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 Ohio Valley Electric Corporation (OVEC)

Public Notice No.: 214811
Public Notice Date: September 16, 2025
Comment Period Ends: October 16, 2025

OEPA Permit No.: 0IB00005*VD
Application No.: OH0005282

Name and Address of Applicant:
Ohio Valley Electric Corporation (OVEC)
3939 US Route 23
Piketon, OH 45661

Name and Address of Facility Where Discharge Occurs:
Ohio Valley Electric Corporation (OVEC)
Kyger Creek Station
5758 State Route 7
Cheshire, Ohio 45620
Gallia County

Receiving Water: Ohio River, Kyger Creek, Little Kyger Creek, Unnamed Tributary to Little Kyger Creek

Subsequent Stream Network: Ohio River

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 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 Processing Unit
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 modification, contact Aaron Pennington, (740) 380-5272, aaron.pennington@epa.ohio.gov.

Location of Discharge/Receiving Water Use Classification

The Ohio Valley Electric Corporation (OVEC) Kyger Creek Station discharges to multiple receiving streams. Figure 1 shows the approximate location of the facility. Table 1 shows the receiving waters use designation as provided in OAC rule 3745-1-16 and OAC rule 3745-1-32. Table 2 provides detailed information about each discharge location. The next public water intake is at Mile Point 304 which is approximately 44 miles downstream of the discharge. Therefore, the non-intake standards apply for the protection of human health.

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 WQS 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 CWA. Ohio WQS also include aquatic life use designations for waterbodies which cannot meet the CWA goals because of human-caused conditions that cannot 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 Recreation) and wading only (Secondary Contact which are 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 water supply and industrial water supply.

Facility Description

OVEC is a coal-fired steam electric power plant with a total generating capacity of 1,085 MW from five generating units. This facility is involved in the generation and transmission of electric power.

The process operations at OVEC are classified in the Standard Industrial Classification (SIC) category 4911, Electric Services. The process wastewaters generated from these operations are regulated under 40 CFR 423, “Steam Electric Power Generating Point Source.”

OVEC obtains potable water from the County’s municipal source and withdraws water from the Ohio River for once-through condenser cooling and other service uses.

Description of Existing Discharge

Table 2 highlights the primary outfalls, internal monitoring stations, wastewater sources, treatment processes, discharge/receiving streams and associated flows at OVEC.

Outfall 001 – South Bottom Ash Pond Discharge (bottom ash sluice water, miscellaneous low-volume wastewaters, and precipitation) to the Ohio River.

Outfall 003 – Condenser cooling water discharge (non-contact cooling water, steam condenser cooling water, and auxiliary cooling water) to the Ohio River.

Outfall 005 – Fly Ash Pond Discharge (fly ash sluice water, boiler room sumps, miscellaneous low-volume wastewater, coal storage runoff, flue gas desulfurization wastewater treatment plant effluent, chloride purge stream, sanitary sewage treatment system, and precipitation) to Kyger Creek.

Storm water outfalls are presented on Table 3.

Figure 2 shows industrial outfall associated the Gavin Power Plant and Kyger Creek Station in the Ohio River and Kyger Creek Study Area. Figure 3 provides a current flow schematic of the wastewater sources and supplies associated with OVEC's process wastewaters.

Sanitary waste is treated by the follow processes: grinding, screening, slow sand filtration, pre-aeration, aerobic digestion, and activated sludge. This discharge is monitored at internal station 601 and discharges through outfall 005. Sludge is processed by elutriation, gravity thickening, and aerobic digestion. Processed sludge is transferred to the Rio Grande WWTP (NPDES: 0PB00035).

Assessment of Impact on Receiving Waters

Ohio River Assessment

OVEC discharges directly to the Ohio River in the R. C. Byrd dam pool. Water quality monitoring on the Ohio River is performed by the Ohio River Valley Water Sanitation Commission (ORSANCO). This information can be found in the 2024 Biennial Assessment of Ohio River Water Quality Conditions (305b) Report and the 2019 pool report.

The Biennial Report can be found at this website –
https://www.orsanco.org/wp-content/uploads/2016/07/ORSANCO_2024_305b_Report.pdf

The most recent pool report can be found here –
https://www.orsanco.org/wp-content/uploads/2016/11/2019PoolReport.pdf

ORSANCO evaluates the river for four uses: aquatic life, contact recreation impairment, public water supply, and fish consumption. The entire Ohio River was determined as fully attaining for aquatic life and public water supply uses.

