

Ohio EPA Permit No.: 0IB00032*HD
Application No: OH0127931

Action Date: September 3, 2025
Effective Date: October 1, 2025
Expiration Date: September 30, 2030

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Hanging Rock Power Company LLC

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Hanging Rock Power Company LLC wastewater treatment works, located at 1395 County Road 1A, Ironton, Ohio, Lawrence County, and discharging to an unnamed tributary to Big Thief Creek and Ohio River at Mile Point 333 in accordance with the conditions specified in Parts I, II, and III of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.



John Logue
Director

Total Pages: 24

PART I, A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IB00032001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 – Final

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00011 - Water Temperature - F	-	-	-	-	-	-	-	1/Day	Maximum	All
00400 - pH - S.U.	9.0	6.5	-	-	-	-	-	1/Day	Grab	All
00530 - Total Suspended Solids - mg/l	100	-	-	30.0	-	-	-	1/Week	24hr Composite	All
00552 - Oil and Grease, Hexane Extraction Method - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	2/Year	24hr Composite	Semi-annual
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	1/Day	Grab	All
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	2/Year	Grab	Semi-annual
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All

Notes for Station Number 0IB00032001:

a. Sampling shall be performed when discharging.

b. If this station is monitored during a particular month and there are no discharges during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

c. Total Residual Chlorine - See Part II, Item I.

d. Mercury - See Part II, Item J.

e. Semi-annual monitoring months populates the parameter on the June and December eDMRs. A sample is intended to be collected during each half of the calendar year and reported on the applicable eDMR. (e.g. – for the first half, a sample could be grabbed in January and then submitted on the June eDMR).

f. Same day sampling shall be performed at outfall 0IB00032001 when sampling internal monitoring stations 0IB00032601, 0IB00032602, 0IB00032603 and 0IB00032604.

PART I, A. INTERNAL LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IB00032601. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 601 – Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00530 - Total Suspended Solids - mg/l	100	-	-	30	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00552 - Oil and Grease, Hexane Extraction Method - mg/l	20	-	-	15	-	-	-	1/Quarter	Grab	Quarterly - Alt.
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Quarter	24hr Total Estimate	Quarterly - Alt.

Notes for station 0IB00032601:

a. Quarterly – Alt. monitoring months populates the parameter on the March, June, September, and December eDMRs. A sample is intended to be collected during the quarter and reported on the applicable eDMR. (e.g. – for the first calendar quarter, a sample could be grabbed in January and then submitted on the March eDMR).

b. Same day sampling shall be performed at outfall 0IB00032001 when sampling internal monitoring stations 0IB00032601, 0IB00032602, 0IB00032603 and 0IB00032604.

PART I, A. INTERNAL LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IB00032602. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 602 – Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00530 - Total Suspended Solids - mg/l	100	-	-	30	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00552 - Oil and Grease, Hexane Extraction Method - mg/l	20	-	-	15	-	-	-	1/Quarter	Grab	Quarterly - Alt.
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Quarter	24hr Total Estimate	Quarterly - Alt.

Notes for station 0IB00032602:

a. Quarterly – Alt. monitoring months populates the parameter on the March, June, September, and December eDMRs. A sample is intended to be collected during the quarter and reported on the applicable eDMR. (e.g. – for the first calendar quarter, a sample could be grabbed in January and then submitted on the March eDMR).

b. Same day sampling shall be performed at outfall 0IB00032001 when sampling internal monitoring stations 0IB00032601, 0IB00032602, 0IB00032603 and 0IB00032604.

PART I, A. INTERNAL LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IB00032603. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 603 – Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00530 - Total Suspended Solids - mg/l	100	-	-	30	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00552 - Oil and Grease, Hexane Extraction Method - mg/l	20	-	-	15	-	-	-	1/Quarter	Grab	Quarterly - Alt.
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Quarter	24hr Total Estimate	Quarterly - Alt.

Notes for station 0IB00032603:

a. Quarterly – Alt. monitoring months populates the parameter on the March, June, September, and December eDMRs. A sample is intended to be collected during the quarter and reported on the applicable eDMR. (e.g. – for the first calendar quarter, a sample could be grabbed in January and then submitted on the March eDMR).

b. Same day sampling shall be performed at outfall 0IB00032001 when sampling internal monitoring stations 0IB00032601, 0IB00032602, 0IB00032603 and 0IB00032604.

PART I, A. INTERNAL LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 0IB00032604. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 604 – Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00530 - Total Suspended Solids - mg/l	100	-	-	30	-	-	-	1/Quarter	Grab	Quarterly - Alt.
00552 - Oil and Grease, Hexane Extr Method - mg/l	20	-	-	15	-	-	-	1/Quarter	Grab	Quarterly - Alt.
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Quarter	24hr Total Estimate	Quarterly - Alt.

Notes for station 0IB00032604:

a. Quarterly – Alt. monitoring months populates the parameter on the March, June, September, and December eDMRs. A sample is intended to be collected during the quarter and reported on the applicable eDMR. (e.g. – for the first calendar quarter, a sample could be grabbed in January and then submitted on the March eDMR).

b. Same day sampling shall be performed at outfall 0IB00032001 when sampling internal monitoring stations 0IB00032601, 0IB00032602, 0IB00032603 and 0IB00032604.

PART I, B. INTAKE MONITORING STATION REQUIREMENTS

1. Intake Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the Intake at Station Number 801, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Intake Monitoring - 801 – Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
Parameter	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total Estimate	All

Notes for station 0IB00032801:

a. Cooling Water Intake Structure requirements -See Part II, Items M, N, O, and P.

PART II - OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
0IB00032001	Final effluent to Ohio River consisting of cooling tower blowdown, oil/water separator discharges from floor drains, boiler blowdown and boiler water treatment reject waters including flows from internal monitoring stations 601, 602, 603, and 604. (Lat: 38.5625, Long: -82.7912)
0IB00032002	Storm Water Outfall certified as No Exposure under 0GRN00434. (Lat: 38 N 34' 24"; Long: 82 W 46' 51")
0IB00032003	Storm Water Outfall certified as No Exposure under 0GRN00434. (Lat: 38 N 34' 13"; Long: 82 W 47' 09")
0IB00032004	Storm Water Outfall certified as No Exposure under 0GRN00434. (Lat: 38 N 34' 17"; Long: 82 W 46' 57")
0IB00032601	Internal monitoring station for oil/water separator discharge from power block 1. Effluent samples to be collected before combining with other waste streams.
0IB00032602	Internal monitoring station for boiler water treatment system blowdown, and boiler blowdown from power block 1. Effluent samples to be collected before combining with other waste streams.
0IB00032603	Internal monitoring station for oil/water separator discharge from power block 2. Effluent samples to be collected before combining with other waste streams.
0IB00032604	Internal monitoring station for boiler water treatment system blowdown, and boiler blowdown from power block 2. Effluent samples to be collected before combining with other waste streams.
0IB00032801	Intake monitoring from Ohio River.

B. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved.

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit;
- or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

C. Water quality based permit limitations in this permit may be revised based on updated wasteload allocations or use designation rules. This permit may be modified, or revoked and reissued, to include new water quality based effluent limits or other conditions that are necessary to comply with a revised wasteload allocation, or an approved total maximum daily loads (TMDL) report as required under Section 303 (d) of the Clean Water Act.

D. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's overall performance.

E. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's performance.

F. Treatment Additives

Written permission must be obtained from the director of the Ohio EPA prior to the use of any treatment additives discharged to waters of the state, except for those exempt in rule. If additives are being used that have not previously been approved, an approval must be obtained for continued use. Discharges of these additives must meet Ohio Water Quality Standards and shall not be harmful or inimical to aquatic life. Request for approvals shall be filed in accordance with OAC 3745-33-03(G) and should be filed at least forty-five days prior to use or immediately if the additive is currently being used. Application forms are available for download on the DSW website:

<https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/individual-wastewater-discharge-permit-applications-industrial-and-municipal-discharges->

G. There shall be no detectable amount of any priority pollutant attributable to cooling tower maintenance chemicals in the cooling tower blowdown wastewater including chromium and zinc.

H. Polychlorinated Biphenyl Compounds There shall not be a discharge of any polychlorinated biphenyl compounds attributable to the permittee's operations.

I. Total Residual Chlorine Limits Below Quantification

The parameters below have had effluent limitations established that are below the Ohio EPA Quantification Level (OEPA QL) for the approved analytical procedure promulgated at 40 CFR 136. OEPA QLs may be expressed as Practical Quantification Levels (PQL) or Minimum Levels (ML). Compliance with an effluent limit that is below the OEPA QL is determined in accordance with ORC Section 6111.13 and OAC Rule 3745-33-07(C). For maximum effluent limits, any value reported below the OEPA QL shall be considered in compliance with the effluent limit. For average effluent limits, compliance shall be determined by taking the arithmetic mean of values reported for a specified averaging period, using zero (0) for any value reported at a concentration less than the OEPA QL, and comparing that mean to the appropriate average effluent limit. An arithmetic mean that is less than or equal to the average effluent limit shall be considered in compliance with that limit.

The permittee must utilize the lowest available detection method currently approved under 40 CFR Part 136 for monitoring these parameters.

REPORTING:

All analytical results, even those below the OEPA QL (listed below), shall be reported. Analytical results are to be reported as follows:

1. Results above the QL: Report the analytical result for the parameter of concern.
2. Results above the MDL, but below the QL: Report the analytical result, even though it is below the QL.
3. Results below the MDL: Analytical results below the method detection limit shall be reported as "below detection" using the reporting code "AA".

