National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding a Modification to an NPDES Permit To Discharge to Waters of the State of Ohio
for **FirstEnergy Generation, LLC – Eastlake Power Plant**

Public Notice No.: 15-12-012
Public Notice Date: December 7, 2015
Comment Period Ends: February 1, 2016

Ohio EPA Permit No.: **3IB00003*JD**
Application No.: **OH0001139**

Name and Address of Applicant:
FirstEnergy Generation, LLC
76 South Main Street
Akron, Ohio 44308

Name and Address of Facility Where Discharge Occurs:
Eastlake Power Plant
10 Erie Road
Eastlake, Ohio 44097
Lake County

Receiving Water: Lake Erie

Subsequent Stream Network: Not applicable

Introduction

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), 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 (Ohio EPA), 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 (Ohio Revised Code [ORC] 6111). Decisions to award variances to Water Quality Standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

An antidegradation review was not required.

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 ORC 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 Ohio EPA 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 proposed modification, contact Sara Hise, (614) 644-4824, Sara.Hise@epa.ohio.gov, or Jennifer Bennage, (330) 963-1151, Jennifer.Bennage@epa.ohio.gov.

Information Regarding Certain Water Quality Based Effluent Limits

This draft permit may contain proposed water quality based effluent limitations for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: http://epa.ohio.gov/portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf .) In accordance with ORC Section 6111.03(J)(3), the Director established these water quality based effluent limits after considering, to the extent consistent with the Federal Water Pollution Control Act, 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. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the timely submitted NPDES permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall deliver or mail this information to:

Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, written notification for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed water quality based effluent limitations (WQBELs) for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable water quality standard(s) used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in OAC 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific WQS pursuant to OAC 3745-1-35. The permittee shall submit written notification regarding their intent to develop site specific water quality standards for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

Location of Discharge/Receiving Water Use Classification

FirstEnergy Generation LLC's Eastlake Power Plant (Eastlake) discharges into Lake Ere. Figure 1 shows the approximate location of the facility.

This segment of Lake Erie is described by Ohio EPA River Code: 24-700, U.S. EPA River Reach #: 04110003, Ecoregion: Erie/Ontario Drift and Lake Plain. Lake Erie is designated for the following uses under Ohio's WQS (OAC 3745-1-07, 3745-1-31, and 3745-1-33): Exceptional Warmwater Habitat (EWH), Superior High Quality Waters (SHQW), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), Public Water Supply (PWS), and Bathing Waters (BW).

Facility Description

Eastlake is currently a coal-fired steam-electric generating station. This facility is involved in the generation, transmission, and distribution of electric power. The plant has five units with a total capacity of 1350 megawatts (MW). Eastlake's processes generate wastewaters which are regulated by the federal effluent guidelines (FEGs) listed in 40 CFR Part 423, Steam Electric Power Generating Point Source Category. The process operations at this facility are also defined by the standard industrial classification (SIC) category 4911 – Electric Services. All coal-fired processes will be converted to synchronous condensers. Operation of the coal-fired boilers ceased on April 15, 2015.

Description of Existing Discharge

Eastlake has a total of three external outfalls (001, 002, and 003) which discharge directly to Lake Erie. Outfall 001 discharges once-through cooling water; chlorination is provided prior to use in the plant's cooling water system.

Outfall 002 is designed to discharge wastewater from a combined treatment basin which receives ash storage runoff, ash transport water, coal pile runoff, and metal cleaning wastewaters. The combined treatment basin provides sedimentation, while filtration is provided as wastewater flows from the basin. Wastewater from outfall 002 flows into Lake Erie.

Low volume wastewater is discharged through outfall 003. Treatment prior to discharge includes sedimentation and filtration. Wastewater from outfall 003 flows into Lake Erie.

Since operation of the coal-fired boilers has ceased, wastewater discharges to outfalls 002 and 003 will accordingly decrease.

Table 1 presents a summary of mercury monitoring for outfalls 002 and 003 and influent station 601 for the period of January 2011 through December 2014.

Basis of the Modification

Eastlake has applied for coverage under the general mercury variance, OAC 3745-33-07(D)(10). Based on the results of low-level mercury monitoring, the permittee has determined that cannot meet the 30-day average WQBEL of 1.3 nanograms per liter (ng/L) at outfalls 002 and 003. 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 OAC. As a result, Ohio EPA is proposing a modification to the NPDES permit for outfalls 002 and 003. Mercury variance provisions are being added to Part II of the NPDES permit. The following requirements have been included in the draft modification:

- A variance-based monthly average effluent limit of 4.7 ng/L at outfall 002 and 6.0 ng/L at outfall 003, which was developed from calculating the projected effluent quality (PEQ) average from the sampling data submitted by the permittee from January 2011 through December 2014;
    - There are only three months of data available since the coal-fired boilers shut down. This is not enough data to produce a reliable PEQ; therefore no data from 2015 was utilized.
- A requirement that the permittee make reasonable progress to meet the WQBEL 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 WQBEL for mercury has not been achieved.