ORSANCO has designated the entire river as impaired for fish consumption uses due to concentrations of polychlorinated biphenyl compounds (PCBs) and dioxin compounds in fish tissue. Part II of the permit contains a condition that prohibits the presence of PCBs in the plant's discharges.

Kyger Creek and Tributaries Assessment
The Kyger Creek watershed assessment unit, which includes Kyger Creek and tributaries to Kyger Creek in the vicinity of OVEC, is listed as impaired for aquatic life and recreation on Ohio's 303(d) list.

The most recent data available for the Kyger Creek watershed is from 2015.
https://epa.ohio.gov/static/Portals/35/tmdl/TSD/2015-SHADE-2/SEORT_2015_TSD.pdf?ver=2019-08-05-115505-493

Kyger Creek is impaired for aquatic life due to the following: pH, manganese and sedimentation/siltation. This impairment is primarily the result of mine drainage. This indicates that OVEC is not contributing to the impairments in Kyger Creek because the facility's discharge to this stream is not known to contain manganese. No additional limits are recommended for OVEC.

The full Integrated Report is available through the Ohio EPA, Division of Surface Water website at:

https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/tmdl/2024intreport/Full-2024-IR.pdf

Basis of the Modification

This NPDES permit modification is issued in response to an NPDES modification application received on August 13, 2025, from OVEC. The modification request included:

> The Ohio Valley Electric Corporation (OVEC) is submitting this request to modify the current Kyger Creek Station NPDES permit # 0IB00005*UD. This permit became effective April 1, 2025. The previous NPDES permit (renewal) became effective on March 1, 2023. OVEC is requesting to modify the compliance date for the final effluent limitations for the fluoride at Outfall 005 from the current compliance date of September 1, 2025, to March 1, 2028, and to modify the Final Outfall table for Outfall 005 to reflect the change.
>
> OVEC is currently de-watering the South Fly Ash Pond at Kyger Creek Station as part of the pond closure activities in compliance with the Coal Combustion Residuals Rule. OVEC is requesting to modify the final effluent limitations compliance date for fluoride at Outfall 005 to align with the closure activities of the pond. Per the current NPDES permit, Outfall 005 is currently permitted for "Ash Pond Closure Project Discharge which will consist of precipitation and ash dewatering waters that may exist until such time the closure project is completed." As reported in the Ammonia and Fluoride Schedule of Compliance update letters, submitted August 3, 2023 and August 29, 2024, the concentration of Fluoride at Outfall 005 has varied over the previous two years, ranging from <1 mg/L to ~4 mg/L. While fluoride concentration at Outfall 005 have trended downward over the previous year due to a decrease in flow from the South Fly Ash Pond, flow could increase as the pond closure project moves forward, creating additional fluctuation of the fluoride concentration at Outfall 005. It is anticipated that the fluoride concentration will decrease after the pond is dewatered. Per OAC 3745-33-05(G)(3)(d), a compliance date of up to five years from the permit renewal is permissible for a permitee to achieve compliance with the WQBEL for this parameter. A compliance date of March 1, 2028 would allow for a five-year compliance timeline for fluoride at Outfall 005.

Ohio EPA proposes the following changes to the effective NPDES permit for OVEC.:

The Water Quality Based Effluent Limitations (WQBELs) for fluoride were originally assigned a compliance schedule in the NPDES renewal 0IB00005*SD with effective date of September 1, 2022. A term of 36 months was provided to comply with the new WQBEL which extended the date to September 1, 2025. Thus, a total of a five year timeframe extended from the original effective date would relate to September 1, 2027. The current permit's expiration date is August 31, 2027. To ensure the compliance schedule is extended no longer that five years, the final monitoring table with the limits is proposed for the final monitoring month prior the expiration date (August 2027). The interim monitoring table for outfall 005 is proposed with the summer ammonia limits and winter monitoring only that was included in the existing permit as it would be in effect commencing 9/1/25 in the existing permit. The proposed final monitoring table is the same as the proposed interim table with the addition of fluoride limits. Two additional compliance milestones have been added to the compliance schedule to ensure a milestone is achieved no more than twelve months apart.

In addition, the permit has been edited to remove initial monitoring tables that are no longer applicable.

