

National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for **Dynegy Miami Fort LLC – Miami Fort Station**

Public Notice No.: 16-03-016
Public Notice Date: March 16, 2016
Comment Period Ends: May 1, 2016

OEPA Permit No.: **1IB00001*KD**
Application No.: **OH0009865**

Name and Address of Applicant:

Dynegy Operating Company
1500 Eastport Plaza Drive
Collinsville, Illinois 62234

Name and Address of Facility Where
Discharge Occurs:

Dynegy Miami Fort LLC
11021 Brower Road
North Bend, Ohio 45052
Hamilton County

Receiving Water: **Ohio River**

Subsequent
Stream Network:

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.

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 forty-five (45) 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 PTI 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 permit modification, contact Eric Nygaard at (614) 644-2024 (eric.nygaard@epa.ohio.gov) or Glen Vonderembse at (937) 285-6033 (glen.vonderembse@epa.ohio.gov).

Location of Discharge/Receiving Water Use Classification

Dynegy Miami Fort Station is located on the Ohio River at the mouth of the Great Miami River. The Miami Fort Station discharges to the Ohio River between Mile Points (MPs) 490.4 and 491.1. The approximate location of the facility is shown in Figure 1.

This segment of the Ohio River is described by Ohio EPA River Code: 25-050, USEPA River Reach #: 05090203-012, County: Hamilton, Ecoregion: Interior Plateau. The Ohio River is designated for the following uses: Warmwater Habitat (WWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), Public Water Supply (PWS) and Bathing Waters (BW).

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric water quality standards are developed to protect these uses. Different uses have different water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal Clean Water Act. Ohio WQS also include aquatic life use designations for waterbodies which can not meet the Clean Water Act goals because of human-caused conditions that can not be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact) and wading only (Secondary Contact - generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural and industrial water supply.

Facility Description/Description of Existing Discharges.

The Miami Fort Station is a coal-fired steam electric generating station. This facility is involved in the generation, transmission and distribution of electric power.

The process discharges at this facility are regulated by the federal effluent guidelines listed in 40 CFR Part 423, Steam Electric Power Generating Point Source Category. The operations at this facility are classified by the Standard Industrial Classification (SIC) code 4911, "Electric Services". The plant also makes gypsum as a by-product of air pollution controls.

The Miami Fort Station has three primary outfalls that discharge to the Ohio River (Outfalls 001, 002 and 006). The facility has two storm water outfalls that discharge to the Ohio River (Outfalls 020 and 022). Storm water from a third outfall, 021, has been re-routed to the Outfall 002 treatment system.

The once-through cooling water from Unit 6 is combined with boiler blowdown prior to discharge at Outfall 001. The cooling water is disinfected, then dechlorinated before discharge. Outfall 040 is an alternate reporting station for Outfall 001 used when the plant chlorinates their effluent more than 2 hours per day. The boiler blowdown is monitored at internal station 611 prior to mingling with the cooling water discharge.

Outfall 002 discharges wastewater from two ash ponds. The ash ponds receive wastewater from the ash transport wastewater system, the cooling tower, the boiler tube chemical cleaning process, the Flue Gas Desulfurization (FGD) wastewater treatment system, and coal pile stormwater runoff. The ash ponds provide sedimentation, coagulation and skimming prior to discharge. Internal outfalls 608 (FGD treatment system) and 612 (boiler tube chemical metal cleaning) monitor these discharges before they enter the ash ponds. The cooling tower is treated with chlorine and bromine to control biological growth in the recirculation system.

Outfall 006 discharges wastewater from the on-site sewage treatment system.

