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 Spencerville Wastewater Treatment Plant

Public Notice No.: 09-08-022
Public Notice Date: August 12, 2009
Comment Period Ends: September 10, 2009

OEPA Permit No.: 2PC00000*HD
Application No.: OH0020087

Name and Address of Applicant:

Village of Spencerville
116 South Broadway
Spencerville, Ohio 45887

Name and Address of Facility Where Discharge Occurs:

Spencerville Wastewater Treatment Plant
1225 South St. Marys Road
Spencerville, Ohio 45887

Receiving Water: Sixmile Creek

Subsequent Stream Network: Auglaize River, Maumee River, Maumee Bay, 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 Sixmile 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 Tom Poffenbarger, (419) 373-3008, Tom.Poffenbarger@epa.state.oh.us .

Location of Discharge/Receiving Water Use Classification

The Spencerville wastewater treatment plant discharges to Sixmile Creek at River Mile (RM) 3.5. The approximate location of the facility is shown in Figure 1.

This segment of the Sixmile Creek is described by Ohio EPA River Code: 04-128, U.S. EPA River Reach #: 04100007020040, County: Allen, Ecoregion: Eastern Cornbelt Plains. Sixmile Creek is designated for the following uses under Ohio's Water Quality Standards (OAC 3745-1-11): Modified Warmwater Habitat (channel modification; MWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Primary Contact Recreation (PCR).

Facility Description

The Spencerville wastewater treatment plant is an advanced treatment facility with an average daily design flow of 0.45 MGD (million gallons per day). Wet stream processes include a storm holding pond, bar screens, influent pumping, fine static screens, activated sludge aeration (sequencing batch reactor), supernatant flow equalization and ultra violet disinfection. Solid stream processes include aerobic digestion, settling and decanting, and disposal by land application.

Spencerville has a separate sanitary sewer system with one lift station.

Description of Existing Discharge

Table 1 presents a summary of unaltered Discharge Monitoring Report (DMR) data for outfall 2PC00000001. Data are presented for the period June 2004 through May 2009.

Basis of the Modification

Spencerville 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 can not 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 and U Part II of the NPDES permit. The following requirements have been included in the draft modification:

- A variance-based monthly average effluent limit of 13.0 ng/l, which was developed from sampling data submitted by the permittee; this limit represents an upper bound of monthly average values (PEQaverage value) for the period June 2005 through March 2009.
- 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.

Table 2 shows the monthly average variance-based concentration and mass loading mercury limits proposed for Spencerville outfall 2PC00000001.

Other Changes
- The foot notes for Station 300, the SSO (sanitary sewer overflow) reporting station, have been modified to state that all SSOs are prohibited.

- The sludge monitoring tables and foot notes for Stations 581 and 588 have been updated.

- Low-level mercury monitoring was added to the influent monitoring table, Station 601.

- The table for bypass station 602 has been updated.

- Operator certification and minimum staffing requirement have been added to Part II, Item A of the permit.

- A special condition to post a sign at the plant outfall was added as Part II, Item V.

- A special condition for phosphorus reduction required by the Upper Auglaize TMDL (total maximum daily loads) report was added as Part II, Item X.

Figure 1. Approximate location of the Spencerville wastewater treatment plant.

Table 1. Effluent Characterization Using Self-Monitoring Data

Summary of current permit limits and unaltered discharge monitoring report data for Spencerville outfall 2PC00000001 (June 2004 – May 2009). All values are based on annual records unless otherwise indicated. * = For pH, 5th percentile shown in place of 50th percentile; ** = For dissolved oxygen, 5th percentile shown in place of 95th percentile; a = weekly average.

Parameter	Season	Units	# Obs.	Percentiles		Data Range
				50th	95th	
Water Temperature	Annual	C	1249	15.1	24	4.3-46.9
Dissolved Oxygen	Summer	mg/l	635	8.4	6.6**	5-15.3
Dissolved Oxygen	Winter	mg/l	614	10	7.4**	3.7-15.4
pH	Annual	S.U.	1245	7.4*	8.6	6.5-11.4
Total Suspended Solids	Annual	mg/l	477	2	22.2	0-45.5
Oil and Grease, Hexane	Annual	mg/l	50	0	0	0-5.7
Oil and Grease, Freon Extr	Annual	mg/l	10	0	0	0-0
Nitrogen, Ammonia (NH3)	Summer	mg/l	235	0	0.919	0-57
Nitrogen, Ammonia (NH3)	Winter	mg/l	240	0	0.802	0-2.21
Nitrite Plus Nitrate, Total	Annual	mg/l	60	3.19	7.56	0-9.92
Phosphorus, Total (P)	Annual	mg/l	60	1.72	4.35	0.59-6.32
Cyanide, Free	Annual	mg/l	16	0	0	0-0
Nickel, Total Recoverable	Annual	ug/l	20	0	0	0-0
Zinc, Total Recoverable	Annual	ug/l	20	39	67.4	22-74
Cadmium, Total Recoverable	Annual	ug/l	20	0	3	0-3
Lead, Total Recoverable	Annual	ug/l	20	0	0	0-0
Chromium, Total Recoverable	Annual	ug/l	20	0	0	0-0
Copper, Total Recoverable	Annual	ug/l	20	0	11.5	0-20
Chromium, Dissolved Hexavalent	Annual	ug/l	20	0	0	0-0
Fecal Coliform	Annual	#/100 ml	237	0	2940	0-190000
Flow Rate	Summer	MGD	912	0.215	0.865	0-1.67
Flow Rate	Winter	MGD	879	0.336	1.3	0.087-1.71
Flow Rate	Annual	MGD	1791	0.256	1.17	0-1.71
Mercury, Total (Low Leve)	Annual	ng/l	16	3.34	11.1	1.02-16.4
CBOD 5 day	Summer	mg/l	237	2.76	5.74	0-12.2
CBOD 5 day	Winter	mg/l	240	2.76	5.09	0-12.2
Cyanide, Free	Annual	mg/l	4	0	0	0-0

Table 2. Modified final effluent limits and monitoring requirements for Spencerville outfall 2PC00000001 and the basis for their recommendation.

		Effluent Limits				
		Concentration		Loading (kg/day)[a]		
Parameter	Units	30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	Basis[b]
Mercury, T.	ng/l	13.0	1700[c]	0.000022	0.0028[c]	VAR

[a] Effluent loadings based on average design discharge flow of 0.45 MGD.

[b] Definitions: VAR = General mercury variance, Rule 3745-33-07(D)(10) of the Ohio Administrative Code

[c] No change from current permit.