Figure 1. Location of OVEC Kyger Creek Station

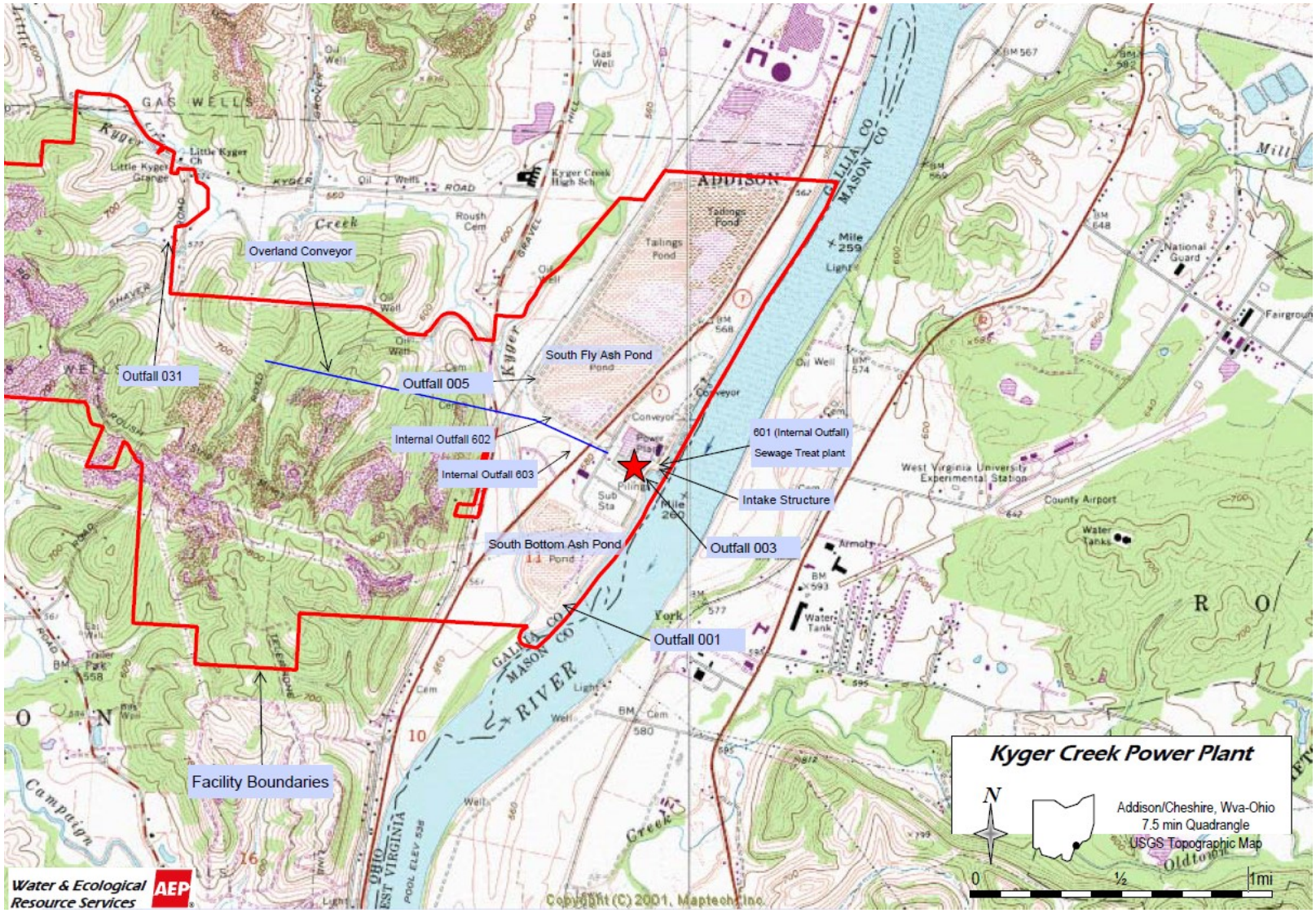


