



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING



LIESL EICHLER CLARK  
DIRECTOR

April 5, 2021

Dear Permittee:

**SUBJECT: Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) and the Land Application of Biosolids – Notice of Modification of Approved Residuals Management Program to National Pollutant Discharge Elimination System Permittees**

This letter is being sent concerning authorization to land-apply bulk biosolids or prepare bulk biosolids for land application under your approved Residuals Management Program (RMP). This letter provides notification that the Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), is hereby imposing additional requirements and/or limitations and effectively modifying the approved RMP. Specifically, facilities that plan to land-apply biosolids on or after July 1, 2021, shall analyze the biosolids for PFAS prior to application. Additional requirements concerning submittal and evaluation of results, potential limitations on land application, and communication of the results to landowners/farmers are also provided herein.

The implementation of these measures is part of a strategy to mitigate risk to public health and the environment from potential adverse effects of an emerging pollutant, PFAS. These additional requirements are considered a modification to the approved RMP and are made in accordance with provisions outlined within Michigan's Part 24 Administrative Rules, Land Application of Biosolids, promulgated pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), specifically Rule 2404(1), and language contained within existing discharge permits.

This modification to your approved RMP is being implemented as part of an interim strategy to evaluate and reduce PFAS in biosolids that are land-applied in Michigan. The *Interim Strategy for Land Application of Biosolids Containing PFAS, Water Resources Guidance (Interim Strategy)* is part of a larger effort that the WRD has undertaken to increase our knowledge and understanding of PFAS in wastewater and resulting residuals, including biosolids. The *Interim Strategy* is available at [Michigan.gov/Biosolids](https://Michigan.gov/Biosolids); select "Michigan Biosolids PFAS-related information and links" under the *Information* section, and then select "Interim Strategy – Land Application of Biosolids Containing PFAS (2021)" under the heading *Interim Strategy – Land Application of Biosolids Containing PFAS (2021)*. Since 2018, the following large initiatives and studies have been implemented:

- The Industrial Pretreatment Program (IPP) PFAS Initiative at 97 wastewater treatment plants (WWTP), which required IPPs to identify and reduce/control significant sources of PFAS to the WWTP.
- A study of 42 WWTPs in Michigan to evaluate the presence of PFAS in wastewater and associated sludge/biosolids, which is available at [Michigan.gov/PFASResponse](https://Michigan.gov/PFASResponse); click on the “Testing” drop-down menu, select “Wastewater Treatment Plants/Industrial Pretreatment Program,” and then select “Initiatives to Evaluate the Presence of PFAS in Municipal Wastewater and Associated Residuals (Sludge/Biosolids) in Michigan.”
- Required sampling of biosolids at WWTPs with highly elevated concentrations of Perfluorooctanesulfonic acid (PFOS) in their effluent (PFOS >50 parts per trillion).
- A suspension of land application programs where biosolids were determined to be industrially impacted (PFOS >150 parts per billion [ppb]).

Background information about PFAS, as well as information about Michigan’s efforts regarding this issue, may be found in the *Interim Strategy* and at [Michigan.gov/PFASLandApplication](https://Michigan.gov/PFASLandApplication).

## Required Actions

As detailed in the *Interim Strategy*, the WRD is requiring WWTPs to implement the following actions for land applications occurring on or after July 1, 2021:

- **PFAS Biosolids Sampling** – A representative sample of biosolids must be collected and analyzed for PFAS prior to land application. Required sampling frequency is determined by the size of the WWTP and whether an IPP is required as described below.
- **PFAS Source Identification and Reduction** – Source identification and reduction efforts may be required based on PFAS analytical results of biosolids and/or WWTP effluent.
- **Landowners and Farmers Communication** – WWTPs shall provide PFAS analytical results and additional information specific to PFAS and biosolids in Michigan prior to land application of biosolids.

These general requirements are described in more detail below.

## **Biosolids Sampling, Analysis, Frequency, Notification, and Evaluation Requirements**

**Sampling:** Preapplication sampling of biosolids by WWTPs is key to evaluating land application issues related to PFAS. Importantly, it will help assure industrially impacted biosolids are not land-applied. One representative biosolids sample shall be collected prior to land application. Biosolids and sludge PFAS sampling guidance is available at

Michigan.gov/PFASResponse; click on the “Testing” drop-down menu, select “PFAS Sampling Guidance,” and scroll down to select “Biosolids and Sludge Nov 2019.”

**Analysis:** Currently, there are no U.S. Environmental Protection Agency (U.S. EPA)-approved methods for PFAS analysis of sludge and biosolids. The WRD recommends that WWTPs use an isotope dilution method for PFAS analysis of biosolids. PFAS results shall include all analytes (currently 28) on the MPART PFAS Minimum Laboratory Analyte List, which may be found at Michigan.gov/PFASResponse; click on the “Testing” drop-down menu, and then select “PFAS Minimum Laboratory Analyte List.” Be sure to choose a laboratory experienced in PFAS biosolids analysis that has a usual reporting level of 2 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) for PFAS. Also note that PFAS analyses typically have a long turnaround time, up to four weeks, depending on the laboratory chosen.