Table 1. Description of Miami Fort Station Outfalls and Cooling Water Intake

Outfall #	Type of Wastewater	Treatment System Used	Discharge Point	Flow Rate (MGD)
001/040	Once-through cooling water, boiler blowdown	-disinfection -dechlorination	Ohio River	154
002	Ash transport water, cooling tower blowdown, FGD wastewater treatment, coal pile runoff, chemical metal cleaning	-sedimentation -coagulation -skimming	Ohio River	12.4
006	Sanitary wastewater	-aerobic digestion -activated sludge -slow sand filtration - ultraviolet disinfection	Ohio River	0.072
020, 022	Storm water	None	Ohio River	--
601	FGD influent monitoring		Outfall 608/002	--
608	FGD treatment system		Ash basins/ Outfall 002	0.216
611	Boiler blowdown	None	Outfall 001	0.6
612	Chemical metal cleaning		Ash basins/ Outfall 002	2.16
801	Plant intake	-chlorination		--

Basis of the Modification

Dynegy Miami Fort LLC has re-directed one of its industrial storm water discharges from Outfall 021 to the treatment systems discharging through Outfall 002 (December 2014). This modification would remove Outfall 021 from the permit, as it has ceased discharging. The modification would add quarterly zinc monitoring requirements to Outfall 002 to ensure that WQS are met at this outfall.