The following table of quantification levels will be used to determine compliance with NPDES permit limits:

Parameter	PQL	ML
Chlorine, tot. res.	0.050 mg/l	--

This permit may be modified, or, alternatively, revoked and reissued, to include more stringent effluent limits or conditions if information generated as a result of the conditions of this permit indicate the

presence of these pollutants in the discharge at levels above the water quality based effluent limit (WQBEL).

J. Mercury Tracking

A preliminary effluent limit (PEL) has been provided below for parameters with a projected effluent quality (PEQ) equal to or exceeding seventy-five percent of the PEL. In accordance with OAC 3745-33-07(A)(2), the permittee must report to Ohio EPA Southeast District Office, in writing, any effluent concentration analytical result greater than the PEL values listed below. Written notification must be submitted within 30 days of an effluent concentration analytical result that exceeds the PEL and must detail the reasons why the PEL was exceeded, and whether additional results above the PEL are expected.

Parameter	maximum PEL	average PEL
Mercury	1700ng/L	12ng/L

The permittee shall reduce the discharge levels to below the PEL if either of the following conditions are met:

1. The maximum detected concentration per month is greater than the maximum PEL for four or more months during any consecutive six-month period; or
2. The thirty-day average is greater than the average PEL for two or more months during any consecutive six-month period.

If the permittee cannot reduce discharge levels below the PEL within six months after either of conditions 1 or 2 above are met, the permittee may request to modify the permit to contain a compliance schedule. This request shall contain justification for the additional time necessary to reduce discharge levels.

K. Outfall Signage

The permittee shall maintain a permanent marker on the stream bank at each outfall that is regulated under this NPDES permit. This includes final outfalls and bypasses. The sign shall include, at a minimum, the name of the establishment to which the permit was issued, the Ohio EPA permit number, and the outfall number and a contact telephone number. The information shall be printed in letters not less than two inches in height. The sign shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above ground level. The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign. Vegetation shall be periodically removed to keep the sign visible. If the outfall is normally submerged the sign shall indicate that. When an existing sign is replaced or reset, the new sign shall comply with the requirements of this section.

L. Stormwater

To comply with industrial stormwater regulations, the permittee submitted a form for "No Exposure Certification" which was signed on May 30, 2023. Compliance with the industrial stormwater regulations must be re-affirmed every five years. No later than May 30, 2028, the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial stormwater regulations.

M. Endangered Species Act

Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

N. Cooling Water Intake Structure Minimization of Entrainment and Impingement

The permittee operates a cooling water intake structure on the Ohio River that is designed with a maximum withdraw rate of 14.1 MGD. The permittee shall reduce impingement mortality and entrainment commensurate with the implementation of the technologies or operational measures selected. Based on the selected technologies and operational measures below, Ohio EPA has determined that the cooling water intake structure represents the best technology available to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

Impingement mortality option - 40 CFR 125.94(c)(1): and

Site-specific standards for entrainment - 40 CFR 125.94(d):

The facility uses a recirculating system consisting of a mechanical draft cooling tower which reduces intake flow by approximately 97-percent.

Based on the selected technologies and operational measures above, Ohio EPA has made a final determination under CFR Part 125, Subpart J that the intake meets the best technology available.

O. Cooling Water Intake Structure Monitoring Requirements

The permittee is required to perform the following monitoring to demonstrate compliance with the performance standards of Part II, Item N.

1. Visual or Remote Inspections

The permittee shall either conduct weekly visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation. The results of the inspection shall be documented and retained by the facility for Agency review until the subsequent permit is issued.

Weekly inspections are not required for the offshore portion of the intake. Should the facility be performing work or an inspection on the offshore intake scheduled as a result of maintenance or conditions required by other regulatory agencies, the permittee shall also perform an inspection (remotely or visually) of the offshore intake for 316(b) purposes. The inspection, for 316(b) purposes, will ensure that the offshore intake is being operated with good engineering and maintenance practices. The results of the inspection shall be documented and retained by the facility for Agency review until the subsequent permit is issued.

2. Intake Flow Monitoring

The permittee shall monitor flow rate at the effluent and intakes station in accordance with Part I, A and Part I, B to characterize discharge and makeup volumes.

P. Cooling Water Intake Structure Record Keeping and Reporting Requirements

1. Record Keeping Requirements

- a. The permittee shall keep records of all the data used to complete the permit application and show compliance with the requirements of the 316(b) regulations until the subsequent permit is re-issued.
- b. In accordance with 40 CFR 125.97(f), the permittee shall retain all records supporting the Director's determination of BTA for entrainment until such time as the Director revises the determination of BTA for entrainment in the permit. Reporting Requirements

The permittee shall submit an annual certification statement signed by the responsible corporate officer indicating whether there have been any substantial modifications of any units that impact the cooling water withdrawals and a summary of those changes. In addition, revisions must be submitted to the information required at 40 CFR 122.21(r) during the next permit application when new information is available.

Q. Cooling Water Intake Structure Application Requirements

The permittee shall submit the information required in the applicable provisions of 40 CFR 122.21(r) with the subsequent permit renewal application. In accordance with 40 CFR 125.95(c), the permittee may request to reduce the information required. Such a request shall be submitted to the Director no later than 30 months prior to the permit expiration date.

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

"Average weekly" discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. Each of the following 7-day periods is defined as a calendar week: Week 1 is Days 1 - 7 of the month; Week 2 is Days 8 - 14; Week 3 is Days 15 - 21; and Week 4 is Days 22 - 28. If the "daily discharge" on days 29, 30 or 31 exceeds the "average weekly" discharge limitation, Ohio EPA may elect to evaluate the last 7 days of the month as Week 4 instead of Days 22 - 28. Compliance with fecal coliform bacteria or *E. coli* bacteria limitations shall be determined using the geometric mean.

"Average monthly" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. Compliance with fecal coliform bacteria or *E. coli* bacteria limitations shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net Load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specifically identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specifically identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specifically identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Sewage sludge" means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works as defined in section 6111.01 of the Revised Code. "Sewage sludge" includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, animal manure, residue generated during treatment of animal manure, or domestic septage.

"Biosolids" means sewage sludge or mixtures containing sewage sludge that have been treated for beneficial use.

"Sewage sludge weight" means the weight of sewage sludge, in dry U.S. tons, including admixtures such as liming materials or bulking agents. Monitoring frequencies for sewage sludge parameters are based on the reported sludge weight generated in a calendar year (use the most recent calendar year data when the NPDES permit is up for renewal).

"Sewage sludge fee weight" means the weight of sewage sludge, in dry U.S. tons, excluding admixtures

such as liming materials or bulking agents. Annual sewage sludge fees, as per section 3745.11(Y) of the Ohio Revised Code, are based on the reported sludge fee weight for the most recent calendar year.

2. GENERAL EFFLUENT LIMITATION

The effluent shall, at all times, be free of substances:

- A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or waterfowl;
- B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam, or sheen;
- C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;
- D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;
- E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growth become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;
- F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

- A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.
- B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.
- C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

- A. Monitoring data required by this permit shall be submitted monthly on Ohio EPA 4500 Discharge Monitoring Report (DMR) forms using the electronic DMR (e-DMR) internet application. e-DMR allows permitted facilities to enter, sign, and submit DMRs on the internet. e-DMR information is found on the following web page:

<https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/electronic-business-services>

B. DMRs shall be signed by a facility's Responsible Official or a Delegated Responsible Official (i.e. a person delegated by the Responsible Official). The Responsible Official of a facility is defined as:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (b) The manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. In the case of a municipal, state, or other public facility, by either the principal executive officer, the ranking elected official or other duly authorized employee.

For e-DMR, the person signing and submitting the DMR will need to obtain an eBusiness Center account and Personal Identification Number (PIN). Additionally, Delegated Responsible Officials must be delegated by the Responsible Official, either on-line using the eBusiness Center's delegation function, or on a paper delegation form provided by Ohio EPA. For more information on the PIN and delegation processes, please view the following web page:

<https://epa.ohio.gov/help-center/ebusiness-center>

C. DMRs submitted using e-DMR shall be submitted to Ohio EPA by the 20th day of the month following the month-of-interest.

D. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in Section 5. SAMPLING AND ANALYTICAL METHODS, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

E. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported to the Ohio EPA, but records shall be retained as specified in Section 7. RECORDS RETENTION.

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures for the Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

6. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- A. The exact place and date of sampling; (time of sampling not required on EPA 4500)
- B. The person(s) who performed the sampling or measurements;
- C. The date the analyses were performed on those samples;
- D. The person(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years except those records that pertain to the treatment, storage, transfer, or disposal, and the beneficial use of biosolids, which shall be kept for a minimum of five years, including:

- A. All sampling and analytical records (including internal sampling data not reported);
- B. All original recordings for any continuous monitoring instrumentation;
- C. All instrumentation, calibration and maintenance records;
- D. All treatment works operation and maintenance records;
- E. All reports required by this permit; and
- F. Records of all data used to complete the application for this permit for a period of at least three years, or five years for sewage sludge or biosolids, from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three-year period, or five-year period for sewage sludge or biosolids, for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

The permittee shall allow the Director or an authorized representative upon presentation of credentials and other documents as may be required by law to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
- D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 11.B and 11.C.

B. Notice

- 1. Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of the bypass.
- 2. Unanticipated Bypass - The permittee shall submit notice of an unanticipated bypass as required in paragraph 12.B (24-hour notice).

C. Prohibition of Bypass

- 1. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. The permittee submitted notices as required under paragraph 11.B.
- 2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 11.C.1.