All biosolids and sludge samples, including those with low solids content, should be analyzed as solids and reported on a dry weight basis. This dry weight basis reporting requirement should be specified on the chain-of-custody sent to the laboratory. During laboratory analysis, biosolids and sludge samples with a high aqueous content should be centrifuged and only the solids portion of the sample analyzed. If density differences preclude centrifugation to separate representative solids, a representative well-mixed subsample may be mixed with a drying agent and treated like a soil by the laboratory.

#### **Sampling Frequency and Notification:**

- **All U.S. EPA majors and all WWTPs with required IPPs** that intend to land-apply biosolids in Michigan shall, prior to land application, collect and analyze a minimum of one representative biosolids sample for PFAS in each year they intend to land-apply. All results of PFAS biosolids analysis and associated laboratory reports shall be submitted a minimum of two weeks prior to initial land application each year via the MiWaters schedule, *Biosolids PFAS Monitoring Report*, or as otherwise required by WRD staff.
- **All other WWTPs** that intend to land-apply biosolids in Michigan shall collect a minimum of one representative biosolids sample analyzed for PFAS prior to their initial land application. Thereafter, upon permit reissuance, WWTPs shall collect one representative biosolids sample analyzed for PFAS prior to the initial land application that occurs within the permit cycle (for a minimum of one sample every five years if land application occurs). One-time RMP approvals, such as land application of biosolids removed from wastewater stabilization lagoons, shall include a minimum of one representative sample for PFAS analysis. All results of PFAS biosolids analysis and associated laboratory reports shall be submitted a minimum of two weeks prior to initial land application following permit reissuance via the MiWaters schedule, *Biosolids PFAS Monitoring Report*, or as otherwise required by WRD staff.

**Evaluation of Results:** PFAS results will be evaluated consistent with the *Interim Strategy*. Please evaluate the results of your residuals and provide notification to the WRD and other parties as described below.

- **WWTPs with PFOS at or above 150 µg/kg (ppb) in their residuals** cannot land-apply and are required to do all of the following:
  - Immediately notify WRD's Biosolids Program staff of PFOS results via a telephone call and submittal via MiWaters.
  - Sample the WWTP effluent.
  - Investigate potential sources to develop a source reduction program if they have not already done so under the IPP PFAS Initiative.
  - Arrange for alternative treatment and/or disposal of solids.
  
- **WWTPs with PFOS at or above 50 µg/kg but below 150 µg/kg in their residuals** require a risk mitigation strategy prior to land application and are required to do all of the following:
  - Immediately notify WRD's Biosolids Program staff of PFOS results via a telephone call and submittal via MiWaters.
  - Sample the WWTP effluent.
  - Investigate potential sources to develop a source reduction program if they have not already done so under the IPP PFAS Initiative.
  - Reduce land application rates to no more than 1.5 dry tons per acre or submit an alternative risk mitigation strategy for approval by WRD staff to reduce overall loading to the application site(s). Alternative risk mitigation strategies must be submitted to WRD's Biosolids Program staff to provide adequate time to process (minimum of 14 days but preferably 30 days) prior to planned land application date via the MiWaters schedule, *Biosolids PFAS Monitoring Report*.
  
- **WWTPs with PFOS below 50 µg/kg in their residuals** may land-apply after submittal of results via MiWaters and are required to do all of the following:
  - Submit results via MiWaters.
  - If results are over 20 µg/kg PFOS, consider investigating sources and sampling the WWTP effluent for PFAS.

Additional requirements, including other PFAS analytes, sampling frequency, limits, and notification requirements, may be amended as new information becomes available. In order to prepare for full implementation, the WRD recommends that these same protocols be implemented prior to that time, but they are not required.

### **Communication to Landowners/Farmers**

Prior to land application at a site, provide the PFOS analytical results to the landowner and farmer (if different) along with WRD contact information and additional information sources related to PFAS, such as Landowners/Farmers PFAS Resources available at

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Michigan.gov/Biosolids; select “Landowner/Farmer Notification Template Letter” under the heading *Interim Strategy – Land Application of Biosolids Containing PFAS (March 2021)*.

### **More Information**

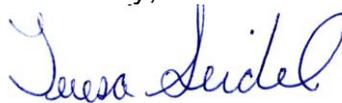
If you have questions about biosolids sampling procedures for PFAS or this effort, please contact your district Biosolids Program staff. Contact information can be found at Michigan.gov/Biosolids; select “Biosolids Program Staff Map” under the *Information* section.

If you have questions about PFAS and WWTPs, please contact your regional IPP PFAS specialist. Contact information can be found at Michigan.gov/IPP; under *PFAS*, select “IPP PFAS Initiative,” and then select “IPP PFAS Staff Map” under *Strategy and Implementation*.

Please be aware that compliance with the requirements outlined in this letter does not constitute a release or waiver of liability for compliance with your National Pollutant Discharge Elimination System Permit, Permit Application, or Part 31 of the NREPA.

Thank you for your cooperation in this matter and for doing your part to protect Michigan’s public health and environment from these emerging pollutants.

Sincerely,



Teresa Seidel, Director  
Water Resources Division

cc: Biosolids Contact  
Mr. Jon Russell, EGLE  
Ms. Stephanie Kammer, EGLE  
Mr. Michael Person, EGLE  
Biosolids Program Staff, EGLE