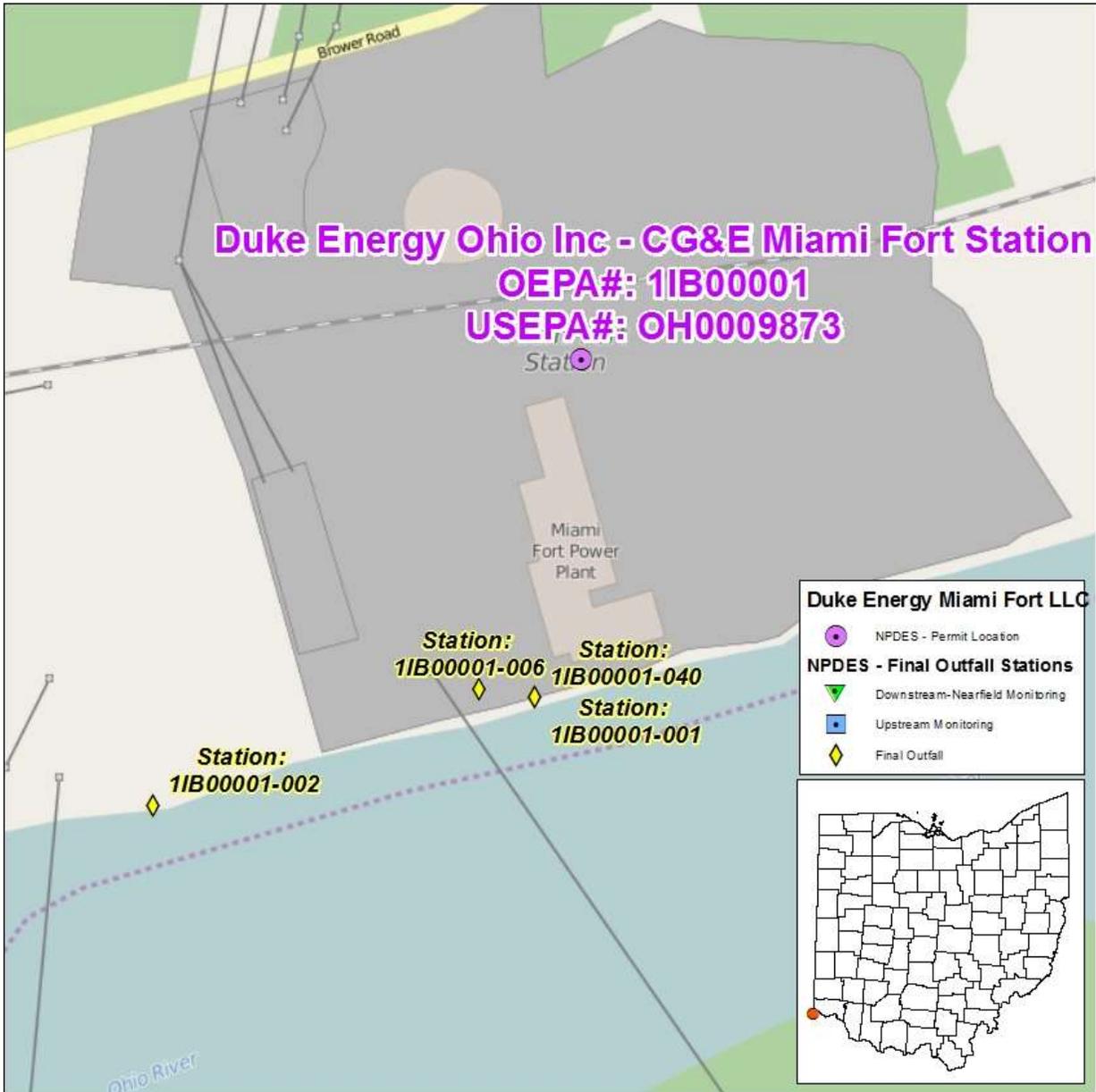


Figure 1. Approximate location of the Dynegy Miami Fort LLC.

Table 2. Effluent Characterization Using Self-monitoring Data for Outfalls 002 and 021

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range
			30 day	Daily		50 th	95 th	
<u>Outfall 002</u>								
pH	Annual	S.U.	6.0 to 9.0		72	8.36	8.66	6.42-8.9
Residue, Total Dissolved	Annual	mg/l	Monitor		50	926	1300	600-1300
Residue, Total Dissolved	Annual	kg/day	--	--	50	36500	46900	2270-61000
Total Suspended Solids	Annual	mg/l	30	97	70	9.03	26	0-35
Total Suspended Solids	Annual	kg/day	1612	1075	70	381	973	0-1350
Oil and Grease, Total	Annual	mg/l	15	20	62	0	0	0-3
Oil and Grease, Total	Annual	kg/day	806	1075	62	0	0	0-115
Nitrogen, Ammonia (NH3)	Summer	mg/l	Monitor		11	0.15	0.37	0-0.39
Nitrogen, Ammonia (NH3)	Winter	mg/l	Monitor		11	0.171	0.428	0-0.47
Nitrogen, Ammonia (NH3)	Summer	kg/day	--	--	11	6.93	15.7	0-16.4
Nitrogen, Ammonia (NH3)	Winter	kg/day	--	--	11	6.88	18.1	0-18.1
Nitrogen Kjeldahl, Total	Annual	mg/l	Monitor		22	0.77	1.09	0-1.28
Nitrogen Kjeldahl, Total	Annual	kg/day	--	--	22	34	46	0-49
Nitrite Plus Nitrate, Total	Annual	mg/l	Monitor		21	2.01	3.26	1.32-3.4
Nitrite Plus Nitrate, Total	Annual	kg/day	--	--	21	83.1	153	37.5-160
Hardness, Total (CaCO3)	Annual	mg/l	Monitor		6	616	876	485-920
Hardness, Total (CaCO3)	Annual	kg/day	--	--	6	25800	28600	18800-28600
Arsenic, Total Recoverable	Annual	ug/l	Monitor		28	22.1	69.5	0-80.9
Arsenic, Total Recoverable	Annual	kg/day	--	--	28	0.964	3.26	0-3.8
Selenium, Total Recoverable	Annual	ug/l	Monitor		28	22.2	54.6	0-68.5
Selenium, Total Recoverable	Annual	kg/day	--	--	28	0.83	2.15	0-2.73
Boron, Total Recoverable	Annual	ug/l	Monitor		28	5440	7930	0-9500
Boron, Total Recoverable	Annual	kg/day	--	--	28	198	279	0-283