12. NONCOMPLIANCE NOTIFICATION

A. Exceedance of a Daily Maximum Discharge Limit

1. The permittee shall report noncompliance that is the result of any violation of a daily maximum discharge limit for any of the pollutants listed by the Director in the permit by e-mail or telephone within twenty-four (24) hours of discovery. The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.ohio.gov
Southwest District Office: swdo24hournpdes@epa.ohio.gov
Northwest District Office: nwdo24hournpdes@epa.ohio.gov
Northeast District Office: nedo24hournpdes@epa.ohio.gov
Central District Office: cdo24hournpdes@epa.ohio.gov
Central Office: co24hournpdes@epa.ohio.gov

The permittee shall attach a noncompliance report to the email. A noncompliance report form is available on the following website under the Monitoring and Reporting - Non-Compliance Notification section: <https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/individual-wastewater-discharge-permits>

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

- a. The name of the permittee, and a contact name and telephone number;
- b. The limit(s) that has been exceeded;
- c. The extent of the exceedance(s);
- d. The cause of the exceedance(s);
- e. The period of the exceedance(s) including exact dates and times;
- f. If uncorrected, the anticipated time the exceedance(s) is expected to continue; and,
- g. Steps taken to reduce, eliminate or prevent occurrence of the exceedance(s).

B. Other Permit Violations

1. The permittee shall report noncompliance that is the result of any unanticipated bypass resulting in an exceedance of any effluent limit in the permit or any upset resulting in an exceedance of any effluent limit in the permit by e-mail or telephone within twenty-four (24) hours of discovery. The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.ohio.gov
Southwest District Office: swdo24hournpdes@epa.ohio.gov
Northwest District Office: nwdo24hournpdes@epa.ohio.gov
Northeast District Office: nedo24hournpdes@epa.ohio.gov
Central District Office: cdo24hournpdes@epa.ohio.gov
Central Office: co24hournpdes@epa.ohio.gov

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site under the Monitoring and Reporting - Non-Compliance Notification section: <https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/individual-wastewater-discharge-permits>

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Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

- a. The name of the permittee, and a contact name and telephone number;
 - b. The time(s) at which the discharge occurred, and was discovered;
 - c. The approximate amount and the characteristics of the discharge;
 - d. The stream(s) affected by the discharge;
 - e. The circumstances which created the discharge;
 - f. The name and telephone number of the person(s) who have knowledge of these circumstances;
 - g. What remedial steps are being taken; and,
 - h. The name and telephone number of the person(s) responsible for such remedial steps.
2. The permittee shall report noncompliance that is the result of any spill or discharge which may endanger human health or the environment within thirty (30) minutes of discovery by calling the 24-Hour Emergency Hotline toll-free at (800) 282-9378. The permittee shall also report the spill or discharge by e-mail or telephone within twenty-four (24) hours of discovery in accordance with B.1 above.
- C. When the telephone option is used for the noncompliance reports required by A and B, the permittee shall submit to the appropriate Ohio EPA district office a confirmation letter and a completed noncompliance report within five (5) days of the discovery of the noncompliance. This follow up report is not necessary for the e-mail option which already includes a completed noncompliance report.
- D. If the permittee is unable to meet any date for achieving an event, as specified in a schedule of compliance in their permit, the permittee shall submit a written report to the appropriate Ohio EPA district office within fourteen (14) days of becoming aware of such a situation. The report shall include the following:
1. The compliance event which has been or will be violated;
 2. The cause of the violation;
 3. The remedial action being taken;
 4. The probable date by which compliance will occur; and
 5. The probability of complying with subsequent and final events as scheduled.
- E. The permittee shall report all other instances of permit noncompliance not reported under paragraphs A or B of this section on their monthly DMR submission. The DMR shall contain comments that include the information listed in paragraphs A or B as appropriate.

F. If the permittee becomes aware that it failed to submit an application, or submitted incorrect information in an application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;
2. The addition of any new significant industrial discharge; and
3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all

existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).
2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. Following establishment of such standards or prohibitions, the Director shall modify this permit and so notify the permittee.

18. PERMIT MODIFICATION OR REVOCATION

A. After notice and opportunity for a hearing, this permit may be modified or revoked, by the Ohio EPA, in whole or in part during its term for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;
2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned, and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

- A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;
- B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be

submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At any time during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

21. SOLIDS DISPOSAL

Collected grit and screenings, and other solids other than sewage sludge or biosolids, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any

provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than \$25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Notwithstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for Hanging Rock Power Company LLC

Public Notice No.: 211133
Public Notice Date: April 7, 2025
Comment Period Ends: May 7, 2025

Ohio EPA Permit No.: 0IB00032*HD
Application No.: OH0127931

Name and Address of Applicant:
Hanging Rock Power Company LLC
1395 County Road 1A
Ironton, OH 45638

Name and Address of Facility Where
Discharge Occurs:
Hanging Rock Power Company LLC
1395 County Road 1A
Ironton, OH 45638
Lawrence County

Receiving Water: Ohio River

Subsequent Stream Network: Mississippi River

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 (CWA) 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.

Antidegradation provisions in Ohio Administrative Code (OAC) Chapter 3745-1 describe the conditions under which water quality may be lowered in surface waters. No antidegradation review was necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the CWA. Many of these have already been established by the United States Environmental Protection Agency (U.S. EPA) in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations (WLAs) are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the WLA for a pollutant to a measure of the effluent quality. The measure of effluent quality is called Projected Effluent Quality (PEQ). This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

SUMMARY OF PERMIT CONDITIONS

Fictitious monitoring station 091 is being removed because the final outfall discharge at 001 has been determined to always be subject to flow that has been chlorinated. Thus, all discharges via 001 are proposed to be monitored and reported under final outfall table 001. The reporting parameter for chlorination duration is proposed to be removed as it is no longer relevant.

Loading limits are proposed to be removed for total suspended solids at outfall 001 using Director's discretion provided in 40 CFR 423.15 (a)(13). Concentration limits are proposed to remain.

Limits and monitoring requirements are proposed at outfall 001 to be removed for acute toxicity because the whole effluent toxicity reasonable potential analysis determined the discharge does not require monitoring.

Monitoring requirements at outfall 001 are proposed to be removed for zinc and copper because these parameters do not have the reasonable potential to contribute to WQS exceedances.

Monitoring requirements for COD and CBOD 5-day are proposed to be removed as the operations at the facility are not a source of COD and CBOD 5-day,

Monitoring for mercury has been increased in frequency and tracking language provided to ensure there is no reasonable potential to contribute to WQS exceedances

Monitoring requirements associated to internal monitoring stations 601, 602, 603, and 604 are proposed at reduced frequency as a result of the compliance history of the facility, the relatively small flow present at each internal monitoring station, and with respect that the flow is routed to outfall 001 that has the same total suspended solids limitations imposed. In addition, 602, 603 and 604 are proposed with 15mg/L monthly concentration limit for oil and grease similar to 601 as shown in the New Source Performance Standard for low volume wastewaters in lieu of the previously permitted 10mg/L monthly concentration limit.

Sludge monitoring station 596 is proposed to be removed as that data is not necessary in support of NPDES compliance.

Monitoring station 801 is proposed to be change from Upstream Monitoring Station to Intake Monitoring Station. Acute toxicity monitoring is proposed to be removed. Flow reporting is proposed to provide reporting of 316(b) information.

In Part II of the permit, special conditions are included that address storm water compliance; tracking of mercury; Section 316(b); PCBs; cooling water additives; and outfall signage.

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PROCEDURES FOR PARTICIPATION IN THE FORMULATION OF FINAL DETERMINATIONS

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

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 emailed to HCLerk@epa.ohio.gov or mailed to:

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

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted by email to epa.dswcomments@epa.ohio.gov (preferred method) 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 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 draft permit, contact Aaron Pennington, 740 – 380 – 5272, aaron.pennington@epa.ohio.gov.

INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS

This draft permit may contain proposed water-quality-based effluent limits (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: https://epa.ohio.gov/static/Portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf . In accordance with ORC 6111.03(J)(3), the Director established these WQBELs 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 email to epa.dswcomments@epa.ohio.gov (preferred method) or 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, a written request 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 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 WQS 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 3745-1-39. The permittee shall submit written notification regarding their intent to develop site specific WQS 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

Hanging Rock Power Company LLC discharges to the Ohio River at Mile Point 333. Figure 1 shows the approximate location of the facility.

This segment of the Ohio River is described by Ohio EPA River Code: 25-300, Hydrologic Unit Code: County: Lawrence, Ecoregion: Western Allegheny Plateau. The Ohio River is designated for the following uses under Ohio's WQS (OAC 3745-1-32): Warmwater Habitat, Public Water Supply, Agricultural Water Supply, Industrial Water Supply, Bathing Waters, Public Water Supply. The next public water intake is at Mile Point 350.8 which is more than 17 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

The Hanging Rock Power Company LLC facility is a natural gas-fired steam electric generating station capable of generating 1,340 megawatts. There are two combined cycle power blocks each with a 300 MW steam electric unit. The process operations performed at this facility are classified by the Standard Industrial Classification code 4911 – Electric Services, Steam Electric Power Plants. Discharges resulting from process operations are subject to Federal Effluent Guideline Limitations established in Chapter 40 of the CFR, Part 423, “Steam Electric Power Generating”.

Hanging Rock Power Company LLC obtains water from the Ohio River for cooling water.

