropriate containment, treatment, and disposal and storage measures when testing Class B firefighting foam that contains intentionally added PFAS; to establish consistent, uniform standards and procedures to limit the discharge of Class B firefighting foams, unless the foam is used in emergency firefighting or fire prevention operations; and to clarify recordkeeping and notification requirements. This chapter is adopted under s. 299.48, Stats.

NR 159.02 Applicability. (1) This chapter applies to any person conducting testing of foam that contains intentionally added PFAS, including calibration testing, conformance testing, or fixed-system testing, to evaluate its effectiveness or testing of a firefighting foam delivery system or equipment.

(2) This chapter applies to any person that uses or discharges foam that contains intentionally added PFAS including use as part of an emergency firefighting or fire prevention operation.

(3) This chapter applies to any person that contains, treats, disposes, or stores foam from a testing facility or generated as a result of testing.

(4) The prohibitions and requirements in this chapter apply to foam that is in concentrate or that is mixed with water, liquids, or other substances. No person may discharge foam to a storm or sanitary sewer or to the environment unless the discharge meets the treatment requirements of this chapter and the discharge is in accordance with all other applicable environmental regulations.

(5) This chapter may not be construed as prohibiting the manufacture, sale, or distribution of foam that contains intentionally added PFAS.

12/8/21

NR 159.03 Definitions. In this chapter:

(1) “Calibration testing” means the comparison of measurement values delivered by a device under testing with those of a calibration standard of known accuracy.

Note: Calibration testing is typically associated with the installation, maintenance, and repair of emergency fire suppression and firefighting equipment.

(2) “Class B firefighting foam” has the meaning specified in s. 299.48 (1) (a), Stats.

Note: Under s. 299.48 (1) (a), Stats., “Class B firefighting foam” means a foam designed for use on a flammable liquid fire, which may include a dual action Class A and B foam.

(3) “Conformance testing” means testing or other activities that determine whether a process, product, or service complies with the requirements of a specification, technical standard, contract, or regulation.

(4) “Container” means any device in which a material is stored, transported, treated, disposed of, or otherwise handled.

(5) “Containment” means use of a container or secondary containment structure or device to keep foam under control or within boundaries.

(6) “Department” means the department of natural resources.

(7) “Discharge” has the meaning specified in s. 292.01 (3), Stats.

Note: Under s. 292.01 (3), Stats., “discharge” means, but is not limited to, spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

(8) “Dispose” or “disposal” means the discharge, deposit, injection, dumping, or placing of any solid waste into or on any land or water.

(9) “Emergency firefighting” means the act of attempting to prevent the spread of or extinguishing unwanted fires.

12/8/21

(10) “Environment” has the meaning specified in s. NR 700.03 (18).

Note: Under s. NR 700.03 (18), “environment” means any plant, animal, natural resource, surface water (including underlying sediments and wetlands), groundwater, drinking water supply, land surface and subsurface strata, and ambient air within the state of Wisconsin or under the jurisdiction of the state of Wisconsin.

(11) “Fire prevention operation” means measures and practices directed toward the prevention and suppression of unwanted fires.

(12) “Fire suppression system” means a system used to extinguish or prevent the spread of fire through the application of a substance.

(13) “Fixed system” means a permanently installed fire suppression system designed for use on the specific fire hazards the system is expected to control or extinguish.

(14) “Foam” means class B firefighting foam as defined under s. 299.48 (1) (a), Stats.

(15) “Foam that contains intentionally added PFAS” means foam in which PFAS is a constituent of the foam added during the manufacturing process.

(16) “Method detection limit” means the minimum measured concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results. The method detection limit is generated as defined in s. NR 149.03 (46).

(17) “Person” has the meaning specified in s. 299.01 (10), Stats.

Note: Under s. 299.01 (10), Stats., “person” means an individual, owner, operator, corporation, limited liability company, partnership, association, municipality, interstate agency, state agency, or federal agency.

(18) “PFAS” has the meaning specified in s. 299.48 (1) (b), Stats.

Note: Under s. 299.48 (1) (b), Stats., “PFAS” means a perfluoroalkyl or polyfluoroalkyl substance.

12/8/21

(19) “Safety data sheet” means a document that contains safety and safe handling information in respect to the product, including protection information regarding human health, and may include information on protection of the environment.

(20) “Storage” means storing on a temporary basis for future use or future treatment or disposal in such a manner as not to constitute ultimate disposal.

(21) “Testing” has the meaning specified in s. 299.48 (1) (c), Stats.

Note: Under s. 299.48 (1) (c), Stats., “testing” means the testing of a firefighting foam to evaluate its effectiveness and testing of a firefighting foam delivery system or equipment.

(22) “Training” has the meaning specified in s. 299.48 (1) (d), Stats.