Figure 2. Ohio River and Kyger Creek Study Area

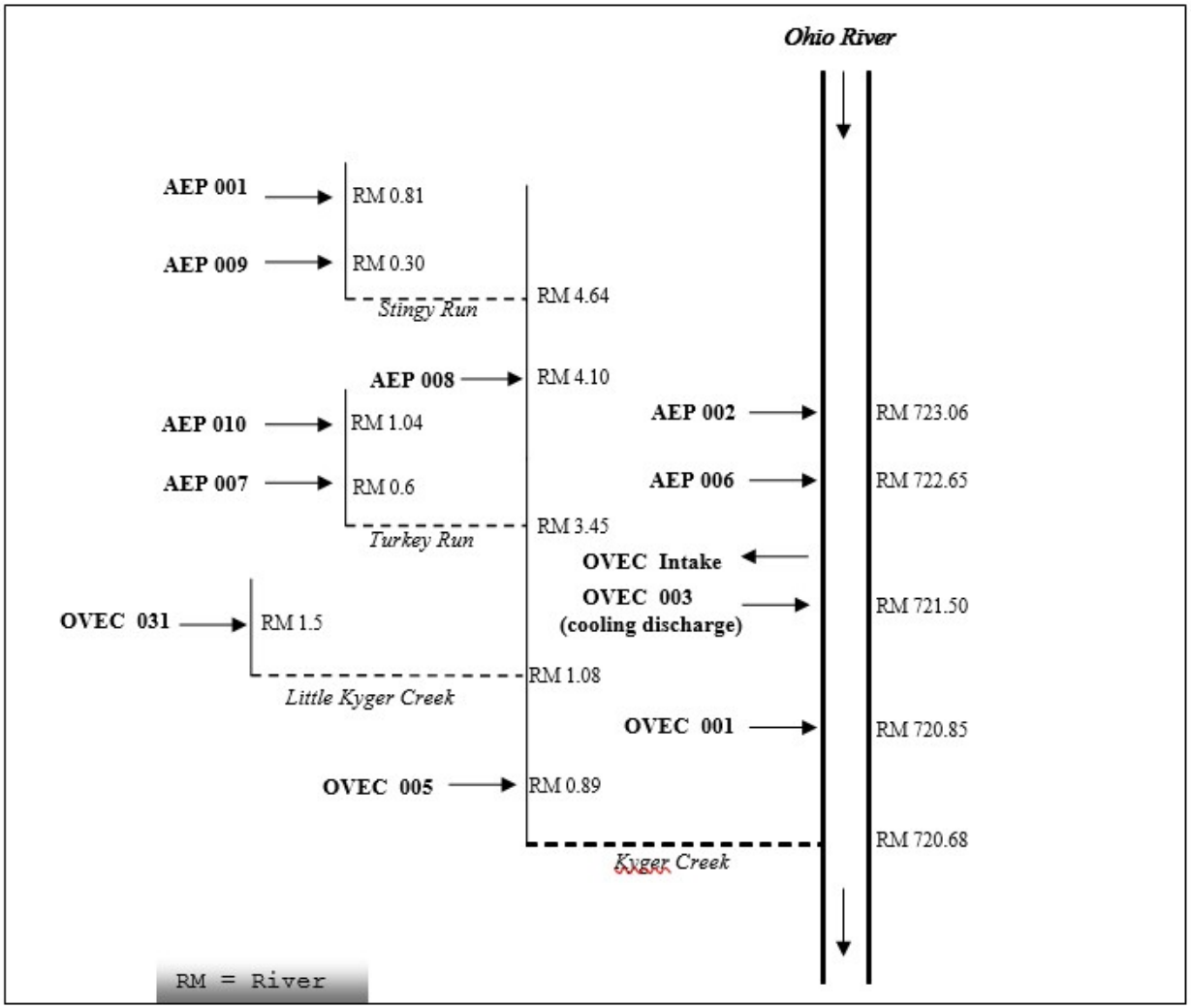
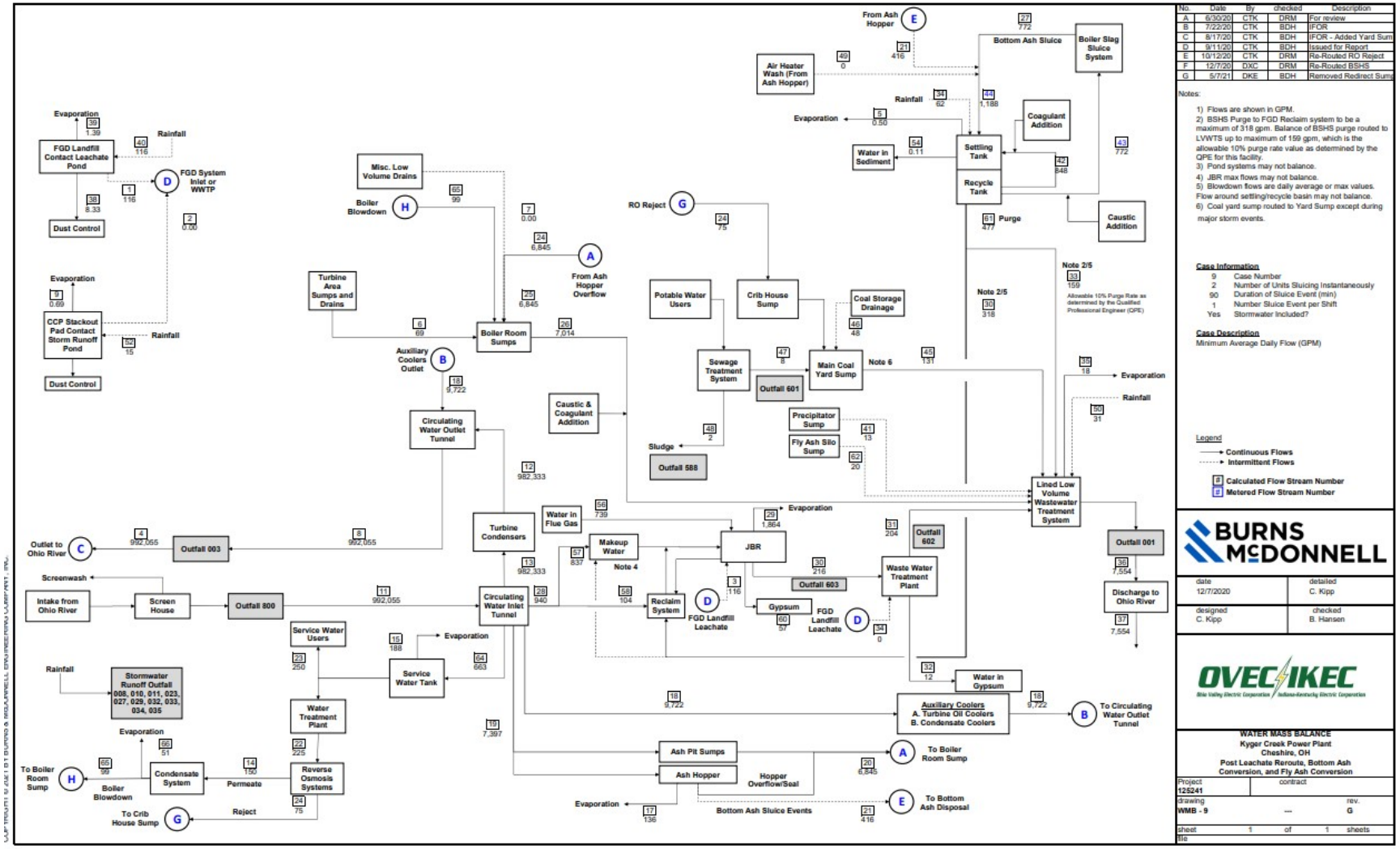