DESCRIPTION OF EXISTING DISCHARGE

Table 1 highlights the outfalls, internal monitoring stations, wastewater sources, treatment processes, discharge/receiving streams and associated flows at the Hanging Rock Power Company LLC facility. Figure 2 provides a flow schematic of the wastewater sources and supplies associated with Hanging Rock Power Company LLC.

Sanitary wastes are treated by an onsite sewage treatment system. There is no discharge associated with the system.

There were no effluent violations at outfall 001/091 during the review period of September 2019 through August 2024. Flow data for the various monitoring station is shown on Table 2.

Table 3 presents data compiled from the NPDES permit renewal application Form 2C.

Table 4 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period September 2019 through August 2024, and current permit limits are provided for comparison.

Table 5 summarizes the chemical specific data for outfall 001/091 by presenting the average and maximum PEQ values.

Table 6 summarizes the results of acute and chronic WET tests of the final effluent.

ASSESSMENT OF IMPACT ON RECEIVING WATERS

Hanging Rock Power Company LLC discharges directly to the Ohio River in the Greenup 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 *2022 Biennial Assessment of Ohio River Water Quality Conditions (305b) Report* and/or biological survey results/pool reports.

The Biennial Report can be found at this website –

https://www.orsanco.org/wp-content/uploads/2016/07/ORSANCO_2022_305b_Report.pdf

The most recent pool report can be found here –

<https://www.orsanco.org/wp-content/uploads/2016/11/2016-Combined-Pool-Report-Final.pdf>

ORSANCO evaluates the river for four uses: aquatic life, contact recreation impairment, public water supply, and fish consumption. The Ohio River in its entirety is fully supporting aquatic life and public water supply uses. The Ohio River partially supports fish consumption use due to high levels of PCB and dioxin. There is no data to indicate that Hanging Rock Power Company LLC is contributing to the historic presence of PCB and dioxin. This reach of the Ohio River located downstream of combined sewer communities of Ironton and Huntington is partially supporting contact recreation use due to bacterial data exceeding criteria between 11% to 25% of the time. The discharges from the Hanging Rock Power Company LLC are not associated with sanitary waste. Thus, no new limits or monitoring are recommended at this time.

DEVELOPMENT OF WATER-QUALITY-BASED EFFLUENT LIMITS

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

Parameter Selection

Effluent data for the Hanging Rock Power Company LLC were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA DMR data submitted by the permittee, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES application, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

Statistical Outliers and Other Non-representative Data

The data were examined and there were no outliers removed.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. Average PEQ (PEQ_{avg}) values represent the 95th percentile of monthly average data, and maximum PEQ (PEQ_{max}) values represent the 95th percentile of all data points (see Table 5).

The PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required (see Table 7).

Wasteload Allocation

For those parameters that require a WLA, the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio WQS (OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. By rule, mixing zones are not authorized for pollutants, such as mercury, which have been designated as bioaccumulative chemicals of concern (BCCs). For BCCs, the WLA is set equal to the respective WQS value.

The methodology employed generally depends on whether the facility is considered a direct discharger to a (1) free-flowing receiving water/stream or (2) non-flowing receiving water/Lake.

For free flowing streams, WLAs for both average and maximum criteria are performed using the following general equation:

$$\text{Discharger WLA} = (\text{Downstream Flow} \times \text{WQS}) - (\text{Upstream Flow} \times \text{Background Concentration}).$$

Discharger WLAs are divided by the discharge flow so that the allocations are expressed as concentrations.

WLAs for direct discharges to lakes are performed using the following equation for average criteria:

$$\text{Discharger WLA} = (11 \times \text{WQS}) - (10 \times \text{Background Concentration}).$$

The applicable waterbody uses for this facility's discharge to the Ohio River and the associated stream design flows are as follows:

Aquatic life (Warmwater Habitat)		
Toxics (metals, organics, etc.)	Average	10% of annual 7Q10
	Maximum	1% of annual 7Q10
Agricultural Water Supply		10% of harmonic mean flow
Human Health (carcinogens)		10% of harmonic mean flow
Human Health (non-carcinogens)		100% of 7Q10

Allocations are developed using a percentage of stream design flow as specified in Table 8, and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Table 7 and Table 8. The WLA results to maintain all applicable criteria are presented in Table 9.

Whole Effluent Toxicity Wasteload Allocation

Whole effluent toxicity (WET) is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent. WQC for WET are 0.3 TUa for acute toxicity and 1.0 TUC for chronic toxicity (OAC 3745-1-44).

There are two separate reasonable potential procedures in Ohio - one for the Lake Erie watershed and one for the Ohio River watershed. Dischargers in the Ohio River watershed are assessed using OAC 3745-33-07(B). Dischargers in the Lake Erie watershed are assessed in accordance with the “Great Lakes Water Quality Initiative Implementation Procedures” contained in 40 CFR Part 132, Appendix F, Procedure 6.

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TUC) and 7Q10 flow for the average and the acute toxicity unit (TUa) and 1Q10 flow for the maximum. WET WLAs are based on meeting the values of 0.3 TUa and 1.0 TUC downstream of the discharge and include any available dilution. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. WLAs for acute toxicity are capped at 1.0 TUa unless the discharger demonstrates that an Area-of-Initial-Mixing (AIM) exists under OAC 3745-1-06, or that one of the factors in OAC 3745-33-07(B)(5)-(9) allows a higher TUa limit to be granted. For the purposes of establishing WET limitations, the values of 1.0 TUa and 1.0 TUC are the most restrictive limitations that can be applied in NPDES permits [OAC 3745-33-07(B)(10)].

For the Hanging Rock Power Company LLC facility, the WLA values for outfall 001 are 1.0 TUa and 634.6 TUC.

The chronic toxicity unit (TUC) is defined as 100 divided by the estimate of the effluent concentration which causes a 25% reduction in growth or reproduction of test organisms (IC25):

$$TUC = 100/IC25$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (Ceriodaphnia dubia only):

$$TUC = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

The acute toxicity unit (TUa) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC50) for the most sensitive test species:

$$TUa = 100/LC50$$

This equation applies outside the mixing zone for all designated waters. Based on the above, a value of 1.0 TUa is the lowest value that can be calculated using the equation. TUa values between 0.2 and 1.0 are based on an interpolation of toxic effects where an LC50 cannot be identified.

REASONABLE POTENTIAL/EFFLUENT LIMITS/MANAGEMENT DECISIONS

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the WQS must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a WQS or do not require a WLA based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum WLAs are selected from Table 9. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 5, and the PEL_{max} is compared to the PEQ_{max} . Based on the calculated percentage of the allocated value $[(PEQ_{avg} \div PEL_{avg}) \times 100]$, or $[(PEQ_{max} \div PEL_{max}) \times 100]$, the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 10.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 11 presents the final effluent limits and monitoring requirements proposed for the Hanging Rock Power Company LLC facility outfall 001 and internal monitoring stations 601, 602, 603 and 604 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Outfall 001

pH

Limits proposed for pH are based on WQS.

Chromium, Zinc, Polychlorinated Biphenyl Compounds and 126 priority pollutants

The NSPS requirements for polychlorinated biphenyl compounds (PCBs) and cooling tower maintenance chemicals are in Part II of the permit. NSPS require that PCBs not be discharged from plant operations, and that cooling tower maintenance chemicals be free from priority pollutants other than chromium and zinc. Based on BPJ, Ohio EPA has extended the "free from priority pollutants" requirement to include chromium and zinc.

Total Suspended Solids

Federal effluent guideline limitations (ELGs) are based on available treatment technology. Federal and State laws and regulations require that dischargers meet both the ELGs and any standards need to comply with state WQS. Permit limits are based on the more stringent of the two. The limits recommended for total suspended solids are based on the federal effluent limitation guidelines (ELGs) found in 40 CFR Part 423.15(a)(3). All limits are shown in Attachment 1. The associated loading limits are proposed to be removed using Director's discretion provided in 40 CFR 423.15 (a)(13) that reads: *At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of any mass based limitations specified in paragraphs (a)(3) through (10) of this section. Concentration limits shall be based on the concentrations specified in this section.* In this case, the flows associated to outfall 001 are predominately from cooling tower blowdown, boiler blowdown, and water supply treatment that provides for cooling tower makeup water and boiler makeup water. These flows can vary based on Ohio River water quality, atmospheric conditions, and system demand whereas maintaining a loading limit would suppress the facility's ability to maintain compliance, thus concentration only limits are being proposed.

Total Residual Chlorine

The Ohio EPA risk assessment (Table 10) places total residual chlorine in group 5. This placement, as well as the data in Table 4 and Table 5, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For this parameter, the PEQ is greater than 100 percent of the WLA. The proposed limit for total residual chlorine is based on IMZM WQS. The effluent limit for chlorine at outfall 001 is less than the quantification level of 0.050 mg/L. The previous permit included a 091 monitoring station for when chlorination occurred for more than 120 minutes in a given day and included this total residual chlorine limit. This renewal proposes to remove the 091 monitoring station and include the limit in monitoring station 001. The previous 001 table provided for an elevated total residual limit for chlorinated discharges occurring for

less than 120 minutes/day. The discharge historically occurs for more than 120 minutes a day. Regardless of whether the chlorine was added to the cooling towers for less than 120 minutes a day, the discharge flow would have the potential to discharge chlorinated waters for time in excess of 120 minutes throughout times of blowdown necessitating dechlorination of the cooling tower blowdown. This permit proposes removing the reporting requirement for chlorination/bromination duration as it is no longer relevant to an elevated total residual chlorine limitation.

