



GRETCHEN WHITMER
GOVERNOR

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



LIESL EICHLER CLARK
DIRECTOR

December 3, 2019

IPP Contact Name
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Dear IPP Representative:

SUBJECT: IPP PFAS Initiative Status and Continued Efforts

This letter is written to provide participants in the Industrial Pretreatment Program (IPP) Per- and Polyfluoroalkyl Substances (PFAS) Initiative with information about what we have learned so far and how the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division (WRD), plans to address PFAS on an ongoing basis.

IPP PFAS Initiative Status

A little over a year after implementation, participants such as your municipality/authority have made significant progress identifying sources of PFAS, specifically perfluorooctane sulfonate (PFOS), to their collection systems and reducing concentrations and/or loadings passed through treatment to Michigan's lakes and streams. Below are some key observations the WRD has made as of October 15, 2019:

- Sixty-eight (68) of 95 Wastewater Treatment Plants (WWTPs) with IPPs (or 72 percent) either have no sources or have sources but the WWTP effluent is at or less than the PFOS Water Quality Standards (WQS).
- Ninety-three (93) out of 95 participating WWTPs were able to complete the initial screening of their industrial users within one year of starting the initiative. Most completed their screening within six months.
- Low levels of PFOS (approximately 3 ppt – 7 ppt) were detected in sanitary sewage even when no significant industrial sources were present. This suggests that anthropogenic “background” levels of PFAS may be found in most communities, but appear to be less than the WQS.
- Significant sources of PFOS discharging to WWTPs and causing or contributing to pass-through of PFOS include chromium platers, contaminated sites, and landfills.
- Source reduction efforts have resulted in substantial drops in PFOS concentrations being discharged by WWTPs (see Table 1). Granular-activated carbon, or GAC, occasionally augmented by ion-exchange resin, has been the primary pretreatment for PFOS implemented at industrial users.
- No WWTPs were found to be passing through PFOA at concentrations exceeding WQS.

Table 1. Substantial PFOS Reduction at WWTPs with Exceedances

Municipal WWTP	PFOS, Effluent (ppt, most recent**)	PFOS Reduction in Effluent (highest to most recent)	Actions Taken to Reduce PFOS
Ionia	<5.53	99%	Treatment (GAC) at source (1)
Lapeer*	15	99%	Treatment (GAC) at source (1)
Wixom*	33	99%	Treatment (GAC) at source (1)
Howell	5.5	95%	Treatment (GAC/resin) at source (1)
Bronson*	18	95%	Treatment (GAC) at source (1)
Kalamazoo	3.1	92%	Treatment (GAC) at sources (2), change water supply
K.I. Sawyer*	12	95%	Eliminated leak PFOS-containing fire-fighting foam
Belding	7.2	49%	Restricted landfill leachate quantity accepted

**as of November 20, 2019

*Effluent exceeds WQS of 12 ng/L or ppt

The above information is available from the newly-revised Michigan PFAS Action Response Team (MPART) Web page at the “Testing” tab under “Wastewater Treatment Plants/Industrial Pretreatment Program,” or via the following link:
<https://www.michigan.gov/pfasresponse/investigations/wastewater>.

Site visitors may scroll down to see updated information on the initiative and click on the interactive map to see information about participating WWTPs, including PFOS results, bin category, and status. As you may know, WWTPs are categorized into bins based on PFAS sources and effluent quality: Bin 1 for no sources found, Bin 2 for sources found but WWTP effluent at or below WQS, and Bin 3 for WWTPs with effluent greater than WQS. Bin 3a includes WWTPs with effluent less than 50 ng/l and Bin 3b includes WWTPs that have had one or more effluent sample results equal to or greater than 50 ng/l PFOS. EGLE, WRD, plans to update this online data each month.

MPART Biosolids Workgroup Efforts

The WRD is also working to better understand the impacts of PFAS on biosolids management. The MPART Biosolids Workgroup was formed to address these issues and efforts so far include the following:

- Conducted a review of the available research to better understand the prevalence of PFAS in biosolids.
- Formed a biosolids stakeholders’ group to review past and ongoing biosolids efforts.
- Conducted a Statewide WWTP Biosolids Study of 41 municipally-owned WWTPs that were distributed across a range of treatment levels.