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range
			30 day	Daily		50 th	95 th	
Outfall 002								
Barium, Total Recoverable	Annual	ug/l	--	--	21	140	180	82.6-230
Barium, Total Recoverable	Annual	kg/day	--	--	21	5.5	7.42	0.245-8.29
Nickel, Total Recoverable	Annual	ug/l	--	--	21	6.03	14.8	0-21
Nickel, Total Recoverable	Annual	kg/day	--	--	21	0.23	0.591	0-0.811
Zinc, Total Recoverable	Annual	ug/l	--	--	21	3.54	17	0-260
Zinc, Total Recoverable	Annual	kg/day	--	--	21	0.16	0.799	0-7.39
Cadmium, Total Recoverable	Annual	ug/l	--	--	21	0	5.73	0-6.71
Cadmium, Total Recoverable	Annual	kg/day	--	--	21	0	0.269	0-0.315
Lead, Total Recoverable	Annual	ug/l	--	--	21	11	31.4	0-32.8
Lead, Total Recoverable	Annual	kg/day	--	--	21	0.502	1.34	0-1.48
Chromium, Total Recoverable	Annual	ug/l	--	--	21	6.76	11.4	0-16.3
Chromium, Total Recoverable	Annual	kg/day	--	--	21	0.278	0.527	0-0.763
Copper, Total Recoverable	Annual	ug/l		Monitor	27	25	77.4	9.11-135
Copper, Total Recoverable	Annual	kg/day	--	--	27	0.977	3.05	0.0172-5.19
Oxidants, Total Residual	Annual	mg/l	--	0.01	18	0	0	0-0
Oxidants, Total Residual	Annual	kg/day	--	--	18	0	0	0-0
Flow Rate	Annual	MGD		Monitor	1857	12.4	12.4	0.49-12.4
Chlorine, Total Residual	Annual	mg/l	--	0.038	2	0	0	0-0
Chlorine, Total Residual	Annual	kg/day	--	--	2	0	0	0-0
Mercury, Total (Low Level)	Annual	ng/l		Monitor	51	3.6	7.83	0.97-13.5
Mercury, Total (Low Level)	Annual	kg/day	--	--	51	0.000144	0.000367	0.0000238-0.000634
Residue, Total Filterable	Annual	mg/l		Monitor	18	1020	1430	670-1600
Residue, Total Filterable	Annual	kg/day	--	--	18	42000	67000	25800-74900
Outfall 021								
Zinc, Total Recoverable	Annual	ug/l		Monitor	1	1500	1500	1500-1500

Table 3. Final effluent limits and monitoring requirements for Dynegy Miami Fort LLC outfall 1IB00001002 and the basis for their recommendation.

Parameter	Units	Effluent Limits				Basis ^b
		Concentration		Loading (kg/day) ^a		
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Flow	MGD	----- Monitor -----		-----		M ^c
Dissolved Solids	mg/l	----- Monitor -----		-----		M ^c
Suspended Solids	mg/l	30	97	1612	5213	BPT/ABS
Ammonia-N	mg/l	----- Monitor -----		-----		M ^c
Kjeldahl-N, T.	mg/l	----- Monitor -----		-----		M ^c
Nitrate/Nitrite-N	mg/l	----- Monitor -----		-----		M ^c
Oil and Grease	mg/l	15	20	806	1075	BPT
pH	S.U.	----- 6.0 to 9.0 -----		-----		BPT
Chlorine Residual	mg/l	--	0.038	--	--	WLA/IMZM
Oxidant Residual	mg/l	--	0.01	--	--	BTJ/IMZM
Hardness	mg/l	----- Monitor -----		-----		M ^c
Arsenic, T. R.	µg/l	----- Monitor -----		-----		M ^c
Boron, T. R.	µg/l	----- Monitor -----		-----		M ^c
Copper, T. R.	µg/l	----- Monitor -----		-----		M/RP ^c
Mercury, T.	µg/l	----- Monitor -----		-----		M ^c
Selenium, T. R.	µg/l	----- Monitor -----		-----		M ^c
Zinc, T. R.	µg/l	----- Monitor -----		-----		M ^c

^a Effluent loadings based on average design discharge flow of 14.2MGD.

^b Definitions: ABS = Antidegradation Rule (OAC 3745-33-05(E) and 40 CFR Part 122.44(1)); BPT = Best Practicable Waste Treatment Technology, 40 CFR Part 423, Steam Electric Power Generating; BTJ = Best Technical Judgment; M = Monitoring; RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in NPDES permits (3745-33-07(A)).

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