Mercury

The Ohio EPA risk assessment (Table 10) places mercury in group 5, which recommends limits to protect water quality. Using the discretion allowed the Director under OAC 3745-33-07(A)(5), monitoring rather than limits is proposed for this parameter. The PEQ values calculated for mercury (Table 5) may not be representative of its actual levels in the effluent since they were based on five data points. All of the individual results for mercury are less than 75% of the PEL. Considering the magnitude of the reported values compared to the WLA, a tracking provision is proposed in Part II of the permit that requires the Hanging Rock Power Company LLC to notify Ohio EPA if a sample result exceeds the preliminary effluent limit (Table 9). If certain conditions are met, the permittee is required to take steps to reduce the discharge level of this pollutant. Monitoring is proposed at an increased frequency.

Antimony, Barium, Boron, Chloroform, Cobalt, Copper, Fluoride, Iron, Molybdenum, Nickel, Nitrate + Nitrite, and Tin.

The Ohio EPA risk assessment (Table 10) places antimony, barium, boron, chloroform, cobalt, copper, fluoride, iron, molybdenum, nickel, nitrate + nitrite, and tin in groups 2 and 3. This placement, as well as the data in Table 4 and Table 5, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed.

Oil & Grease, Total Filterable Residue, Temperature, and Flow Rate

Monitoring for these parameters is proposed to continue in order to evaluate the performance of the treatment plant.

Chemical Oxygen Demand and CBOD 5-Day

Monitoring for these parameters is proposed to be removed as they are no longer necessary to be conducted in order to evaluate the performance of the treatment plant.

Phosphorus

Phosphorus in the form of phosphate is frequently used in cooling tower maintenance chemicals for corrosion inhibition. The proposed monitoring will continue to characterize the phosphorus in the discharge to determine potential impacts in the receiving stream.

Internal Monitoring Station 601, 602, 603, and 604.

Total Suspended Solids and Oil & Grease

Federal effluent guideline limitations (ELGs) are based on available treatment technology. The limits recommended for total suspended solids and oil & grease are based on the federal effluent limitation guidelines (ELGs) found in 40 CFR Part 423.15(a)(3). All limits are shown in Attachment 1. Monitoring is proposed at a reduced frequency due to compliance history. The monthly concentration limit for oil & grease at 602, 603 and 604 is proposed to increase from 10 mg/L to 15 mg/L to match monitoring station 601 and 40 CFR Part 423.15(a)(3). This increase is exempt from Antidegradation pursuant OAC 3745-33-05 (F)(1)(c) *For technology-based limitations, the director determines that technical mistakes or mistaken interpretations of law were made in issuing the (previous) permit.*

pH and Flow Rate

Monitoring for these parameters is proposed to continue at reduced frequency to maintain an evaluation of wastewater characteristics associated with the internal collection points.

Whole Effluent Toxicity Reasonable Potential

Based on evaluating the WET data presented in Table 6 and other pertinent data under the provisions of OAC 3745-33-07(B), the Hanging Rock Power Company LLC facility is placed in Category 4 with respect to WET. Monitoring is proposed to be removed at this time. The current approved treatment additive use at the facility has shown to not contribute in a substantial way to toxicity, Future additive approvals may trigger the need for renewed WET testing to ensure compliance with WQS.

Additional Monitoring Requirements

Internal stations 601, 602, 603, and 604 are proposed with reduced monitoring frequencies.

New monitoring for flow is being proposed at intake monitoring station 801 because the requirements of 316(b) need fulfilled. Monitoring for % affected of daphnia dubia and pimephales promela is proposed to be removed at upstream monitoring station 801 because acute toxicity effluent monitoring is proposed to be removed.

Additional monitoring requirements proposed at the final effluent, influent and upstream/downstream stations are included for all facilities in Ohio and vary according to the type and size of the discharge. In addition to permit compliance, this data is used to assist in the evaluation of effluent quality and treatment plant performance and for designing plant improvements and conducting future stream studies.

Sludge

Monitoring requirements for the sludge from the water treatment facility previously permitted as sludge monitoring station 596 are proposed to be removed as that data is not necessary in support of NPDES compliance.

OTHER REQUIREMENTS

Cooling Water Intake Structure Compliance

Under Section 316(b) of the federal CWA, cooling water intake structures (CWISs) are required to use best technology available (BTA) to minimize adverse environmental impact resulting from the operation of the intake. New rules were promulgated on October 14, 2014, and facilities with permits that expire after July 18, 2018 must be in compliance with the new rules. The CWIS is considered an existing unit at an existing facility and therefore must comply with 40 CFR 125, Subpart J. Information supplied from the permittee regarding the CWIS and other pertinent data include the following:

- Design maximum intake flow rate – 14.1 MGD based on two pumps operating at once..
- Maximum design intake flow rate of pumps – 3 pumps – each rated at 4,900 gpm at 72 TDH (only one or two pumps can operate at any given time)
- Percentage of intake flow rate used for cooling purposes – 95+% is used for non-contact cooling water purposes and 0% is used for contact cooling water purposes.
- Through-screen design intake velocity – maximum of 0.5 feet per second (fps).
- Cooling towers are 10 stage.
- No recent or historical impingement data are available for Hanging Rock.
- No recent or historical entrainment data are available for Hanging Rock.
- Operation of the cooling water system – 2 cooling tower banks (one per each power block). Typical operation is 7 DAYS PER WEEK, 50+ WEEKS PER YEAR with a typical annual outage scheduled.

- Screen is a cylindrical wedgewire tee-screen comprised of two sections of 33" in diameter divided into two approximately 33 in long sections converging to a single 30" steel intake pipe leading to pumphouse. Slot size is 2.0 mm. Air burst is used as maintenance to prevent clogging of screening.

Ohio EPA has evaluated this information and at this time has determined that the CWIS represents BTA in accordance with Section 316(b) of the CWA. This BTJ conclusion has been reached based on THE LOW INTAKE FLOW RATE COMPARED TO THE CRITICAL LOW FLOW OF RECEIVING STREAM. Hanging Rock Power Company LLC's operations are not indicated as contributing to the river's impairments.

In order to ensure that the facility remains compliant with Section 316(b), special conditions are included in Part II of the permit.

Outfall Signage

Part II of the permit includes requirements for the permittee to place and maintain a sign at each outfall to the Ohio River providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

Part III

Part III of the permit details standard conditions that include monitoring, reporting requirements, compliance responsibilities, and general requirements.

Storm Water Compliance

To comply with industrial storm water regulations, the permittee submitted a form for "No Exposure Certification" which was signed on May 30, 2023. The certification number is 0GRN00434 Compliance with the industrial storm water regulations must be re-affirmed every five years. No later than May 30, 2028 the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial storm water regulations.

Figure 1. Location of Hanging Rock Power Company LLC



Notes: The figure displays the name of previous facility owner.

Figure 2. Water Balance Diagram

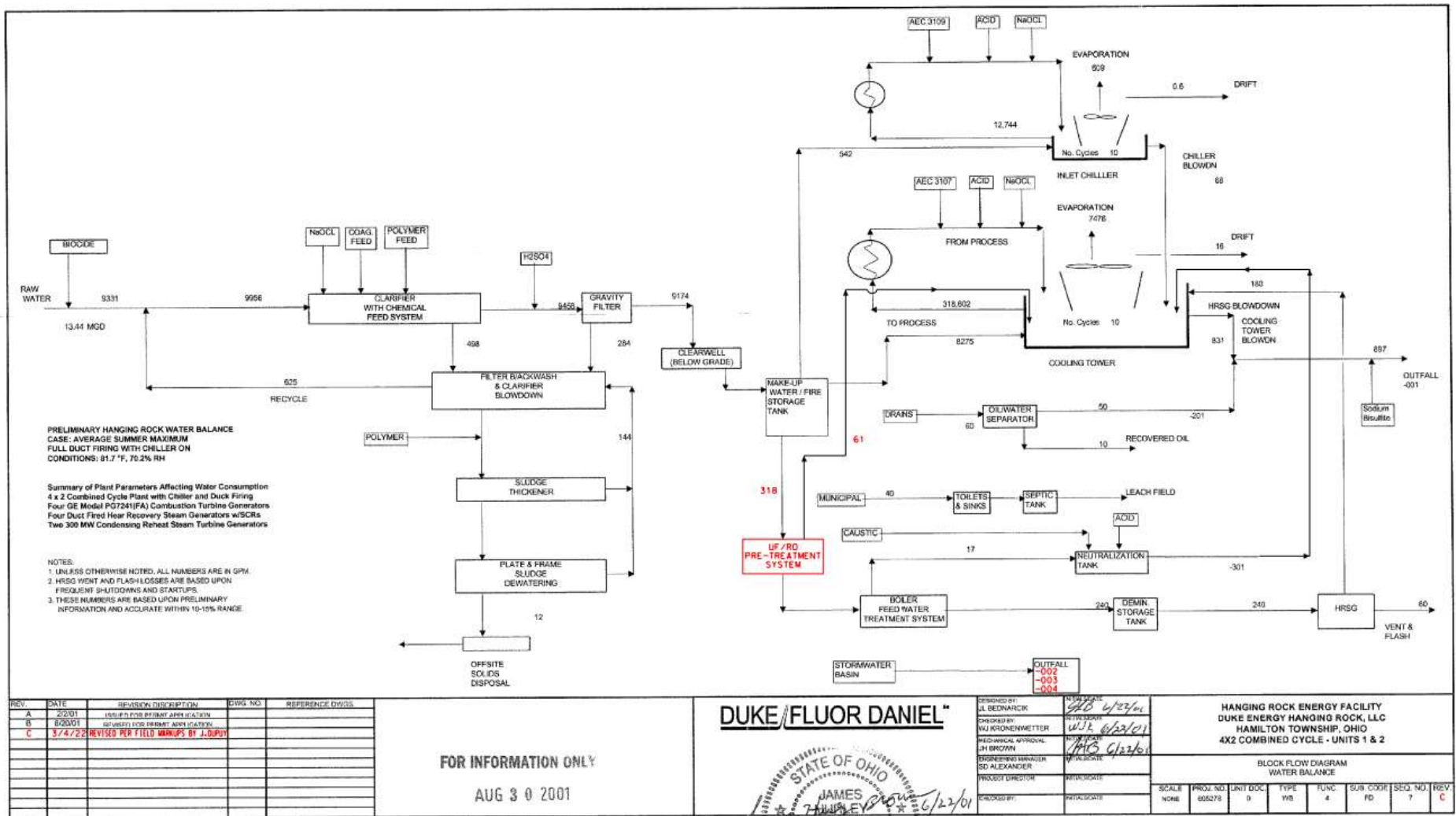


Table 1. Monitoring Stations, Wastewater Sources, Treatment Processes, Discharge Points, and Flow Rates