Note: Under s. 299.48 (1) (d), Stats., “training” means providing first-hand field experience to a person who may use a firefighting foam as part of an emergency firefighting or fire prevention operation.

(23) “Treatment” means any method, technique, or process, including thermal destruction, that changes the physical, chemical, or biological character or composition of a contaminant.

NR 159.04 Prohibition and exemptions. (1) Except as provided under sub. (2), no person may use or otherwise discharge, including for training purposes, a class B firefighting foam that contains intentionally added PFAS.

(2) All of the following actions are exempt from the prohibition under sub. (1):

(a) The use or discharge by any person of a class B firefighting foam that contains intentionally added PFAS as part of an emergency firefighting or fire prevention operation.

(b) The use by any person of class B firefighting foam that contains intentionally added PFAS for testing purposes, including calibration testing, conformance testing, or fixed system testing, if the testing facility has implemented appropriate containment, treatment, and disposal

12/8/21

or storage measures, as specified in ss. NR 159.06 to 159.08, to prevent discharges of the foam to the environment.

Note: Under s. 299.48 (3) (b), Stats., appropriate containment, treatment, and disposal or storage measures may not include flushing, draining, or otherwise discharging foam into a storm or sanitary sewer.

Note: A person responsible under s. 292.11 (3), Stats., for discharges of PFAS to the environment shall follow the applicable requirements in chs. NR 700 to 754 for response action sites.

NR 159.05 Notification and recordkeeping. (1) NOTIFICATION. A person that uses or discharges foam shall do all of the following:

(a) Notify the department of the use or discharge of foam as part of an emergency firefighting or fire prevention operation immediately or as soon as practicable without hindering emergency firefighting or fire prevention operations.

(b) Notify the department immediately of any discharge of foam to the environment resulting from testing purposes.

(2) RECORDKEEPING. Any person in possession of foam shall retain foam safety data sheets and make them available to the department for examination upon request.

NR 159.06 Storage. A person that uses foam for testing purposes shall store foam in accordance with manufacturer instructions and safety data sheets, and in a manner that shall prevent discharge of foam to the environment. A person that stores foam for testing purposes shall do all of the following:

(1) Establish and maintain a quarterly inspection program for detecting leaks in storage containers and a plan to undertake response measures to halt, contain, remove, treat, or dispose of foam discharges.

(2) Post safety data sheets in a visible location in the storage area.

12/8/21

(3) Clearly label all containers to indicate the contents of the container and keep containers in a manner that allows easy detection of signs of leakage.

(4) Store and transport foam in containers fabricated from or lined with materials compatible with foam and designed to prevent evaporation of foam, including containers direct from the manufacturer.

(5) Maintain material for absorbing any discharges of foam onsite.

(6) Block any drains in a storage area from any connection to a sanitary or storm sewer.

NR 159.07 Containment. A person that uses foam for testing purposes shall ensure that appropriate containment is in place during testing of foam or testing of fire suppression systems, foam delivery systems, or foam equipment to prevent discharge of foam to the environment. Appropriate containment shall include all of the following:

(1) Use of water or surrogate solutions; testing equipment indoors; spraying into drums, lined pits, or other containment equipment; and testing with closed-loop systems, when consistent with industry standards and other regulations governing foam testing.

Note: Other regulations may include chs. SPS 314 and 361 to 366, which incorporate standards of the national fire protection association, federal aviation administration requirements, and other applicable industry and national association standards.

(2) Testing and flushing of foam testing equipment, systems, and facilities conducted with a containment system capable of capturing, diverting, and storing generated foam.

(3) Testing that employs measures to prevent foam that escapes containment from entering surface waters, groundwater, storm sewers, or sanitary sewers.

(4) Containment system design that takes into account location and use of the foam, the risk to the environment, the automatic or manually activated design of a foam system, and any other applicable local, state, or federal regulations.

12/8/21

NR 159.08 Treatment and disposal. A person that uses foam for testing purposes or that conducts treatment or disposal of foam that was used for testing purposes may employ on-site or off-site measures for treatment, disposal, or a combination of treatment and disposal for foam. When implemented, appropriate treatment measures render wastewater containing foam to no longer be subject to the prohibition on discharge to storm or sanitary sewer under s. 299.48(2), Stats. Treatment or disposal of foam used for testing purposes shall be conducted in a manner that prevents discharge of foam to the environment and shall meet all of the following requirements:

(1) TREATMENT. (a) *Incineration or thermal destruction.* Incineration or thermal destruction of foam shall be conducted at a temperature range and residence time sufficient to destroy PFAS while also ensuring the maximum degree of reduction in emission of PFAS, including elimination of emissions of PFAS when achievable. Prior to any person operating an incineration or thermal destruction treatment system under this subsection, a person shall submit documentation to the department that demonstrates the incineration or thermal destruction treatment system meets all of the requirements of this paragraph.