Since the coal-fired boilers have shut down, the flow rates at outfalls 002 and 003 have decreased. The mercury loading limits will be calculated based on the following projected flow rates:

- Outfall 002 – average = 0.5 MGD, maximum = 1.5 MGD
- Outfall 003 – average = 1.5 MGD, maximum = 2.0 MGD

Loading limits for oil and grease and total suspended solids will also be lowered accordingly. The final modified effluent limitations for outfalls 002 and 003 are presented on Table 2.

Figure 1. Facility and Outfall Locations

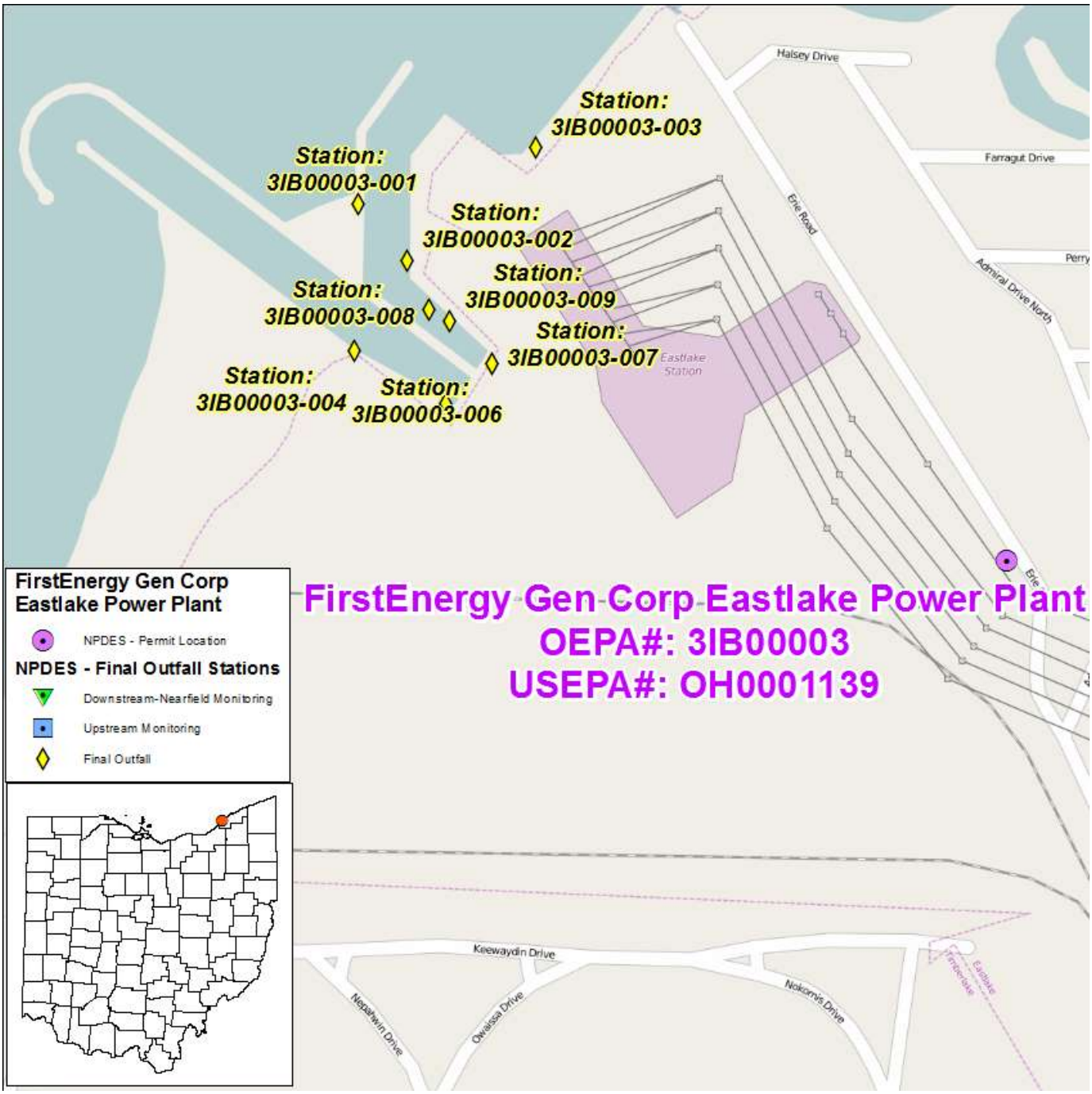

Table 1. Mercury Sampling Results at Outfalls 002 and 003 and Influent Monitoring Station 601

All results are in ng/L. AA = not detected (analytical method detection limit). NA = not analyzed.