Station #	Wastewater Source	Treatment Utilized	Discharge/ Receiving Stream	Average Flow ¹ Rate (MGD)
001	Cooling tower blowdown including boiler blowdown, boiler water treatment system blowdown, RO system and floor drains	Neutralization, Disinfection and Dechlorination	Ohio River	0.736
002	Stom water	Sediment Pond	UTT Big Thief Creek	N/A
003	Stom water	Sediment Pond	UTT Big Thief Creek	N/A
004	Storm water	None	UTT Big Thief Creek	N/A
601	Internal monitoring station from oil water separator from floor drains servicing power block 1	Oil Water Separator	Outfall 001	0.011
602	Internal monitoring station from boiler blowdown and boiler water treatment blowdown servicing power block 1.	None	Outfall 001	0.046
603	Internal monitoring station from oil water separator from floor drains servicing power block 2	Oil Water Separator	Outfall 001	0.013
604	Internal monitoring station from boiler blowdown and boiler water treatment blowdown servicing power block 1.	None	Outfall 001	0.063

¹ Average Flow is the average flow reported September 2019 through August 2024. For 001, flows reported under 001 and 091 were combined then averaged.

MGD – Million Gallons per Day

UTT = Unnamed Tributary To

Table 2. Annual Effluent Flow Rates September 2019 through August 2024

Year	Annual Flow in MGD				
	# observations	Average	50th Percentile	95th Percentile	Maximum
Outfall 001					
2019	-	-	-	-	-
2020	-	-	-	-	-
2021	-	-	-	-	-
2022	182	0.77	0.78	1.13	1.63
2023	354	0.78	0.76	1.22	1.71
2024	233	0.69	0.67	1.22	1.49
Outfall 091					
2019	120	0.85	0.89	1.33	1.53
2020	365	0.72	0.70	1.22	2.03
2021	351	0.74	0.73	1.18	1.48
2022	176	0.62	0.63	0.97	1.24
2023	-	-	-	-	-
2024	-	-	-	-	-
Internal 601					
2019	119	0.02	0.01	0.03	0.15
2020	352	0.01	0.01	0.02	0.07
2021	353	0.01	0.01	0.02	0.04
2022	355	0.01	0.01	0.02	0.11
2023	355	0.01	0.01	0.02	0.10
2024	181	0.01	0.01	0.02	0.05
Internal 602					
2019	118	0.03	0.01	0.10	0.13
2020	339	0.04	0.01	0.15	0.17
2021	344	0.05	0.01	0.16	0.18
2022	350	0.05	0.01	0.15	0.17
2023	347	0.04	0.02	0.14	0.18
2024	180	0.06	0.02	0.15	0.79
Internal 603					
2019	119	0.02	0.01	0.04	0.61
2020	353	0.01	0.01	0.04	0.10
2021	353	0.01	0.00	0.04	0.09
2022	354	0.00	0.01	0.01	0.04
2023	351	0.03	0.01	0.22	0.33
2024	241	0.01	0.01	0.01	0.02

Year	Annual Flow in MGD				
	# observations	Average	50th Percentile	95th Percentile	Maximum
Internal 604					
2019	118	0.05	0.05	0.12	0.16
2020	335	0.06	0.04	0.17	0.21
2021	348	0.06	0.03	0.17	0.33
2022	347	0.06	0.02	0.19	0.37
2023	347	0.06	0.02	0.19	0.28
2024	241	0.08	0.04	0.21	0.26

MGD = million gallons per day

Table 3. Effluent Characterization Based on Form 2C Data for Outfall 001

Parameter	Units		Max daily		No. of Analyses
	Conc	Mass	Conc	Mass	
Aluminum	µg/L	kg	110	1.860	2
Antimony	µg/L	kg	21	0.3555	1
Barium	µg/L	kg	308	5.214	1
Boron	µg/L	kg	320	5.418	1
Chloroform	µg/L	kg	3	0.0508	1
Chromium	µg/L	kg	3	0.0508	1
Cobalt	µg/L	kg	2	0.0339	1
Fluoride	mg/L	kg	0.94	15.91	1
Iron	µg/L	kg	440	7.449	2
Magnesium	mg/L	kg	80.7	1366	1
Molybdenum	µg/L	kg	10	0.1693	1
Manganese	µg/L	kg	13	0.2201	2
Nickel	µg/L	kg	11	0.1862	1
Nitrate + Nitrite (as N)	mg/L	kg	8.78	148.6	1
Phenols	µg/L	kg	9	0.1524	2
Sulfate	mg/L	kg	1420	24041	1
Tin	µg/L	kg	20	0.3386	1

Table 4. Effluent Characterization Using Self-Monitoring Data

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data
			30 day	Daily		50 th	95 th	Range
Outfall 001								
Water Temperature	Annual	°F	----- Monitor -----		769	95	104	74.9-107
Chemical Oxygen Demand	Annual	mg/L	----- Monitor -----		26	67	83.5	30-108
		kg/day			26	200	381	26.6-403
pH	Annual	S.U.	9.0 max - 6.5 min.		769	7.38	7.7	6.51-8.48
Total Suspended Solids	Annual	mg/L	30.0	100	109	4	9.6	0-15
		kg/day	147	489	109	8.18	27.6	0-44.9
Oil & Grease	Annual	mg/L	----- Monitor -----		109	0	2.36	0-18.7
		kg/day			109	0	8.46	0-51.7
Phosphorus, total	Annual	mg/L	----- Monitor -----		4	1.13	1.24	0.36-1.26
		kg/day			4	2.25	2.68	1.24-2.69
Zinc, total recoverable	Annual	µg/L	----- Monitor -----		109	10	20	0-40
		kg/day			109	0.0268	0.0679	0-0.124
Copper, total recoverable	Annual	µg/L	----- Monitor -----		109	14	20	0-26
		kg/day			109	0.0386	0.0707	0-0.101
Flow rate	Annual	MGD	----- Monitor -----		769	0.74	1.2	0.003-1.71
Chlorine, total residual	Annual	mg/L	--	0.2	769	0	0.0211	0-0.079
		kg/day			769	0	0.0662	0-0.333
Mercury, total (low level)	Annual	ng/L	----- Monitor -----		3	2.4	4.38	0-4.6
		kg/day				4.1E-	1.8E-	
					3	06	05	0-0.00002
Acute Toxicity, Ceriodaphnia dubia	Annual	TUa	----- Monitor -----		2	0	0	0-0
Acute Toxicity, Pimephales promelas	Annual	TUa	----- Monitor -----		2	0	0	0-0
Residue, Total Filterable	Annual	mg/L	----- Monitor -----		109	2190	2610	1770-2920
		kg/day			109	5970	11600	737-13300
Chlorination/Bromination Duration	Annual	Minutes		120	770	110	110	110-110
CBOD 5day	Annual	mg/L	----- Monitor -----		26	0	4.75	0-8

Parameter	Season	Units	Current Permit Limits		#	Percentiles		Data
			30 day	Daily		50 th	95 th	Range
		kg/day			26	0	11	0-15.9
Outfall 091								
Water Temperature	Annual	°F	----- Monitor -----		1013	92.9	103	0.93-106
Chemical Oxygen Demand	Annual	mg/L	----- Monitor -----		34	68	93.2	34-106
		kg/day			34	188	372	53.7-499
pH	Annual	S.U.	9.0 max - 6.5 min.		997	7.02	7.5	6.53-8.46
Total Suspended Solids	Annual	mg/L	30.0	100	142	3	13	0-66
		kg/day	147	489	142	8.74	35.4	0-235
Oil & Grease	Annual	mg/L	----- Monitor -----		141	0	2.4	0-7.5
		kg/day			141	0	8.63	0-28.7
Phosphorus, total	Annual	mg/L	----- Monitor -----		6	1.27	1.69	1.11-1.79
		kg/day			6	3.49	5.52	2.25-6.03
Zinc, total recoverable	Annual	µg/L	----- Monitor -----		142	10	20	0-80
		kg/day			142	0.0273	0.0628	0-0.339
Copper, total recoverable	Annual	µg/L	----- Monitor -----		142	14	27	0-85
		kg/day			142	0.0374	0.0944	0-0.291
Flow rate	Annual	MGD	----- Monitor -----		1012	0.7	1.21	0-2.03
Chlorine, total residual	Annual	mg/L	--	0.038	997	0	0.008	0-0.035
		kg/day			997	0	0.0172	0-0.173
Mercury, total (low level)	Annual	ng/L	----- Monitor -----		2	6.15	7.82	4.3-8
		kg/day			2	2.1E-05	2.3E-05	0.000019-0.0000233
Acute Toxicity, Ceriodaphnia dubia	Annual	TUa	----- Monitor -----		3	0	0	0-0
Acute Toxicity, Pimephales promelas	Annual	TUa	----- Monitor -----		3	0	0	0-0
Residue, Total Filterable	Annual	mg/l	----- Monitor -----		142	2060	2610	368-2940
		kg/day			142	5630	11000	804-15100
CBOD 5day	Annual	mg/L	----- Monitor -----		34	2	6.35	0-8
		kg/day			34	5.98	20.4	0-40.9

