

Pretreatment Guidance 1 Final	The Use of Best Management Practices (BMPs) as Industrial Local Pretreatment Limits	
	Statutory reference: ORC 6111.03 Rule references: OAC 3745-3-05 OAC 3745-33-07 40 CFR 122	Ohio EPA, Division of Surface Water Revision 0, June 21, 2000
This internal guidance does not affect the requirements found in the referenced rules or statute.		

PURPOSE

Industrial local pretreatment limits may be expressed as numerical values, narrative statements or Best Management Practices (BMPs). The purpose of this guidance is to outline the approach used to establish BMPs as industrial local pretreatment limits. This guidance is applicable to both targeted and non-targeted publicly owned treatment works (POTWs). Targeted POTWs are POTWs with Ohio EPA approved pretreatment programs and are responsible for issuing indirect discharge permits to industrial users. Non-targeted POTWs are POTWs that do not have Ohio EPA approved pretreatment programs; therefore, Ohio EPA is responsible for issuing the indirect discharge permits to the industrial users.

BACKGROUND

Historically, BMPs only applied to groups of low flow dischargers that had similar processes and discharged similar types of wastewater (e.g., photo processors and dentist offices). However, with the recent lowering of indirect discharge limitations and improved analytical methods, control authorities have begun using BMPs in cases where it is not practical or economically feasible for an industrial user to attain numerical pretreatment limitations.

Lower discharge limitations have recently resulted from the adoption of new federal and state regulations. On March 23, 1995, USEPA promulgated their final Water Quality Guidance for the Great Lakes System including new water quality criteria for mercury. In October 1997, the new mercury water quality criterion for the protection of wildlife was adopted in Ohio Administrative Code (OAC) Chapter 3745-1. NPDES permit limits resulting from the new wildlife water quality criterion for mercury (1.3 ng/l) are much more stringent than permit limits based on the previous nationally recommended criterion (12 ng/l).

During the evaluation of social and economic impacts associated with implementing the wildlife water quality criterion for mercury, the Director of Ohio EPA determined that the average cost to reduce mercury below 12 ng/l from a wastestream through end-of-pipe treatment was greater than ten million dollars per pound of mercury removed. The Director determined that requiring removal of mercury below 12 ng/l by constructing end-of-pipe controls would result in substantial and widespread social and economic impacts¹.

¹ OAC 3745-33-07(D)(10)

On June 22, 1999, USEPA promulgated a new analytical method (EPA method 1631) for measuring very low levels of mercury in wastewater. The new method allows regulatory agencies to determine a permittee's compliance with the very stringent mercury limits. Method 1631 has a detection limit of 0.2 ng/l and quantification levels of 0.5 ng/l in the Lake Erie Basin and 1.0 ng/l in the Ohio River Basin. These levels are much lower than the quantification level (1,000 ng/l) of the alternative approved methods (EPA methods 245.1 and 245.2).

The complexity of permitting industrial users with extremely low limits is not limited to mercury. POTWs have also faced problems with issuing local limits for silver due to the low water quality criteria, and sometimes for copper, due to elevated domestic background concentrations.

With the limits becoming more restrictive, Ohio EPA is looking for alternative methods of regulating pollutants of concern. Ohio EPA promotes pollution prevention rather than high-priced end-of-pipe treatment technologies that may or may not meet the desired limits.

NPDES permit limits for direct dischargers are not affected by these BMPs. The BMPs and pollution prevention concepts will be used to address indirect or sewer system discharges from non-domestic sources while final NPDES permit limits remain the ultimate targets. This document gives regulators guidelines on how to shift from numerical end-of-pipe chemical controls to BMPs and pollution prevention as an effective way to achieve compliance with NPDES permit limits.

LEGAL AUTHORITY

Although the federal pretreatment regulations do not define BMPs, Title 40 of the Code of Federal Regulations Part 122.2 (40 CFR 122.2, NPDES Regulations) defines BMPs as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

OAC 3745-3-03(C)(4) and 40 CFR 403.5(c) require POTWs with approved pretreatment programs to develop, update as necessary, and enforce local limits that will protect the POTW against interference and pass-through. These limits may be numeric or narrative or have a combination of both narrative and numeric requirements. This interpretation of the federal regulations was reaffirmed on July 22, 1999, when USEPA's proposed streamlining of 40 CFR 403 clarified that BMPs developed by POTWs may serve as local limits required under 40 CFR 403.5(c)(3). The BMPs would be enforceable under 40 CFR 403.5(d) and would be included as local permit requirements under 40 CFR 403.8(f)(1)(iii)(c).

