This document was prepared by the Legislative Reference Bureau to visualize the effect of the partial suspensions made to EmR2045, an emergency rule of the Department of Natural Resources, by the Joint Committee for Review of Administrative Rules under s. 227.26 (2) (d), Stats., on December 18, 2020. The stricken, red text indicates material that was suspended by the committee. A record of the committee's action is published in the December 21, 2020, edition of the Wisconsin Administrative Register at https://docs.legis.wisconsin.gov/code/register/2020/780A3/register/actions_by_jcrar/actions_taken_by_jcrar_on_december_18_2020/actions_taken_by_jcrar_on_december_18_2020.

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 with intentionally added perfluoroalkyl or polyfluoroalkyl substances (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 with 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 containing 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, and disposes or stores foam ~~or foam contaminated materials~~ from a testing facility or generated as a result of testing foam.

(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. These testing activities are 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 and extinguish 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 operations” 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 they are expected to control or extinguish.

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

~~**(15)** “Foam contaminated materials” means any material that contains PFAS that is generated as a result of foam storage, containment, or treatment, including treatment media, equipment used to clean up firefighting foams, booms, filters, infrastructure, or other debris.~~

(16) “Intentionally added PFAS” means PFAS is a constituent of the foam added during the manufacturing process.

(17) “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).

(18) “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.

(19) “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.

~~**(20)** “PFAS treatment indicator parameter" means a PFAS substance for which a numeric PFAS treatment action level has been established under s. NR 159.08, Table 1, to indicate the performance of the foam treatment system in preventing foam discharges to the environment.~~

(21) “Safety data sheet” means documents that contain safety and safe handling information in respect of the product, including protection information regarding human health and may include information on protection of the environment.

(22) “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.

(23) “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.

(24) “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.

(25) “Treatment” means any method, technique or process, including thermal destruction, that changes the physical, chemical or biological character or composition of a contaminant ~~so as to immobilize, remove, or destroy the 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~~, according to ch. NR 706,~~ 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~~, according to ch. NR 706,~~ of any discharge of foam to the environment resulting from testing purposes.

~~Note: A person responsible under s. 292.11 (3), Stats., for discharges of PFAS to the environment is subject to the applicable requirements in chs. NR 700 to 754, including~~

~~notification requirements in ch. NR 706 and immediate action responsibilities to contain, treat, remove or halt the discharge in accordance with ch. NR 708.~~

(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. Appropriate storage of foam by a person shall include all of the following:

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

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

(3) Containers shall be clearly labeled to indicate the contents of the container and be kept in a manner that allows easy detection of signs of leakage.

(4) Containers for storage and transport shall be fabricated from or lined with materials compatible with foam and designed to prevent evaporation of foam, including containers direct from the manufacturer.

(5) Material for absorbing any discharges of foam shall be maintained onsite.

(6) Any drains in a storage area shall be blocked 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, where 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 ~~and any foam contaminated materials~~. Treatment and disposal in the state of Wisconsin of foam used for testing purposes shall be conducted in a manner that prevents discharge of foam to the environment under all of the following requirements:

(1) TREATMENT. (a) *Incineration or thermal destruction*. Incineration or thermal destruction of foam ~~or foam contaminated materials~~ 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 such emissions 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 these requirements.

(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 or foam contaminated materials 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 yet-to-be-developed treatment 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 indicator parameters, sampling, and recordkeeping.’ If treatment other than that specified under par. (a) is used, the person responsible for treatment of foam shall monitor and sample the treated wastewater for the foam indicator parameters listed in Table 1 or in a modified list of indicator parameters under subd. 6 to ensure effective treatment of foam which includes removal of PFAS. The treatment indicator parameter action levels included in Table 1 or in any modified list are not enforceable effluent limitations under this chapter, but rather are values that shall be used by the person treating foam to gauge appropriate treatment effectiveness, and to trigger actions under subd. 5 that are needed to ensure that a treatment system continues to optimize PFAS removal. Treated wastewater samples shall be collected at least weekly during periods of discharge, although this frequency may be reduced after a year of data collection if the department determines that data indicate that breakthrough of PFAS occurs less frequently than weekly. All analytical sample results for PFAS shall be retained for 3 years and made available to the department upon request. In accordance with subd. 6, the person~~

responsible for the treatment of foam may request a modification to the Table 1 list of PFAS indicator parameters that are required for sampling.

