



The State of New Hampshire  
**Department of Environmental Services**

**Robert R. Scott, Commissioner**



**VIA E-MAIL AND US MAIL**

May 10, 2019

Mr. Ken Noyes/Mr. Colin Cardin, Chief Operator  
Winnepesaukee River Basin Program  
P.O.Box 68  
Franklin, NH 03235

E-mail: [kenneth.noyes@des.nh.gov](mailto:kenneth.noyes@des.nh.gov), [colin.cardin@des.nh.gov](mailto:colin.cardin@des.nh.gov)

**Re: Efforts to Respond to Emerging Contaminants such as Per- and Polyfluoroalkyl Substances (PFAS) and Providing Quality Sludge/Biosolids for SQC9706.**

Dear, Mr. Ken Noyes/Mr. Colin Cardin

As you may have seen in the news recently there is concern over Emerging Contaminants such as Per- and Polyfluoroalkyl Substances (PFASs) in groundwater, as well as in sludge/biosolids. As part of this, the New Hampshire Department of Environmental Services (NHDES) Drinking Water and Groundwater Bureau (DWGB) will soon adopt rules authorized by legislation enacted in the 2018 legislative session, to establish maximum contaminant levels (MCLs) for four PFAS compounds:

- perfluorooctanoic acid (PFOA),
- perfluorooctane sulfonic acid (PFOS),
- perfluorononanoic acid (PFNA), and
- perfluorohexane sulfonic acid (PFHxS).

To prepare for the regulation of these compounds, NHDES Residuals Management Section (RMS) has investigated the potential impact of these compounds on the NH biosolids program. This letter is sent to explain what NHDES has discovered during our recent investigations, as well as the actions we are taking to enhance the quality of beneficially-used biosolids in NH. Attached please find an updated SQC with additional terms and conditions requiring testing of your certified sludge/biosolids for PFAS compounds annually, and include a narrative of Pollution Prevention and Pretreatment efforts related to PFAS in the SQC9706 Annual Report. Also attached is a new *Sludge Quality Certification (SQC) Fact Sheet* and a Training Announcement from North East Biosolids and Residuals Association (NEBRA).

In the past two years, NHDES has investigated the presence of PFAS compounds in sludge and biosolids. In our research we have detected the presence of all four of the above-listed PFAS compounds in the majority of sludge samples collected by NHDES. All results were well below NHDES's established direct contact limit of 500 parts per billion (ppb) for PFOS and PFOA, and at or below national average concentrations.

NHDES Drinking Water and Groundwater Bureau (DWGB) has also started testing drinking water wells in the vicinity of fields with the historic use of biosolids in agricultural practices, as well as near sludge/biosolids facilities. These results appear to indicate that PFAS do transfer (leach) from biosolids into the soil then into the groundwater; however, the majority of drinking water samples taken near

such sites, have shown levels below the current NHDES Ambient Groundwater Quality Standard of 70 nanograms per liter (ng/l) for PFOA/PFOS combined or individually. NHDES has also begun discussions with the US Geologic Survey (USGS) on ways to determine safe soil leaching standards and associated biosolid and compost standards that would be protective of groundwater and its continued safe use as drinking water. When a scientifically-based leaching standard is developed, all sludge facility and site permit, and SQC holders will be notified.

NHDES Administrative Sludge Management Rules, Env-Wq 800, contains some of the strictest standards for the land application of sludge/biosolids in the country, which have worked well to protect the human health and environment in NH. NHDES currently requires the monitoring of 168 substances for sludge quality certification, and with this letter, RMS is raising it to 177 substances with the addition of nine additional PFAS compounds.

We appreciate your due diligence in maintaining monitoring frequencies and are requesting that your facility add this required testing to its annual SQC sampling and testing starting in the 2019 calendar year. Sampling for PFAS compounds will require updates to facilities sampling plans and protocols. Please refer to the “Laboratory Testing Guidelines for Per- and Polyfluoroalkyl Substances (PFAS)” (link below) for NHDES sampling protocols, as well as the list of laboratories that provide PFAS analysis for these semi/solids. Additional resources are available from NEBRA to assist members in updating Biosolids Sampling and Analysis Plan (SAP) to include PFAS.