However, POTWs with approved pretreatment programs should verify that their local sewer use ordinance allows the use of BMPs to regulate the industrial users. If the approved pretreatment program's sewer use ordinance does not allow for BMPs, then the POTW should modify their ordinance.

BMPs may also be used in State issued indirect discharge permits to regulate industrial users that discharge to non-targeted POTWs. OAC 3745-36-07(A)(2)(b) requires the Director to deny an indirect discharge permit application or a renewal of an indirect discharge permit if the Director determines that the discharge will interfere with, pass-through, or be incompatible with

the POTW's treatment process. The discharge limits or other pretreatment requirements can be used in a State issued indirect discharge permit to prevent an industry from interfering with or causing pass-through of a pollutant at a POTW. These discharge limits are considered local limits when they are incorporated into the local ordinance. As with approved pretreatment programs, State issued indirect discharge permits may also include BMPs in lieu of discharge limits or as pretreatment requirements to ensure that the industrial user achieves compliance with the pretreatment rules.

APPLICABILITY

When may a BMP be used as an industrial local pretreatment limit?

BMPs may be used with numeric local limits or in place of numeric local limits. The following are some examples where a BMP may be an appropriate local limit.

- 1) There is insufficient flow from an industrial user or a category of industrial users to obtain a representative wastewater sample. Sometimes where the flow is low it may not be feasible to sample the industrial discharger (e.g., dentist offices and photo processors).
- 2) The proposed local limit is less than the detection limit and/or the quantification level² of the most stringent analytical procedure. In cases where the domestic background concentrations are elevated, the POTW may calculate a local limit below the method detection limit and/or the quantification level or a negative local limit may be calculated. However, the control authority should evaluate the calculations based on USEPA Region 3's *Negative Local Limits Guidance* before applying a BMP in this situation.
- 3) The BMP is clearly the most economically feasible method for regulating the pollutant of concern. A BMP local limit for mercury is a good example where this may be implemented.

When may a BMP be removed from a POTW issued or State issued indirect discharge permit?

The control authority may consider a request to remove the BMP requirements or a portion of requirements from the indirect discharge permit if the permittee can demonstrate that the discharge is reasonably expected to meet the numeric local limit. In cases where the numeric local limit is calculated to be negative and where the industry's effluent sampling results for pollutants with BMP requirements are below the quantification level, the control authority may also consider a permit modification request. POTWs with or without approved pretreatment programs may impose more restrictive criteria for the removal of the BMP requirements from the indirect discharge permit.

The removal of the BMP requirements or a portion of the requirements from the indirect discharge permit or reducing the monitoring frequency is meant to be a reward for those facilities that have achieved their permitted discharge goal. However, relaxation of the permit conditions does not allow the industry to return to its previous methods of operation. Inspections, monitoring, and numeric effluent limits may still be required by the control authority to verify that the industry remains in compliance. The control authority may also require a

²Quantification levels are defined and listed in Ohio EPA's *Limits Below Quantification Levels (9/22/98)* guidance document and 40 CFR Part 136.

certification statement to be submitted semi-annually from industries that have had their BMP requirements or a portion of the requirements removed from their indirect discharge permit. The certification statement would certify that the industry is operating under its approved BMP and no changes have been implemented. If, after an investigation, the control authority determines that the industry is in noncompliance or that the industry has implemented processes that may alter its compliance status, the control authority should reevaluate the need for a BMP plan and act accordingly.

REPORTING REQUIREMENTS

POTWS

OAC 3745-3-03(G) requires POTWs with pretreatment programs to submit annual reports to Ohio EPA. BMP reports should be submitted as addenda to the POTW's annual pretreatment reports. Each BMP report should include monitoring results for the previous year, a list of potential sources of the pollutants (including the loading from non-regulated sources), graphs comparing the individual industrial benchmarks with the current individual industrial loading to the POTW, and a summary of all actions taken to meet the calculated industrial user limitations. This report would also be an opportunity to describe any changes to the BMP plans that the POTW will impose on the industries.

INDUSTRIAL USERS

Reporting requirements for industrial users will be specified in their indirect discharge permits.

BMP PERMIT LANGUAGE FOR BOTH POTW ISSUED AND STATE ISSUED INDIRECT DISCHARGE PERMITS

The following permit language is a template that has the basic requirements of the BMP plan and can be customized to fit specific circumstances. It's intended to be used in indirect discharge permits that meet the "applicability" section of this guidance document.

The language in ALL CAPITALS needs to be customized by permit writers. These areas refer mostly to pollutants, sampling types and sampling frequencies. The minimum frequencies are listed.