Figure 3. Water Balance Diagram



No.	Date	By	checked	Description
A	6/30/20	CTK	DRM	For review
B	7/22/20	CTK	BDH	IFOR
C	8/17/20	CTK	BDH	IFOR - Added Yard Sump
D	9/11/20	CTK	BDH	Issued for Report
E	10/12/20	CTK	DRM	Re-Routed RO Reject
F	12/7/20	DXC	DRM	Re-Routed BSHS
G	5/7/21	DKE	BDH	Removed Redirect Sump

Notes:

1) Flows are shown in GPM.
2) BSHS Purge to FGD Reclaim system to be a maximum of 318 gpm. Balance of BSHS purge routed to LVWTS up to maximum of 159 gpm, which is the allowable 10% purge rate value as determined by the QPE for this facility.
3) Pond systems may not balance.
4) JBR max flows may not balance.
5) Blowdown flows are daily average or max values. Flow around settling/recycle basin may not balance.
6) Coal yard sump routed to Yard Sump except during major storm events.

Case Information

9	Case Number
2	Number of Units Sluicing Instantaneously
90	Duration of Sluice Event (min)
1	Number Sluice Event per Shift
Yes	Stormwater Included?

Case Description

Minimum Average Daily Flow (GPM)

Legend

Continuous Flows
Intermittent Flows
Calculated Flow Stream Number
Metered Flow Stream Number

BURNS McDONNELL

date 12/7/2020	detailed C. Kipp
designed C. Kipp	checked B. Hansen

OVEC IKEC
Ohio Valley Electric Corporation | Indiana-Kentucky Electric Corporation

WATER MASS BALANCE
Kyger Creek Power Plant
Cheshire, OH
Post Leachate Reroute, Bottom Ash Conversion, and Fly Ash Conversion

Project	contract	
125241		
drawing WMB - 9	---	rev. G
sheet 1 of 1 sheets		
title		

Table 1. Receiving Waters Use Designations

Receiving Water	Outfall(s)	Water Supply Designation(s)	Recreation Designation	Aquatic Life Use	Ohio EPA River Code	Hydrological Unit Code
Kyger Creek	005	IWS / AWS	PCR	LRW[2]	09-057	05030202-09-01
Ohio River	001 and 003	IWS / AWS, PWS[1]	BW	WWH	25-350	05030202-09-04

[1]The next public water intake is approximately 44 miles downstream of the discharge beyond 500 yards, thus PWS criteria were not applied.
[2]Kyger Creek and Little Kyger Creek are designated as LRW but biological assessment in 2015 shows the stream supports MWH.

Water supply
IWS / AWS = Industrial / Agricultural Water Supply
PWS = Public Water Supply

Recreation
PCR = Primary Contact Recreation
BW = Bathing Waters

Aquatic Life Uses
LRW = Limited Resource Waterway – Acid Mine Drainage
MWH = Modified Warmwater Habitat
WWH = Warmwater Habitat

Table 2. Monitoring Stations, Wastewater Sources, Treatment Processes, and Discharge Points

Station #	Wastewater Source	Treatment Utilized	Discharge Receiving Stream
001	South Bottom Ash Pond Discharge/Low Volume Waste Treatment System[a]	Sedimentation, neutralization	Ohio River
003	Once-Through Cooling Water	Screening, disinfection, dechlorination	Ohio River
005	Fly Ash Pond Discharge[b]	Sedimentation, neutralization	Kyger Creek
601	Sewage Treatment Plant	Grinding, screening, sand filtration, pre-aeration, aerobic digestion, activated sludge, disinfection	Outfall 001
602	Chloride Purge Stream WWTP Effluent	Flocculation, chemical precipitation, multimedia filtration, sedimentation	Outfall 001

[a]Former South Bottom Ash Pond has been retrofitted to become a Low Volume Waste Treatment System with clean closure of CCR.
[b]Fly Ash Pond is currently undergoing closure in place activities.

Table 3. Storm Water Outfalls at OVEC

Station #	Represented by	Representative Sampling Basis
008[a]	008	Storm water runoff from the South Switch yard
010	011	Storm water runoff from concrete unloading ramp
011[a]	011	Storm water runoff from the south yard area
023	011	Storm water runoff from screen house roof and nearby paved area
032[a]	032	Non-contact storm water runoff from the flue gas desulfurization landfill east sedimentation basin
033	032	Non-contact storm water runoff from the flue gas desulfurization landfill north sedimentation basin
034	032	Non-contact storm water runoff from the flue gas desulfurization landfill west sedimentation basin
035	032	Non-contact storm water runoff from the flue gas desulfurization landfill west sedimentation basin
036 [a]	036	Non-contact storm water runoff from flue gas desulfurization landfill haul road and the surrounding area

[a] = representative sampling outfall per Part V of the permit.

Table 4. Proposed Monitoring and Limitations with respect to outfall 005

Parameter	Units	Concentration		Loading (kg/day)[a]		Basis[b]
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Outfall 005						
Water Temperature	°C	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				M[c]
pH	S.U.	6.0 - 9.0		--	--	WQS
Alkalinity	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BPJ
Total Suspended Solids	mg/L	30	99.8	1432	4763	BPT
Oil and Grease	mg/L	15	20	716	955	BPT
Ammonia (Summer)	mg/L	2.6	3.9	124	186	WLA
Ammonia (Winter)	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Kjeldahl Nitrogen	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				M[c]
Nitrite Plus Nitrate	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				M[c]
Chloride	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Sulfate	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Fluoride	mg/L	2.2[a]	--	106 [a]	--	WLA
Arsenic	µg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Iron	µg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				RP
Selenium	µg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Barium	µg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Boron	µg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Flow Rate	MGD	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				M[c]
Mercury	ng/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ
Free Cyanide	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				RP
Total Filterable Residue	mg/L	- - - - - - - - - - - - Monitor - - - - - - - - - - - -				BTJ

[a] Compliance schedule is proposed extending to August of 2027