Parameter	Season	Units	Current Permit Limits		#	Percentiles		Data
			30 day	Daily	Obs.	50 th	95 th	Range
Station 601								
pH	Annual	S.U.	----- Monitor -----		1715	7.26	8.65	6.51-9.2
Total Suspended Solids	Annual	mg/L	30.0	100	58	0	5.45	0-14
		kg/day			57	0	0.159	0-1.11
Oil & Grease	Annual	mg/L	15	20	58	0	3.9	0-4.6
		kg/day			57	0	0.138	0-0.251
Flow rate	Annual	MGD	----- Monitor -----		1715	0.01	0.02	0-0.15
Station 602								
pH	Annual	S.U.	----- Monitor -----		1677	9.45	9.84	6.63-10.1
Total Suspended Solids	Annual	mg/L	30	100	59	0	5.9	0-18
		kg/day			59	0	0.534	0-3.41
Oil & Grease	Annual	mg/L	10	20	58	0	1.93	0-3
		kg/day			58	0	0.173	0-1.18
Flow rate	Annual	MGD	----- Monitor -----		1678	0.0115	0.15	0-0.793
Station 603								
pH	Annual	S.U.	----- Monitor -----		1771	7.16	8.62	6.12-9.11
Total Suspended Solids	Annual	mg/L	30	100	60	0	5.05	0-13
		kg/day			60	0	0.195	0-1.55
Oil & Grease	Annual	mg/L	10	20	59	0	2.63	0-4.7
		kg/day			59	0	0.0368	0-0.549
Flow rate	Annual	MGD	----- Monitor -----		1771	0.005	0.042	0-0.61
Station 604								
pH	Annual	S.U.	----- Monitor -----		1732	9.51	9.85	6.62-9.99
Total Suspended Solids	Annual	mg/L	30	100	63	0	20.6	0-60
		kg/day			63	0	4.63	0-8.78
Oil & Grease	Annual	mg/L	10	20	59	0	2	0-3
		kg/day			59	0	0.272	0-1.36

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data
			30 day	Daily		50 th	95 th	Range
Flow rate	Annual	MGD	-----	Monitor -----	1736	0.03	0.185	0-0.37
Station 596								
Sludge Weight, Wet Tons	Annual	Tons	-----	Monitor -----	5	846	891	552-899
Station 801								
48-Hr. Acute Toxicity Ceriodaphnia dubia	Annual	% Affected	-----	Monitor -----	5	0	0	0-0
96-Hr. Acute Toxicity Pimephales promela	Annual	% Affected	-----	Monitor -----	5	0	0	0-0

All values are based on annual records unless otherwise indicated. * = For minimum pH, 5th percentile shown in place of 50th percentile.

Table 5. Projected Effluent Quality

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Outfall 001/091					
Aluminum	µg/L	2	2	305.1	418.0
Antimony	µg/L	1	1	95.05	130.2
Barium	µg/L	1	1	1394	1910
Boron	µg/L	1	1	1448	1984
Chlorine – Total Residual	mg/L	1766	155	0.029	0.040
Chloroform (Trichloromethane)	µg/L	1	1	13.58	18.60
Chromium	µg/L	1	1	13.58	18.60
Cobalt	µg/L	1	1	9.052	12.40
Copper	µg/L	251	249	20.90	27.50
Total filterable residue	mg/L	251	251	2554	3027
Fluoride	mg/L	1	1	4.254	5.828
Iron	µg/L	2	2	1221	1672
Magnesium	mg/L	1	1	365.2	500.3
Manganese	µg/L	2	2	36.06	49.40
Mercury	ng/L	5	4	13.43	18.40
Molybdenum	µg/L	1	1	45.26	62.00
Nickel - TR	µg/L	1	1	49.79	68.20
Nitrate-N + Nitrite-N	mg/L	1	1	39.74	54.44
Oil & grease	mg/L	250	50	2.211	3.264
Phenolics	µg/L	2	2	24.97	34.20
Phosphorus	mg/L	10	10	2.221	3.043
Sulfates	mg/L	1	1	6427	8804
Tin	µg/L	1	1	90.52	124.0
Zinc	µg/L	251	248	40.88	56.00

MDL = analytical method detection limit

PEQ = projected effluent quality

Table 6. Summary of Acute Toxicity Results 001/091

Date	<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
	TU _a	TU _a
5/7/2020	AA	AA
5/20/2021	AA	AA
5/19/2022	AA	AA
5/4/2023	AA	AA
5/2/2024	AA	AA

AA = non-detection; analytical method detection limit of 0.2 TU_a.

TU_a = acute toxicity unit

Table 7. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria				Inside
		Average			Maximum	Mixing
		Human Health	Agri-culture	Aquatic Life	Aquatic Life	Zone Maximum
Outfall 001						
Aluminum	µg/L	--	--	--	--	--
Antimony	µg/L	5.6	--	190	900	1800
Barium	µg/L	1000	--	710	3000	16000
Boron	µg/L	--	--	3900	33000	65000
Chlorine Total Residual	mg/L	--	--	0.011	0.019	0.038
Chloroform (Trichloromethane)	µg/L	57c	--	140	1300	2600
Chromium	µg/L	--	100	95	2000	11000
Cobalt	µg/L	--	--	24	220	440
Copper	µg/L	--	500	10	16	100
Fluoride	mg/L	1	2	--	--	--
Iron	µg/L	--	5000	--	--	--
Magnesium	mg/L	--	--	--	--	--
Manganese	µg/L	--	--	--	--	--
Mercury	ng/L	12	10000	910	1700	3400
Molybdenum	µg/L	--	--	20000	190000	370000
Nickel	µg/L	610	200	57	520	3000
Nitrate-N + Nitrite-N	mg/L	10	100	--	--	--
Oil & grease	mg/L	--	--	--	10	--
Phenolics	µg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Sulfates	mg/L	--	--	--	--	--
Tin	µg/L	--	--	180	1600	3200
Total filterable residue	mg/L	--	--	1500	--	--
Zinc	µg/L	7400	25000	130	130	780

Table 8. Instream Conditions and Discharger Flow

Parameter	Units	Value	Basis
Stream Flows			
7Q10	cfs	10000	ORSANCO Big Sandy River to Greenup Dam
Harmonic Mean	cfs	38400	ORSANCO Big Sandy River to Greenup Dam
Hardness – Outside Mixing Zone	mg/l	112	ORSANCO, R.C. Byrd n=227, median
Inside Mixing Zone		400	Use 400 for values >400 - effluent average based on three results 9/17-19/24 = 1011
Outfall 001	cfs	1.5782	95th% of average monthly flow reported for 001/091 Sept 2019-Aug 2024
Aluminum	µg/L	471	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median
Antimony	µg/L	0.11	ORSANCO; 2014-2019; n=30; 9<MDL; ORSANCO clean metals (R.C. Byrd) Median
Barium	µg/L	39.1	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median
Boron	µg/L	0	No data available
Chlorine – Total Residual	mg/L	0	No data available
Chloroform (Trichloromethane)	µg/L	0	No data available
Chromium	µg/L	1.3	ORSANCO; 2014-2019; n=30; 20<MDL; ORSANCO clean metals (R.C. Byrd) Median
Cobalt	µg/L	0	No data available
Copper	µg/L	2.08	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median
Total filterable residue	mg/L	184	ORSANCO; 2014-2019; n=27; 0<MDL; ORSANCO bimonthly (R.C. Byrd) Median
Fluoride	mg/L	0	No data available
Iron - TR	µg/L	833	ORSANCO; 2014-2019; n=30; 1<MDL; ORSANCO clean metals (R.C. Byrd) Median
Magnesium	mg/L	8.4	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median
Manganese - TR	µg/L	79.5	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median
Mercury	ng/L	2.6	ORSANCO; 2014-2019; n=30; 12<MDL; ORSANCO clean metals (R.C. Byrd) Median
Molybdenum	µg/L	0	No data available
Nickel	µg/L	2.41	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median

Parameter	Units	Value	Basis
Nitrate-N + Nitrite-N	mg/L	0.76	ORSANCO; 2014-2019; n=27; 0<MDL; ORSANCO bimonthly (R.C. Byrd) Median
Oil & grease	mg/L	0	No data available
Phenolics	µg/L	0	ORSANCO; 2014-2019; n=25; 25<MDL; ORSANCO bimonthly (R.C. Byrd) Median
Phosphorus	mg/L	0	No data available
Sulfates	mg/L	53.6	ORSANCO; 2014-2019; n=26; 0<MDL; ORSANCO bimonthly (R.C. Byrd) Median
Tin	µg/L	0	No data available
Zinc - TR	µg/L	5.74	ORSANCO; 2014-2019; n=30; 0<MDL; ORSANCO clean metals (R.C. Byrd) Median