[www4.des.state.nh.us/nh-pfas-investigation/wp-content/uploads/2017/08/pfoa-testing-labs.pdf](http://www4.des.state.nh.us/nh-pfas-investigation/wp-content/uploads/2017/08/pfoa-testing-labs.pdf)

We understand that there are not yet US EPA-approved laboratory analysis methods for sludge; however, NHDES believes the use of the isotope dilution method (a.k.a. Modified 537.1) will allow the NH Sludge Quality Programs to be proactive in monitoring these emerging contaminants. When a US EPA-approved analysis method for sludge is approved, NHDES will require its use.

In addition to sampling for PFAS substances in sludge/biosolids, NHDES strongly recommends the use of pretreatment and pollution prevention techniques by the generating communities that contribute to certified sludge material. This may reduce the PFAS inputs and help provide a higher quality product. The following information is provided:

**Pretreatment:**

Per- and polyfluoroalkyl substances (PFAS), sometimes referred to as PFCs, are a family of man-made compounds that do not naturally occur in the environment. They have a large number of industrial uses and are found in many commercial products because of their properties to resist heat, oil, grease and water. Once released to the environment, PFAS are persistent and do not easily biodegrade or breakdown.

Due to the unique nature of PFAS, NHDES is encouraging all NH wastewater treatment facility (WWTF) owners and SQC holders to look upstream in their wastewater collection systems for commercial businesses, manufacturing companies, and industries that use PFAS, and, if found, require its disuse or pretreatment. These restrictions would stem from NHDES’s concern for the “pass-through” of PFAS from the wastewater generator, and potential impacts it may have on the WWTF’s and SQC holder’s sludge/biosolids management. Plating and plastics manufacturers may be among the main

users of PFAS. Other potential sources may include: metal finishers, paper manufacturers, fabric/leather industries, firefighting foams and car wash/cleaning operations.

Landfill leachate and non-domestic septage may also be of concern by discharging PFAS into the wastewater/sludge stream; however, NHDES is aware of the unique agreements many communities have for both of these. We encourage SQC holders to make informed decisions about refusing these wastes and to remember that RSA 485-A:5-b requires municipalities to provide a disposal solution for their communities. NHDES is currently gathering data on leachate and will begin in July 2019 to gather additional data on septage. At this time, NHDES is not concerned over PFAS in domestic septage and encourage WWTF owners to preapprove, and monitor commercial sources of septage into WWTFs, including schools, hair salons, hospitals, nursing homes and restaurants.

### **Pollution Prevention**

NHDES Pollution Prevention Program (NHPPP) is a free, confidential, non-enforcement, pollution prevention and compliance assistance program available to all NH businesses, institutions, municipalities and agencies. Without the risk of enforcement, the NHPPP can work with commercial as well as manufacturing/industrial facilities to find alternative products that do not contain PFAS in order to eliminate the discharge of these products and to improve sludge/biosolids quality. NHDES encourages Winnepesaukee River Basin Program to share the following contact information to the NHPPP with its users of PFAS in your community: Cynthia L. Nelson, NHDES Pollution Prevention Program, (603) 271-6460, or e-mail: [Cynthia.Nelson@des.nh.gov](mailto:Cynthia.Nelson@des.nh.gov).

