

----- Permit Guidance 14	Sufficiently Sensitive Data for Applications and eDMR Reporting	
	Rule reference: OAC 3745-33-03, 40 CFR 122.21(e)(3) and 40 CFR 122.44(i)(1)(iv)	Revision 0 12/06/2017

Introduction -

The Division of Surface Water (Division) maintains internal guidance documents to provide standard operating guidelines for use by staff as they carry out job duties related to water quality and permitting. This guidance document provides background and instructions relative to the analytical sensitivity needed for physical/chemical data collected for NPDES applications and NPDES permit self-reporting and does not affect the requirements found in the referenced statutes and rules.

Whenever possible, data collected for NPDES applications, NPDES Discharge Monitoring Reports (DMRs) and compliance inspections must be sufficiently sensitive to detect and quantify data at all limits that might be applicable to the discharge. For example, if a discharger’s selenium limit is 5 ug/l, data collected with a quantification level (QL) of 10 ug/l cannot give an accurate measure of compliance. If test methods exist that provide a QL of 5 ug/l or less, these must be used to determine if the discharge meets the limit.

Legal and Regulatory Background -

The Director’s authority to require sufficiently sensitive methods derives from state law and federal regulation:

ORC 6111.03(J)(1) – “Any [NPDES] permit terms and conditions set by the director shall be designed to achieve and maintain full compliance with the national effluent limitations, national standards of performance for new sources, and national toxic and pretreatment effluent standards set under that act, and any other mandatory requirements of that act that are imposed by regulation of the administrator of the United States environmental protection agency....” [Emphasis added]

ORC 6111.03(J)(3) – “To achieve and maintain applicable standards of quality for the waters of the state adopted pursuant to section [6111.041](#) of the Revised Code, the director shall impose, where necessary and appropriate, as conditions of each permit, water quality related effluent limitations in accordance with sections 301, 302, 306, 307, and 405 of the Federal Water Pollution Control Act and, to the extent consistent with that act, shall give consideration to, and base the determination on, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter.”

These two paragraphs provide the Ohio EPA Director with the authority to issue NPDES permits that maintain full compliance with water quality based effluent limitations. To maintain full compliance, analytical methods must be able to quantify pollutant levels at the permit limits. These analytical methods must be sufficiently sensitive.

The requirements for test methods to be sufficiently sensitive are spelled out in federal and state rules. Application testing must be sufficiently sensitive [40 CFR 122.21(e)(3) and OAC 3745-33-03]. Another federal rule, 40 CFR 122.44(i)(1)(iv), applies sufficiently sensitive methods requirements to eDMR reporting. The new provisions of OAC 3745-33-03 explicitly state these requirements in Ohio rule.

Test Methods in NPDES Permits

Test methods used in NPDES applications and permits are generally U.S. EPA-approved methods promulgated in 40 CFR Part 136. A few test methods are industry-specific, and are listed in federal effluent guidelines or federal sludge regulations. Often there are several methods approved for a given parameter, with different QLs. When no methods are listed in these federal rules, Ohio EPA must list the test method in the permit.

What is Sufficiently Sensitive?

In general, testing must be sufficiently sensitive to quantify pollutant concentrations at the water quality standard (WQS) or wasteload allocation (WLA) for the pollutant in the discharge [see OAC 3745-33-03 and 40 CFR 122.21(e)(3)] A method is "sufficiently sensitive" when any of the following conditions are met:

1. If the method quantifies data at levels below all water quality criteria for a pollutant, then it is sufficiently sensitive;
2. When a method is not sensitive enough to detect a pollutant at the water quality criterion, but is sufficiently sensitive to quantify the pollutant concentrations present in the effluent; or
3. The method has the lowest QL of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter I, subchapter N or O for the measured pollutant or pollutant parameter. This covers the situation where no USEPA-approved method sufficiently sensitive to quantify data at either the water quality criterion or WLA. In this situation, the rules and guidance related to limits below quantification would apply [See OAC 3745-33-07(C)]. Permit Guidance #9 – Limits Below Quantification Levels also provides useful information, and identifies the most sensitive methods for a number of pollutants.

<http://epa.ohio.gov/dsw/guidance/guidance.aspx#115485539-permit-guidance>

The rules on sufficiently sensitive data also have provisions for situations in application testing when there is no USEPA-approved test method for a pollutant:

When there is no analytical method that has been approved under 40 C.F.R. Part 136, required under 40 C.F.R. chapter I, subchapter N or O, and a specific analytical method is not otherwise required by the director, the applicant may use any suitable method but shall provide a description of the method. When selecting a suitable method, other factors such as a method's precision, accuracy or resolution may be considered when assessing the performance of the method. [OAC 3745-33-03(D)(1) and 40 CFR 122.21(e)(3)(ii)].

Resources -

Listed below are resources to determine the level of sensitivity needed for a given pollutant:

- Ohio Water Quality Standards
- Ohio Water Quality criteria tables
- Permit specific documents – WLAs and fact sheets or rationale sheets
- Ohio EPA stream data
- Ohio EPA district Permits and Water Quality staff

Many water quality criteria are established through the Ohio Water Quality Standards [OAC 3745-1-31-37]. These criteria can be found on the web at:

http://epa.ohio.gov/dsw/rules/3745_1.aspx

Other water quality criteria are not promulgated in rule. The WQS allow Ohio EPA to calculate criteria to protect human health and aquatic life using available data [OAC 3745-1-40 and -42]. These criteria are based on available scientific studies, and can be changed with additional data without going through rule-making:

<http://epa.ohio.gov/dsw/wqs/index.aspx#123033405-water-quality-criteria--values>

Several of the criteria (both in the rules and the criteria tables) are based on instream chemical levels (hardness, pH, temperature and/or dissolved organic carbon). Values for these parameters can often be found in wasteload allocations for the permittee, or in fact sheets or rationale sheets for the last permit renewal. If these documents are not available, this type of data is also available in Ohio's Biological and Water Quality Reports, mostly in the appendices. These reports and data are also on the Ohio EPA web site: http://epa.ohio.gov/dsw/document_index/psdindx.aspx.

District office contacts can help with identifying sensitive methods. Ohio EPA Surface Water staff are listed by district on the Agency web site: <http://epa.ohio.gov/districts.aspx#162779416-surface-water>.