Note: Any discharge of treated foam to a sanitary sewer requires the approval from the owner of the publicly owned treatment works and may be subject to additional limitations. Any discharge of treated foam to waters of the state, including a discharge of treated foam through a storm sewer, requires Wisconsin pollutant discharge elimination system permit coverage under ch. 283, Stats. and may be subject to the regulations promulgated under that chapter.

(b) *Other treatment.* 1. ‘Best available technology’ If treatment other than that specified in par. (a) is proposed, the treatment shall, at a minimum, satisfy all of the following design and operational standards:

a. Treatment shall include preliminary treatment prior to granular activated carbon adsorption to remove compounds that may reduce adsorption capacity of granular activated carbon or interfere with PFAS removal. The preliminary treatment system may include clarifiers, bag filter units, clay filter units, or other similar treatment.

b. Following preliminary treatment under subd. 1. a. and prior to granular activated

12/8/21

carbon adsorption under subd. 1. c., the treatment shall include cloth filtration, ultrafiltration, or filtration of a finer pore size.

c. Following filtration under subd. 1. b., the treatment shall include a minimum of 3 granular activated carbon adsorption units in series. Granular activated carbon adsorption units shall be optimized for PFAS removal. The granular activated carbon adsorption units shall have a cumulative minimum empty bed contact time of 30 minutes. The lead granular activated carbon adsorption unit's media shall be replaced at a frequency that allows for optimal PFAS removal but no less frequently than once per treatment of each 10,000 bed volumes. Following media replacement, the lead unit shall be moved to the lag unit position with each of the other units moved forward one position in the series. The granular activated carbon media shall be derived from bituminous coal unless the discharger utilizes a more frequent media replacement schedule appropriate for that media and receives approval under subd. 2.

d. Treatment shall include at least one anion-exchange resin polishing unit to remove trace PFAS compounds.

e. Sampling ports shall be provided immediately after each treatment unit, including between granular activated carbon adsorption units.

f. If any sludges or solids are produced during any stages of treatment, they shall be solidified by mixing with cementitious materials or a comparable process prior to disposal at a licensed solid waste facility. Sludges or solids generated during the treatment process may not be disposed of via land application.

2. 'Alternative treatment technology.' The department may, on a case-by-case basis, approve an alternative treatment technology to any of the treatment, design, and operation requirements under subd. 1., if the applicant can demonstrate that the proposed alternative treatment system will achieve treatment equivalent to or better than a system specified under subd. 1. Requests for approval of alternative requirements shall be made in writing and accompanied by written justification including performance data from pilot installations if requested by the department.

Note: Alternative treatment technologies may include solutions that improve upon the

12/8/21

best available technology, existing alternative systems such as reverse osmosis with treatment of reject water, or modifications to the best available technology such as use of 2 granular activated carbon units with tailored operation and management plans to ensure prevention of breakthrough, or use of non-bituminous granular activated carbon media with an appropriately adjusted minimum empty bed contact time.

3. 'Treatment systems review.' Construction or modification of any treatment system subject to this paragraph requires plan review and approval prior to commencement of construction, in accordance with ch. NR 108 and s. 281.41, Stats.

4. 'PFAS treatment.' Any treatment system subject to this paragraph shall be operated to minimize the level of PFAS substances in effluent, and a person operating a treatment system shall take actions under this subsection to maintain appropriate and effective foam treatment. Actions taken under this subsection shall be documented in writing, and that documentation shall be retained for at least 3 years and made available to the department upon request.

(2) DISPOSAL. Appropriate foam disposal employed by a person shall comply with all of the following requirements:

(a) Unless treated in accordance with sub. (1), PFAS in foam shall be effectively immobilized through solidification by mixing with cementitious materials or a comparable process prior to disposal.

(b) Sludges or solids generated as a result of treatment and solidified in accordance with sub. (1) or foam managed in accordance with sub. (2) (a) in the state shall be disposed of at a licensed solid waste facility.

NR 159.09 Lab analyses and samples for PFAS in foam. (1) Laboratory analyses of any treated foam samples collected shall report results to the testing laboratory's method detection limit. Laboratories shall use procedures suitable for the matrix, potential interferences, and expected level of PFAS in the sample. All chemical and physical analyses for which accreditation is available under ch. NR 149 shall be conducted by a laboratory accredited under ch. NR 149.

12/8/21

(2) Upon request of the department, a person or testing facility subject to this chapter shall provide the department with any foam safety data sheets, sampling, and analyses of the foam stored, tested, treated, disposed of, contained, or used at the facility or treated or disposed of at another facility.

SECTION 2. EFFECTIVE DATE. This rule takes 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 [DATE].

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

BY _____

For Preston D. Cole, Secretary

This page was intentionally left blank.