### **Technical Assistance**

NHDES is committed to protecting human health and the environment, as well as helping your sludge/biosolids program succeed; however, future regulatory changes are expected relative to these emerging contaminants. The following technical assistance options are available to your facility:

1. **SQC PFAS Training Class** - Please attend the June 26, 2019 (free) NHDES & NEBRA PFAS Sampling training class for NH SQC Holders and their authorized agents. This training will cover recommended PFAS sludge sampling protocols, and provide pretreatment and pollution prevention options. Please fill out and return the enclosed registration form.
2. **Hands On Sampling Training** – In July and August 2019 NHDES is available to perform PFAS Testing at your facility. NHDES will cover the cost of the sample analysis, and at the same time, can provide one-on-one PFAS sampling training for your facility personnel. Please contact Anthony Drouin, RMS's Sludge and Septage Coordinator at (603) 271-2818, or via e-mail at [Anthony.Drouin@des.nh.gov](mailto:Anthony.Drouin@des.nh.gov) to coordinate a sampling date.
3. **NEBRA Membership** – Consider joining NEBRA. They have some excellent members-only resource pages that can further help you in your efforts to deal with these emerging contaminants. NEBRA offers sampling guidance, training sessions, webinars, and a literature review on PFAS and biosolids. They can also keep you updated on the latest information related to PFAS. Please go to [www.nebiosolids.org](http://www.nebiosolids.org) for more details.
4. **Technical Assistance** – NHDES staff are available to assist with any questions relative to PFAS in sludge and your SQC. All SQC holders may contact Anthony Drouin, RMS's Sludge and Septage Coordinator at (603) 271-2818, or via e-mail at [Anthony.Drouin@des.nh.gov](mailto:Anthony.Drouin@des.nh.gov).

Mr. Ken Noyes/Mr. Colin Cardin, Chief Operator  
Winnepesaukee River Basin Program  
SQC – Emerging Contaminants  
May 10, 2019

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Thank you for your due diligence in continuing to provide the highest possible quality sludge/biosolids to NH communities. It is this excellent stewardship by our many permit holders that has allowed NHDES's sludge quality certification program to be as successful as it has been. As you review the information above and attached, please keep in mind that a proactive, forward-thinking approach to sludge/biosolids management is essential in: keeping public confidence high in this program, continuing to maintain the quality of sludge/biosolids, and keeping this recycling program strong. Please contact me at (603) 271- 3571 or via e-mail at [ray.gordon@des.nh.gov](mailto:ray.gordon@des.nh.gov), with any questions or comments regarding this change in policy.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ray Gordon". The signature is stylized with a large "R" and "G".

Ray Gordon  
Administrator Residuals Management Section

**Attachments**

Environmental Fact Sheet – Sludge Quality Certification Program Requirements  
NHDES & NEBRA June 26, 209 Training Announcement  
Revised NH SQC

Cc/Ec: File





# SLUDGE QUALITY CERTIFICATION

as authorized by the NH Department of Environmental Services, Water Division (NHDES)  
pursuant to RSA 485-A and Part Env-Wq 809 of the New Hampshire Sludge Management Rules

## I. GENERATOR IDENTIFICATION:

**Generator Name/Address:** Winnepesaukee River Basin Program Wastewater Treatment Plant  
P.O. Box 68, Franklin, NH 03235-0068  
**Sludge Quality Certification No.:** SQC-9706  
**Facility Location:** 528 River Street, Franklin, NH 03235-0068  
**Facility Operator Name/Title:** Kenneth W. Noyes, Chief Operator  
**Facility Type/Activities:** Publicly Owned Treatment Works

## II. FILE REFERENCE/RECORD OF APPLICATION:

**Original Certificate Issued:** June 14, 2000  
**Date(s) Application Received:** Received application on November 06, 2015  
Received additional information on January 26 & 29, 2016

## III. TERMS AND CONDITIONS:

1. All requirements of Env-Wq 800, NH Sludge Management Administrative Rules (Rules) as well as the Federal regulations as specified in 40 CFR 503 must be met, including, but not limited to:
  4. Sludge Quality Certification Requirements in Part Env-809, as applicable.
  5. Land Application and Management Restrictions in Part Env-810 and Part Env-806, as applicable.
  6. RSA 483, the Rivers Management Protection Program, as applicable.