The suggested text below is not intended to be totally inclusive. In cases where an acceptable industry BMP standard exists (e.g., photo processors and dentist offices), the industry BMP standard should be used.

"Part II. _ Best Management Practices (BMP) Plan

- 1) The goal of the BMP plan is to maintain effluent concentrations of [POLLUTANT] at or below [QUANTIFICATION LEVEL OR CALCULATED LOCAL LIMIT]. However, in no case will the permittee discharge [POLLUTANT] above [BENCHMARK³ OR THE PERMITTEE'S PREVIOUS NUMERIC LOCAL LIMIT (WHICHEVER IS LOWER)]

³ Contact Ohio EPA for guidance on calculating the benchmark.

- 2) Within 12 months of the effective date of this permit, the permittee shall develop a BMP plan and submit it to the [CONTROL AUTHORITY] for review and approval. The objective of this plan is to identify pollution prevention and wastewater reduction opportunities and to implement those opportunities that are technically and economically feasible. The plan shall include the following.
- a) A list of members of a cross-functional team responsible for developing the BMP plan. This list shall include the name of a designated team leader.
 - b) An inventory of sources of pollutants subject to the BMP plan. The inventory shall include a description of each source and pollutant loading from each source. Also, included should be the identification of the facility's benchmark for each pollutant subject to the BMP plan.
 - c) description of current and past BMPs and their effectiveness.
 - d) Identification of technical/economical evaluation of new BMPs. BMPs should include: substitution of materials; reformulation or redesign of products; modification of equipment, facilities, technology, processes, and procedures; and improvement in management, inventory control, materials handling or general operational phases of the facility.
 - e) A schedule for implementation of economically feasible BMPs.
 - f) Methods used for measuring progress towards the BMP goal and updating the BMP plan.
- 3) Monitoring requirements

The permittee shall monitor potential sources of [POLLUTANT] [AT LEAST TWICE PER YEAR] by [COMPOSITE/GRAB] at sample station(s) _____.

[THE PERMIT WRITER WILL DETERMINE THE FREQUENCY (AT LEAST TWICE PER YEAR) OF SAMPLING AND THE SAMPLE LOCATIONS. HOWEVER, THE FOLLOWING SHOULD BE CONSIDERED: PROCESS LINES, STORM WATER INPUTS, ATMOSPHERIC DEPOSITION, AND GROUNDWATER (INFLOW & INFILTRATION) INPUTS.]

[PLANT- OR SOURCE-SPECIFIC REQUIREMENTS ADDED BY PERMIT WRITERS. THIS MAY INCLUDE SPECIFIC REQUIREMENTS FOR SPECIFIC SOURCES].

- 4) Within 12 months of the effective date of this permit and every year thereafter, the permittee shall submit an annual report to the [CONTROL AUTHORITY]. The annual report shall include:
- a) All BMP plan monitoring results for the year;
 - b) An updated inventory of sources of pollutants subject to the BMP plan;

- c) A summary of effectiveness of all BMPs implemented to meet the BMP plan goal; and
 - d) Any updates to the BMP plan.
- 5) This permit may be modified, or revoked and reissued, to revise or remove the requirements of this paragraph based on information collected under this paragraph.”

ADDITIONAL SOURCES OF INFORMATION

Guidance Manual for Developing Best Management Practices (BMP), EPA 833-B-93-004, U.S. EPA, Office of Water, October 1993.

U.S. EPA NPDES Permit Writer's Manual, EPA 833-B-96-003, U.S. EPA, Office of Water, December 1996.

Ohio Water Quality Pollution Prevention Guidance, Ohio EPA, Division of Surface Water, February 1998.

Ohio Waste Minimization and Pollution Prevention Planning Guidance Manual, Ohio EPA, Office of Pollution Prevention, September 1993.

POTW Guidance Manual for the Code of Management Practice for Silver Dischargers, The Silver Council and Association of Metropolitan Sewerage Agencies (AMSA), 1998.

U.S. EPA Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program, EPA 833-B-87-202, Office of Water Enforcement and Permits, December 1987.

U.S. EPA Industrial User Permitting Guidance Manual, EPA 833-R-89-001, Office of Water Enforcement and Permits, 1989.

U.S. EPA Region 3 Negative Local Limits Guidance, available on-line at <http://www.epa.gov/r5water/npdestek/npdpdrtg3.htm>

Limits Below Quantification. Permit Guidance 9. Ohio EPA Division of Surface Water. September 22, 1998.

FOR MORE INFORMATION CONTACT:

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