Table 1

PFAS Treatment Indicator Parameters

Indicator Parameter	Action Level (ng/L)
4:2 Fluorotelomer Sulfonic Acid (4:2 FTS)	2.1
6:2 Fluorotelomer Sulfonic Acid (6:2 FTS)	2.4
8:2 Fluorotelomer Sulfonic Acid (8:2 FTS)	2.3
Perfluorobutanoic Acid (PFBA)	960
Perfluorobutanesulfonic Acid (PFBS)	1.8
Perfluoropentanoic Acid (PFPeA)	197
Perfluoropentanesulfonic Acid (PFPeS)	2.4
Perfluorohexanoic Acid (PFHxA)	2.4
Perfluorohexanesulfonic Acid (PFHxS)	1.7
Perfluoroheptanoic Acid (PFHpA)	3.2
Perfluoroheptanesulfonic Acid (PFHpS)	2.0
Perfluorooctanoic Acid (PFOA)	2.1
Perfluorooctanesulfonic Acid (PFOS)	1.3
Perfluorooctanesulfonamide (PFOSA / FOSA)	4.9

Note: The treatment indicator parameters in this table or any modified list under subd. 6 are not enforceable effluent standards or limitations under this chapter. These parameters are based on treatment performance data from similar projects in Wisconsin and are believed to be achievable through optimized operation of the best available treatment technology required under s. NR 159.08 (1) (b). These parameters exclusively apply to implementation of the requirements of this chapter (see s. NR 159.02). These parameters are not water quality standards or effluent standards established under ch. 283, Stats. Any discharge of treated foam to a sanitary sewer will require the approval from the owner of the publicly owned treatment works that will receive the discharge and may be subject to additional limitations and monitoring

~~requirements. 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 additional monitoring requirements and additional limitations for PFAS and other pollutants in the permit pursuant to the requirements of ch. 283, Stats., and regulations promulgated under that chapter. The department has authority to require monitoring for PFAS parameters and other pollutants in Wisconsin Pollutant Discharge Elimination System permits under s. 283.55, Stats.~~

5. 'PFAS treatment ~~indicator parameter responses~~.' 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. ~~If the concentration of PFAS in a wastewater sample exceeds a treatment indicator parameter action level listed in Table 1 or treatment indicator parameter level in a modified list approved under subd. 6, the person responsible for the treatment of foam shall take one or more of the following actions until the indicator parameter action level is achieved again:~~

~~a. Hold the treated water until further sampling, treatment, or both confirms that treatment indicator parameter action levels are attained.~~

~~b. Replace the granular activated carbon media within the lead carbon vessel, move that vessel to the lag position, and move all other vessels forward one position in the series.~~

~~c. Modify the design or operation of the treatment system to prevent discharges of foam with the goal of compliance with the treatment indicator parameters in Table 1 or in a modified list approved under subd. 6.~~

~~6. 'Request to modify sampling requirements. The person responsible for treatment of foam may request modification of the sampling requirements in sub. 4. based on the documented nature and concentration of foam being tested. The request shall include sampling and analysis of the foam that will be discharged and data documenting efficiency of removal by the treatment system. Samples shall be representative of daily operations and performed when the full range of~~

~~PFAS are likely to be present in maximum concentrations or quantities. The department may approve modified sampling requirements if the applicant demonstrates that any indicator parameters listed in Table 1 that will be excluded will not be present in the effluent, and that the proposed alternative or remaining parameters are sufficient to gauge appropriate treatment effectiveness and to trigger actions needed to ensure that the treatment system continues to optimize PFAS removal. The department will notify the person requesting a modification in writing of its decision.~~

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

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

(b) Foam ~~and foam contaminated materials~~ 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, persons or testing facilities 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. STATEMENT OF EMERGENCY. Section 2 (1) of 2019 Wisconsin Act 101 states that the department shall promulgate rules under s. 299.48 (5), Stats., no later than the first day of the

7th month beginning after the effective date of the subsection. Emergency rules promulgated under this subsection remain in effect until 3 years after the effective date, or the date on which permanent rules take effect. Notwithstanding s. 227.24 (1) (a) and (3), Stats., the department is not required to provide evidence that promulgating a rule under this subsection as an emergency rule is necessary for the preservation of public peace, health, safety, or welfare and is not required to provide a finding of emergency for a rule promulgated under this subsection.

SECTION 3. EFFECTIVE DATE. This rule takes effect upon publication in the official state newspaper, as provided in s. 227.24(1)(c), Stats., and shall remain in effect until 3 years after the effective date of 2019 Wisconsin Act 101, s. 2 (1) or the date on which permanent rules take effect, whichever is sooner.

SECTION 4. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on October 28, 2020.