

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.

Clearinghouse Rule 21-073

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD CREATING RULES

The Wisconsin Natural Resources Board proposes 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 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 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. 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, 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 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.

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. 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 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. 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 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 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.

8. 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 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. This proposed permanent rule reflects the limited version of the emergency rule as suspended by JCRAR.

9. 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. Additional outreach will be conducted during the economic impact public comment period. 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 rule in effect and is generally consistent with common business practices already in place.

10. 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. Additional estimates are under solicitation and evaluation by the department. It is estimated that approximately 150-200 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.

11. 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:

Written comments may be submitted at the public hearings, by regular mail, or email to:

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Comments may be submitted to the department contact person listed above or to DNRAAdministrativeRulesComments@wisconsin.gov until the deadline given in the upcoming notice of public hearing. The notice of public hearing and deadline for submitting comments will be published in the Wisconsin Administrative Register and on the department's website, at <https://dnr.wi.gov/calendar/hearings/>. Comments may also be submitted through the Wisconsin Administrative Rules Website at <https://docs.legis.wisconsin.gov/code/chr/active>.

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 in Wisconsin 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 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.

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.

(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.

(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 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 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.

(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.

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 in Wisconsin. 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.

(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 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 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.' The treatment system shall be operated to minimize the level of PFAS substances in effluent, and a person operating a treatment system shall take actions under this subdivision to maintain appropriate and effective foam treatment. Actions taken under this subdivision 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) Foam treated in accordance with sub. (1) or 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.

(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

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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