## IV. SPECIAL CONDITIONS:

1. The generator shall analyze its sludge once per 90 days according to the requirements of Env-Wq 809.07(a) and annually according to the requirements of Env-Wq 809.07(c) (d). If the result of any required analysis exceeds the standards in Env-Wq 809.03(c), the generator shall notify DES immediately and implement the requirements of Env-Wq 809.08(b) and Env-Wq 809.08(c). If the results of any required analysis exceed the contaminant concentrations as described in Env-Wq 809.06(e), the generator shall immediately notify DES to discuss additional testing and management requirements pursuant to continued recycling of generator's sludge.
2. If DES chemical standards or guidelines are updated, the generator's sludge will be subject to the most recent standards or policy guidelines.
3. The conditions of this SQC shall apply to any contractor or facility that accepts or treats the generator's sludge.
4. Before recycling the sludge into biosolids, the generator's sludge shall be treated to reduce pathogens and vector attraction according to the methods cited in CRF 40 part 503 subpart D to be approved by NHDES. If

the generator proposes to change its methods of pathogen reduction and vector attraction reduction, the generator shall receive written approval from NHDES prior to continuing a program of land application.

5. In addition to the annual monitoring required by Env-Wq 809.06, the generator shall analyze its sludge once annually for the following Per- and Polyfluoroalkyl Substances (PFAS):

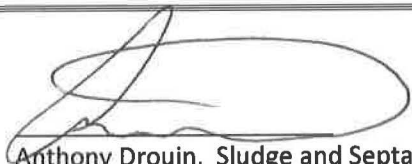
<u>Compound</u>		<u>CAS #</u>
Perfluorobutanoic Acid	PFBA	375-22-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluorooctanesulfonic Acid	PFOS	1763-23-1

The laboratory analysis method required will be isotope dilution method (a.k.a. method 537.1 -modified) or by another approved EPA test method for sludge. Additional PFAS may be added to the testing protocol, or the laboratory method may be revised, as required, upon determination by the NHDES.

6. The SQC holder shall submit with the annual report required in Env-Wq 809.09 (b) a narrative of the pollution prevention and pretreatment efforts undertaken to reduce or eliminate perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS) from the sludge. The written narrative will be broken down by all generators of sludge that are covered by this SQC.
- V. **EFFECTIVE/EXPIRATION DATE:** Effective from the date of signature, below. This renewed certification will expire 5 years from the day after the expiration date of the previous certificate term, i.e. **February 29, 2019**.
- VI. **AUTHORIZATION:** Pursuant to RSA 485-A and Env-Wq 809 of the Rules, this Sludge Quality Certification (certification) is hereby issued to the generator as identified in Section I to beneficially reuse the sludge generated by the subject facility in accordance with state and federal statutes, the Rules, and the Terms and Conditions set forth in Sections III and IV.

**BY EXERCISING ANY RIGHTS UNDER THIS CERTIFICATION, THE GENERATOR HAS AGREED TO ALL TERMS AND CONDITIONS OF THE CERTIFICATION.** No liability is incurred by the State of New Hampshire by reason of any certification of the sludge produced by the generator for beneficial use. Approval by the Department is based on representations made by the generator that this sludge complies with all requirements of the Rules as they apply to the land application or disposal of sludge. Representations made within the application have not necessarily been reviewed by the Department to confirm compliance. Instead, issuance of this certification places full reliance on the generator's representations that the application meets the requirements of the Rules. Failure of the sludge to actually meet the quality standards in Env-Wq 809 or failure of the generator to otherwise comply with the terms and conditions of this certification may result in civil or criminal penalties, suspension or revocation of this certification. No warranty/guarantee is intended or implied by reason of any advice given by the Department or its staff.

This certification shall not eliminate the need to obtain all requisite federal, state or local permits, licenses or approvals, or to comply with all other applicable federal, state, district and local permits, ordinances, laws, approvals or conditions for use or disposal of this sludge.



Anthony Drouin, Sludge and Septage Coordinator  
Residuals Management Section  
Wastewater Engineering Bureau

May 10, 2019

Date

Contact the NHDES Water Division, Residuals Management Section at (603) 271-2818, if there are questions.





