

National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

Regarding a Modification to an NPDES Permit To Discharge to Waters of the State of Ohio  
for the Madison Wastewater Treatment Plant

Public Notice No.: 10-09-009  
Public Notice Date: September 3, 2010  
Comment Period Ends: October 4, 2010

OEPA Permit No.: 3PB00030\*MD  
Application No.: OH0023515

Name and Address of Applicant:

Village of Madison  
126 West Main Street  
P.O. Box 7  
Madison, Ohio 44057

Name and Address of Facility Where  
Discharge Occurs:

Madison Wastewater Treatment Plant  
6401 Middle Ridge Road  
Madison, Ohio 44057

Receiving Water: Arcola Creek

Subsequent  
Stream Network: Lake Erie

Introduction

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

In accordance with the antidegradation rule, OAC 3745-1-05, the Director has determined that a lowering of water quality in Arcola Creek is necessary. Provision (F)(2)(d) was applied to this application. This provision excludes the need for the submittal and subsequent review of technical alternatives and social and economic issues related to the degradation. Other rule provisions, however, including public participation and appropriate intergovernmental coordination were required and considered prior to reaching this decision.

Procedures for Participation in the Formulation of Final Determinations

The proposed modification is tentative but shall become final on the effective date unless (1) an adjudication hearing is requested, (2) the Director withdraws and revises the proposed modification after consideration of the record of a public meeting or written comments, or (3) upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty (30) days of publication of this notice, any person may submit written comments, a statement as to why the proposed modification should be changed, a request for a public meeting on the

proposed modification and/or a request for notice of further actions concerning the modification. All communications timely received will be considered in the final formulation of the modification. If significant public interest is shown a public meeting will be held prior to finalization of the modification.

Within thirty (30) days of the issuance of the proposed modification any officer of an agency of the state or of a political subdivision, acting in his representative capacity or any person aggrieved or adversely affected by issuance of it may request an adjudication hearing by submitting a written objection in accordance with Ohio Revised Code Section 3745.07. Since all other conditions of the permit remain in effect, a hearing may not be requested on any issues other than the proposed modification. If an adjudication hearing is requested, the existing NPDES permit will remain in effect until the hearing is resolved. Following the finalization of the modification by the Director, any person who was a party to an adjudication hearing may appeal to the Environmental Review Appeals Commission.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

**Legal Records Section  
Ohio Environmental Protection Agency  
Lazarus Government Center  
P.O. Box 1049  
Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the proposed modification. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency  
Attention: Division of Surface Water  
Permits and Compliance Section  
Lazarus Government Center  
P.O. Box 1049  
Columbus, Ohio 43216-1049**

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Gary Stuhlfauth, (614) 644-2026, [Gary.Stuhlfauth@epa.ohio.gov](mailto:Gary.Stuhlfauth@epa.ohio.gov) .

### Location of Discharge/Receiving Water Use Classification

The Madison wastewater treatment plant discharges to Arcola Creek at River Mile (RM) 6.72. The approximate location of the facility is shown in Figure 1.

This segment of Arcola Creek is described by Ohio EPA River Code: 07-011, County: Lake, Ecoregion: Eastern Great Lakes and Hudson Lowlands. Arcola Creek is designated for the following uses under Ohio's Water Quality Standards (OAC 3745-1-14): Warmwater Habitat (WWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Class B Primary Contact Recreation (PCR).

### Facility Description

The Madison wastewater treatment plant has an average daily design flow of 0.5 MGD (million gallons per day). Wet stream processes are screening, influent pumping, activated sludge aeration, phosphorus removal, final clarification, ultraviolet disinfection and post aeration. Solid stream processes include aerobic digestion, dewatering using a belt filter press, with sludge disposal at a sanitary landfill.

The Madison wastewater plant is served by a separate sanitary sewer system.

### Description of Existing Discharge

Table 1 presents a summary of unaltered Discharge Monitoring Report (DMR) data for outfall 3PB00030001. Data are presented for the period August 2005 through July 2010.

### Basis of the Modification

The Village of Madison has applied for coverage under the general mercury variance, Rule 3745-33-07(D)(10) of the Ohio Administrative Code. Based on the results of low-level mercury monitoring, the permittee has determined that its wastewater treatment plant cannot meet the 30-day average water quality based effluent limit (WQBEL) of 1.3 nanograms per liter (ng/l). However, the permittee believes that the plant will be able to achieve an annual average mercury effluent concentration of 12 ng/l. The variance application also demonstrated to the satisfaction of Ohio EPA that there is no readily apparent means of complying with the WQBEL without constructing prohibitively expensive end-of-pipe controls for mercury. Based on these factors, the permittee is eligible for coverage under the general mercury variance.