Date	601	002	003	Date	601	002	003
1/6/2011	292	2.35	3.15	2/5/2013	3.81	2.86	2.73
2/3/2011	17.5	6.46	0.687	3/6/2013	3.26	1.76	1.49
3/7/2011	5180	2.46	1.48	4/3/2013	1.48	3.84	16.3
4/12/2011	86.1	1.71	2.18	5/14/2013	NA	1.26	1.3
5/10/2011	8.4	2.49	1.18	6/4/2013	41.6	0.85	1.53
6/14/2011	5410	2.36	0.893	7/9/2013	6.64	AA (0.5)	1.91
7/6/2011	9.1	0.75	0.917	8/1/2013	1.12	0.76	2.13
8/5/2011	459	0.783	0.5	9/4/2013	48.1	3.99	0.55
9/12/2011	202	0.841	0.309	10/1/2013	0.772	AA (0.5)	0.737
10/11/2011	199	1.44	0.33	11/7/2013	1.04	AA (0.5)	AA (0.5)
11/2/2011	2790	2.47	1.02	12/5/2013	1.44	0.795	AA (0.5)
12/1/2011	19.2	2.43	5.14	1/6/2014	2.16	0.79	2.94
1/3/2012	191	3.69	7.38	2/10/2014	1.51	0.52	0.84
2/2/2012	35.4	6.61	2.97	3/3/2014	1.64	AA (0.5)	0.97
3/2/2012	33.8	3.16	2.43	4/3/2014	NA	AA (0.5)	0.605
4/5/2012	335	3.33	4.63	5/2/2014	1.85	0.54	2.99
5/1/2012	36.7	3.12	0.763	6/4/2014	0.56	AA (0.5)	0.54
6/4/2012	3440	1.27	2.64	7/22/2014	5.5	2.86	1.03
7/2/2012	126	1.03	0.5	8/12/2014	2.04	AA (0.5)	0.75
8/1/2012	12.3	1.78	0.534	9/9/2014	1.04	1.38	0.76
9/10/2012	58.2	0.229	1.09	10/1/2014	7.48	0.6	AA (0.5)
10/15/2012	2.8	1.6	2	11/6/2014	6.72	AA (0.5)	2.35
11/5/2012	6.34	AA (0.5)	8.11	12/4/2014	NA	AA (0.5)	1.47
12/14/2012	3.02	2.34	3.51	12/17/2014	1.14	AA (0.5)	AA (0.5)
1/3/2013	7.64	1.5	7.35				

Table 2. Final Modified Effluent Limitations for Outfalls 002 and 003

Parameter	Units	Concentration		Loading (kg/day)[a]		Basis[b]
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Outfall 002						
Total Suspended Solids	mg/L	30	100	56.8	567	ABS/EP/ELG
Oil & Grease	mg/L	15	20	28.4	113	ABS/EP/ELG
Flow Rate	MGD	- - - - - - - - - - Monitor - - - - - - - - - -				M[c]
Mercury	ng/L	4.7	1700	0.0000089	0.0097	VAR
pH	S.U.	6.0 - 9.0		--	--	EP
Outfall 003						
Total Suspended Solids	mg/L	30	100	170	757	EP/ELG
Oil & Grease	mg/L	15	20	87.1	151	EP/ELG
Flow Rate	MGD	- - - - - - - - - - Monitor - - - - - - - - - -				M[c]
Mercury	ng/L	6.0	1700	0.000034	0.0129	VAR
pH	S.U.	6.0 - 9.0		--	--	EP
Oxidants, Total Residual	mg/L	--	0.01	--	--	EP/BTJ
Chlorine, Total Residual	mg/L	--	0.038	--	--	EP/BTJ
Chlorination/Bromination Duration	minutes	- - - - - - - - - - Monitor - - - - - - - - - -				EP

[a] Effluent loadings based upon:
002 – 1.5 MGD maximum, 0.5 MGD average
003 – 2.0 MGD maximum, 1.5 MGD average

[b] Definitions:
ABS = Antibacksliding Rule (OAC 3745-33-05(F) and 40 CFR Part 122.44(l))
BTJ = Best Technical Judgment
ELG = Federal Effluent Limitation Guidelines, Best Practicable Control Technology Available, 40 CFR Part 423, "Steam Electric Power Generation"
EP = Existing Permit
M = BTJ of Permit Guidance 2: Determination of Sampling Frequency Formula for Industrial Waste Discharges
VAR = Mercury variance (OAC 3745-33-07(D)(10)(a))

[c] Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.

Table 3. Federal Effluent Guideline Limitations for Outfalls 002 and 003

40 CFR 423.12(b)(3)

BPT for Low Volume Wastes

Parameter (mg/L)	*Daily Maximum*	*30-day Average*
Total Suspended Solids	100	30
Oil & Grease	20	15

40 CFR 423.12(b)(4)

BPT for Fly and Bottom Ash Transport Water

Parameter (mg/L)	*Daily Maximum*	*30-day Average*
Total Suspended Solids	100	30
Oil & Grease	20	15

40 CFR 423.12(b)(9)

BPT for Coal Pile Run-off

Parameter (mg/L)	*Daily Maximum*	*30-day Average*
Total Suspended Solids	50	--