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### **NH Department of Environmental Services**

### **PFAS Sampling & Analysis**

**June 26, 2019**

**DES Franklin Training Center**

**Training Contact Hours and CEU's awarded: 3.5 hours training time**

**Free for NH Sludge Quality Certification (SQC) holders.**

**Per person for others: \$45 NEBRA members, \$60 non-NEBRA members**

**All attendees must register.**

### **Training Purpose & Objectives**

PFAS are found in biosolids, residuals, soils, wastewater, septage, and related media. They are chemicals that have been in common use in many products since the 1950s. Because they are ubiquitous in our modern living environments and have been found in many places in the environment, and because they are being regulated in waters in the parts per trillion (ppt) and in soils and solids in the parts per billion (ppb), sampling and analyzing PFAS is particularly challenging. Very strict sampling plans and protocols are required to reduce the risk of contaminating samples, and analytical methods and protocols must be understood by clients of commercial laboratories to ensure useful test results. This class will provide participants background information on PFAS and their presence in various media, sampling plans and protocols, lab analysis, and what to watch out for.

### **Agenda**

**8:30 Registration & check-in, donuts & coffee**

**9:00 What are PFAS and why are they a concern? – Ned Beecher, NEBRA**

**9:30 What NH DES has been doing about PFAS related to wastewater & biosolids/residuals - Ray Gordon, NHDES**

**10:00 Break**

**10:15 Overview of sampling PFAS in various media - Mike Rainey, NEBRA & formerly NHDES (retired)**

**10:30 Developing a Sampling Plan: purpose, data quality objectives, sampling points, etc. - Mike Rainey**



10:50 PFAS Sampling do's & don'ts / things to watch for in the field

11:10 Interim Best Practices – pretreatment, source reduction, plan & budget for testing going forward – Ned Beecher

11:30 Lunch (provided on site)

12:15 PFAS Sampling SOPs for various media, including equipment lists - Mike Rainey

1:00 PFAS & the NH SQC Program – Present & Future – Anthony Drouin, NHDES

1:30 Adjourn

**Handouts (printed and/or online links provided)**

- PFAS Sampling & Analysis Guidance
- Table of current regulatory and screening values in various jurisdictions compared with representative existing data
- Be a Savvy Lab Consumer
- Interim Best Management Practices (With PFAS in Biosolids)

**Registration will be managed by NEBRA –**

# Please register online here:

<https://www.nebiosolids.org/pfas-sampling-analysis-training-june-2019>

**DIRECTIONS TO THE DES FRANKLIN TRAINING CENTER**

**I-93 Northbound:** Take Exit 19 and proceed northerly (left) along Rte. 132 to Rte. 3 in Tilton. Go west (left) on Rte. 3 for approximately 3 miles through the center of Franklin. Take a left onto River Street (at Cumberland Farms Store). Continue straight along River Street Extension (past the pump station on the right) to the end of the street. The Training Center building is at the end of the street to the left of the Franklin Wastewater Facility building.

**I-93 Southbound:** Take Exit 22 onto Rte. 127 South through Sanbornton all the way into West Franklin. At Stop sign, take a left onto Rte. 3, cross the bridge (over the Winnepesaukee River), then take the first right turn onto River Street (Cumberland Farms Store at corner). Continue straight along River Street Extension (past the pump station on the right) to the end of the street. The Training Center building is at the end of the street to the left of the Franklin Wastewater Facility building.

**The North East Biosolids and Residuals Association (NEBRA)** is a 501(c)(3) non-profit professional association advancing the environmentally sound and publicly supported recycling of biosolids and other organic residuals in New England, New York, and eastern Canada. NEBRA membership includes the environmental professionals and organizations that produce, treat, test, consult on, and manage most of the region's biosolids and other large volume recyclable organic residuals. NEBRA is funded by membership fees, donations, and project grants. Its Board of Directors are from MA, ME, NH, VT, and Nova Scotia. NEBRA's financial statements and other information are open for public inspection during normal business hours. For more information: <http://www.nebiosolids.org>.