Ohio EPA has reviewed the mercury variance application and has determined that it meets the requirements of the Ohio Administrative Code. As a result, Ohio EPA is proposing a modification to the NPDES permit. Mercury variance provisions are being added as Items T, U and V in Part II of the NPDES permit. The following requirements have been included in the draft modification:

- A variance-based monthly average effluent limit of 10.1 ng/l, which was developed from sampling data submitted by the permittee;
- A requirement that the permittee make reasonable progress to meet the water-quality-based effluent limit for mercury by implementing the plan of study, which has been developed as part of the Pollutant Minimization Program (PMP);
- Low-level mercury monitoring of the plant's influent and effluent;
- A requirement that the annual average mercury effluent concentration is less than or equal to 12 ng/l as specified in the plan of study;
- A summary of the elements of the plan of study;
- A requirement to submit an annual report on implementation of the PMP; and

- A requirement for submittal of a certification stating that all permit conditions related to implementing the plan of study and the PMP have been satisfied, but that compliance with the monthly average water quality based effluent limit for mercury has not been achieved.

#### Other Changes

##### *Station 300 SSO Monitoring and Reporting Table*

The measuring frequency was changed from “When Discharging” to “1/Month” to clarify that a DMR for this station must be submitted every month. Also, the third foot note was changed to “All sanitary sewer overflows are prohibited.” to be consistent with current regulations.

##### *Part II, Item E, SSO Reporting Requirements*

Revised the first paragraph to state that “All sanitary sewer overflows are prohibited.” to be consistent with current regulations. Also, in paragraph 1.a changed the time for telephone reporting from one hour to 24 hours.

##### *Part II, Item L*

This item, which addressed limits below quantification level, was deleted because it didn’t apply to any of the limits in the permit.



Figure 1. Location of the Madison wastewater treatment plant.

**Table 1. Effluent Characterization Using Self-Monitoring Data**

Summary of unaltered discharge monitoring report data for Madison outfall 3PB00030001 (August 2005 – July 2010). All values are based on annual records unless otherwise indicated.

Parameter	Season	Units	# Obs.	Percentiles		Data Range
				50 <sup>th</sup>	95 <sup>th</sup>	
Water Temperature	Annual	C	1224	15.8	22.6	1.4-114
Dissolved Oxygen	Summer	mg/l	623	8.18	9.6	2.75-22.8
Dissolved Oxygen	Winter	mg/l	602	8.89	10.3	5.71-858
pH	Annual	S.U.	1134	7.61	7.9	6.4-8.6
Total Suspended Solids	Annual	mg/l	464	7	25	1-64
Oil and Grease, Hexane	Annual	mg/l	58	0	7	0-12
Nitrogen, Ammonia (NH3)	Summer	mg/l	225	0.53	4.35	0-46.2
Nitrogen, Ammonia (NH3)	Winter	mg/l	240	0.495	4.2	0-6.8
Nitrite Plus Nitrate, Total	Annual	mg/l	58	4.11	13.8	0.1-16.4
Phosphorus, Total (P)	Annual	mg/l	58	0.44	1.06	0.01-1.59
Cyanide, Free	Annual	mg/l	14	0	0	0-0
Nickel, Total Recoverable	Annual	ug/l	9	0	15.6	0-26
Zinc, Total Recoverable	Annual	ug/l	14	14.8	73.9	0-81
Cadmium, Total Recoverable	Annual	ug/l	9	0	0	0-0
Lead, Total Recoverable	Annual	ug/l	9	0	0	0-0
Chromium, Total Recoverable	Annual	ug/l	9	0	0	0-0
Copper, Total Recoverable	Annual	ug/l	14	0	3.15	0-9
Chromium, Dissolved Hexavalent	Annual	ug/l	9	0	0	0-0
Fecal Coliform	Annual	#/100 ml	213	57	1410	0-5100
Flow Rate	Summer	MGD	865	0.371	0.666	0.0059-1.38
Flow Rate	Winter	MGD	865	0.539	0.926	0.00459-897
Flow Rate	Annual	MGD	1730	0.448	0.84	0.00459-897
Mercury, Total (Low Level)	Annual	ng/l	14	4.2	50	0-72.3
pH, Maximum	Annual	S.U.	89	7.49	7.84	6.58-8.19
pH, Minimum	Annual	S.U.	58	7.4	7.62	6.58-7.78
CBOD 5 day	Summer	mg/l	235	2.86	6	0-11
CBOD 5 day	Winter	mg/l	240	3.3	9.05	0-22

**Table 2. Modified final effluent limits and monitoring requirements for Madison outfall 3PB00030001 and the basis for their recommendation.**

Parameter	Units	Effluent Limits				Basis <sup>b</sup>
		Concentration		Loading (kg/day) <sup>a</sup>		
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Mercury, T.	ng/l	10.1	1700 <sup>c</sup>	0.0000191	0.00322 <sup>c</sup>	VAR

<sup>a</sup> Effluent loadings based on average design discharge flow of 0.5 MGD.

<sup>b</sup> Definitions: VAR = General mercury variance, Rule 3745-33-07(D)(10) of the Ohio Administrative Code

<sup>c</sup> No change from current permit.