- Developed a biosolids land application site monitoring program to better understand the fate and transport of PFAS from biosolids in associated soils, groundwater, and surface waters. Elements of the site monitoring program include:
 - Selected eight WWTPs from those included in the Statewide Biosolids Study to evaluate historic biosolids land application sites. Sites believed to have either received industrially-impacted or non-industrially-impacted biosolids were selected for the study.
 - Developed a Site Selection Criteria to formalize the process of researching and prioritizing sites for investigation.
 - Developed a soil sampling methodology approach for collecting soil samples at land application sites.
 - Conducted soils, surface water, and groundwater site investigations of selected land application sites.
- To better understand PFAS uptake in plants in fields where industrially-impacted biosolids were applied, EGLE’s contractor, AECOM, under the direction of the Michigan Department of Agriculture and Rural Development (MDARD), collected plant samples for analysis.
- Finalized the Biosolids and Sludge PFAS Sampling Guidance document, which is available on the MPART Web site under the “Testing” tab, “PFAS Sampling Guidance,” or at the following link: <https://www.michigan.gov/pfasresponse/-/media/Project/Websites/PFAS-Response/Sampling-Guidance/Biosolids.pdf>.
- Evaluated various fate and transport modeling methodologies to be used in the development of land application guidance as described below.

Ongoing PFAS Management

As work on these emerging pollutants progresses, EGLE’s approach is evolving and we wanted to update you on developments that affect IPP PFAS Initiative participants.

- **National Pollutant Discharge Elimination System (NPDES) PFAS Permitting Strategy.** EGLE, WRD, published its NPDES permitting strategy for PFAS, which is summarized below in Table 2. This permitting strategy is based on the IPP PFAS Initiative and deals with municipal WWTPs. Industrial WWTPs and stormwater will primarily be addressed through Administrative Consent Orders (ACOs). Please note that NPDES Permits issued after October 1, 2021, may contain limits for PFOS and/or PFOA if a WWTP’s calculated potential effluent quality exceeds WQS.

Table 2: NPDES PFAS Permitting Strategy

PFOS/PFOA monitoring	
Bin 1	4 times/5 years (w/additional monitoring requirements)
Bin 2	2 times/year (semiannually)

PFOS/PFOA monitoring	
Bin 3a	4 times/year (quarterly)
Bin 3b	12 times/year (monthly)
Pollutant Minimization Programs for PFOS/PFOA	
Bin 3	All
Bin 2	Upon written request from the WRD

The complete NPDES PFAS Permitting Strategy for WWTPs may be found on the MPART Web page through the “Testing and Treatment” tab under “Wastewater Treatment Plants/Industrial Pretreatment Program,” or at the following link:
https://www.michigan.gov/documents/pfasresponse/Municipal_NPDES_Permitting_Strategy_for_PFOS_and_PFOA_WRD_092019_668823_7.pdf

- **Biosolids Management Guidance.** The WRD intends to establish biosolids concentration levels that can be land applied, based on modeling and data collected in the Statewide WWTP Biosolids Study. These levels can be adjusted periodically as new evaluations are completed. It is our expectation that the first concentration level will be established in 2020.
- **Environmental Protection Agency (EPA), Office of Research and Development (ORD), Study.** The EPA, ORD, Fume Suppressant Study results are being finalized and are expected to be released in early 2020. EGLE, WRD, will inform IPP PFAS Initiative participants and the metal finishing industry of results at that time. The EPA, ORD, is analyzing chemical fume suppressants and associated process wastewater from 11 platers in Michigan to explore whether PFOS or its precursors are present in current fume suppressant products.
- **PFAS Minimum Laboratory Analytes List.** The PFAS Minimum Laboratory Analytes List has been revised to include four additional analytes with the acronyms HFPO-DA, 11CI-PF3OUdS, 9CI-PF3ONS, and ADONA. Complete analyte names and related information may be found at the following link.
<https://www.michigan.gov/pfasresponse/-/media/Project/Websites/PFAS-Response/Sampling-Guidance/Minimum-Laboratory-Analyte-List.pdf>
- **Special Discharge Monitoring Report (DMR) PFAS Coding.** Since laboratory results for PFAS are typically received at least four weeks after samples are collected, a special non-numeric code was created specifically for PFAS results in DMRs. Please use the “*PFAS” non-numeric code in your DMR if your PFAS laboratory results have not been received by the DMR due date and then revise the DMR once you receive the laboratory report. Use of this code will prevent generation of late reporting violations in MiWaters.

Thank you for your continued work to reduce and eliminate PFOS in Michigan's surface waters. If you have questions or comments about this effort, please contact your Regional IPP PFAS Specialist.

Sincerely,

A handwritten signature in black ink, appearing to read "Teresa Seidel". The signature is written in a cursive style with a large initial "T".

Teresa Seidel, Director
Water Resources Division

cc: City Clerk