MDL = analytical method detection limit

n = number of samples

NPDES = National Pollutant Discharge Elimination System

Ohio EPA = Ohio Environmental Protection Agency

Table 9. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria				Inside
		Average			Maximum	Mixing
		Human Health	Agri-culture	Aquatic Life	Aquatic Life	Zone Maximum
Outfall 001						
Aluminum	µg/L	--	--	--	--	--
Antimony	µg/L	34792	--	120511	57920	1800
Barium	µg/L	6089582	--	425815	190612	16000
Boron	µg/L	--	--	2475070	2123990	65000
Chlorine Total Residual	mg/L	--	--	7	1.2	0.038
Chloroform (Trichloromethane)	µg/L	138747	--	88849	83672	2600
Chromium	µg/L	--	240252	59466	128644	11000
Cobalt	µg/L	--	--	15231	14160	440
Copper	µg/L	--	1212015	5028	898	100
Fluoride	mg/L	6337	4868	--	--	--
Iron	µg/L	--	10143943	--	--	--
Magnesium	mg/L	--	--	--	--	--
Manganese	µg/L	--	--	--	--	--
Mercury	ng/L	12	10000	910	1700	3400
Molybdenum	µg/L	--	--	12692665	12229032	370000
Nickel	µg/L	3850502	480966	34647	33316	3000
Nitrate-N + Nitrite-N	mg/L	58558	241566	--	--	--
Oil & grease	mg/L	--	--	--	--	--
Phenolics	µg/L	--	--	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Sulfates	mg/L	--	--	--	--	--
Tin	µg/L	--	--	114234	102981	3200
Total filterable residue	mg/L	--	--	835361	--	--
Zinc	µg/L	46859890	60839826	78865	8004	780

Table 10. Parameter Assessment

Outfall 001/091

Group 1: Due to a lack of criteria, the following parameters could not be evaluated at this time.

Aluminum	Magnesium	Manganese
Phenolics	Sulfates	

Group 2: $PEQ < 25$ percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.

Chloroform (Trichloromethane)	Chromium	Iron
Molybdenum		

Group 3: $PEQ_{max} < 50$ percent of maximum PEL and $PEQ_{avg} < 50$ percent of average PEL. No limit recommended; monitoring optional.

Antimony	Barium	Boron
Cobalt	Copper	Total filterable residue
Fluoride	Nickel	Nitrate-N + Nitrite-N
	Tin	Zinc

Group 4: $PEQ_{max} \geq 50$ percent, but < 100 percent of the maximum PEL or $PEQ_{avg} \geq 50$ percent, but < 100 percent of the average PEL. Monitoring is appropriate.

No Parameters

Group 5: Maximum $PEQ \geq 100$ percent of the maximum PEL or average $PEQ \geq 100$ percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality

<u>Criteria</u>		<u>Recommended Effluent Limits</u>	
<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>
Chlorine, Total Residual	mg/L	--	0.038
Mercury - TR (BCC)	ng/L	12	1700

PEL = preliminary effluent limit

PEQ = projected effluent quality

WLA = wasteload allocation

WQS = water quality standard

Table 11. Final Effluent Limits

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		30 Day	Daily	30 Day	Daily	
		Average	Maximum	Average	Maximum	
Outfall 001						
Water Temperature	°F	----- Monitor -----				M ^c
pH	S.U.	6.5 min - 9.0 max		--	--	WQS
Total Suspended Solids	mg/L	30	100	--	--	NSPS
Oil & Grease	mg/L	----- Monitor -----				M ^c
Phosphorous	mg/L	----- Monitor -----				M ^c
Flow Rate	MGD	----- Monitor -----				M ^c
Chlorine, Total Residual	mg/L	--	0.038	--	--	WLA/IMZM
Mercury	ng/L	----- Monitor -----				RP
Total Filterable Residue	mg/L	----- Monitor -----				M ^c
Internal Monitoring Station 601						
pH	S.U.	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	30	100	--	--	NSPS
Oil & Grease	mg/L	15	20	--	--	NSPS
Flow Rate	MGD	----- Monitor -----				M ^c
Internal Monitoring Station 602						
pH	S.U.	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	30	100	--	--	NSPS
Oil & Grease	mg/L	15	20	--	--	NSPS
Flow Rate	MGD	----- Monitor -----				M ^c
Internal Monitoring Station 603						
pH	S.U.	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	30	100	--	--	NSPS
Oil & Grease	mg/L	15	20	--	--	NSPS
Flow Rate	MGD	----- Monitor -----				M ^c
Internal Monitoring Station 604						
pH	S.U.	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	30	100	--	--	NSPS
Oil & Grease	mg/L	15	20	--	--	NSPS
Flow Rate	MGD	----- Monitor -----				M ^c
Intake Monitoring Station 801						
Flow Rate	MGD	----- Monitor -----				M ^c

^a Effluent loadings not applicable

^b Definitions:

M = DSW NPDES Permit Guidance 2: Determination of Sampling Frequency Formula for Industrial Waste Discharges

NSPS = New Source Performance Standard

RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in permits (OAC 3745-33-07(A))

WLA = Wasteload Allocation procedures (OAC 3745-2)

WLA/IMZM = Wasteload Allocation limited by Inside Mixing Zone Maximum

WQS = Ohio Water Quality Standards (OAC 3745-1)

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

Attachment 1. Applicable Federal Effluent Limitation Guidelines

40 CFR 423.15 - New Source Performance Standards

Parameter (mg/L)	Daily Maximum	30-Day Average
Low Volume Wastewaters		
Total Suspended Solids ^a	100	30
Oil & Grease	20	15
Cooling Tower Blowdown		
Chlorine, Free Available ^b	0.5	0.2
Chromium, Total ^c	0.2	0.2
Zinc, Total ^c	1.0	1.0
The 126 priority pollutants contained in chemicals added for cooling tower maintenance ^c	No detectable amount	No detectable amount

All discharges shall be within the range of 6.0 – 9.0.

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

^a The concentration limits applied to low volume wastewaters have been extended to apply to cooling tower blowdown similar to the existing permit.

^b Chlorination limits in 40 C FR 423.15 are less stringent than water quality standards, thus the proposed limit for total residual chlorine is a water quality based effluent limit. Hanging Rock Power Company LLC provides dechlorination routinely when discharging from the cooling tower blowdown.

^c Based on BPJ, Ohio EPA has extended the “free from priority pollutants” requirement to include chromium and zinc. The NSPS requirements for polychlorinated biphenyl compounds (PCBs) and cooling tower maintenance chemicals are proposed in Part II of the permit. NSPS require that PCBs not be discharged from plant operations, and that cooling tower maintenance chemicals be free from priority pollutants.

Attachment 2. List of Treatment Additives**LIST OF PROCESS WASTEWATER CHEMICALS**

CHEMICAL	PURPOSE
CAT-FLOC 71264	Coagulant aid for intake water clarifier
3D TRASAR 3DT230	Cooling water additive/treatment
Nalco Pretreatment PC-191T	Control scaling in RO system
Nalco 71DS Plus	Antifoam treatment
Sodium Bisulfite	De-chlorinator
Sulfuric Acid 93%	Neutralizer
Sodium Hypochlorite 12%	Biocide
Nalco BT-3000	Feed water pump building – water additive/treatment
Sodium Hydroxide 50%	Caustic
NexGuard 22352	Aux. boiler additive/treatment
Aqueous Ammonia 19%	Treats condensate pH
Citric Acid 30-50%	pH adjustment for UF/RO cleaning
Nalco 8338	Aluminum corrosion inhibitor/closed loop
Nalprep IV	Corrosion inhibitor/chiller tower pretreatment
Rydlyme	Cleaner for closed cooler heat exchanger
Powerfilm 10000	Boiler scale and corrosion inhibitor
Nalco Ultimer 7757	Polymer
Nalco PC-510T	Control scaling in RO system
3D TRASAR 3DT120	Scale control agent
3D TRASAR 3DT179	Scale control agent
Permaclean PC-56	Biocide

Attachment 3 Cooling Water Intake Structure Compliance

Cooling water intake structure information

The CWIS is considered an existing unit at an existing facility and therefore must comply with 40 CFR 125, Subpart J. Information supplied from the permittee regarding the CWIS and other pertinent data include the following:

- Design maximum intake flow rate – 14.1 MGD based on two pumps operating at once.
- Maximum design intake flow rate of pumps (3), each rated at 4,900 gpm (only one or two pumps can operate at any given time)
- Percentage of intake flow rate used for cooling purposes – 95+% is used for non-contact cooling water purposes and 0% is used for contact cooling water purposes.
- Through-screen design intake velocity – maximum of 0.49 feet per second (fps).
- The 10-cell, induced mechanical draft cooling towers achieve an intake flow reduction of approximately 97-percent (or higher).
- Typical operation is seven days per week, 50+ weeks per year, with a typical annual outage scheduled.
- Screen is a cylindrical wedgewire tee-screen comprised of two sections 33” in diameter divided into two approximately 33” long sections converging to a single 30” steel intake pipe leading to pumphouse. Slot size is 2.0 mm. Air burst is used as maintenance to prevent clogging of screening.

Description of intake structure

The facility withdrawals water from the Greenup Pool of the Ohio River through two submerged cylindrical wedgewire screens equipped with 2mm openings. Each screen is 33” in diameter with 33” long screening sections. Water is drawn into the river pump well by three pumps rated at 4,900 gpm each, though only two pumps can be utilized at one time.

The facility utilizes an air burst system to clear debris from the screens. This allows the facility to maintain through-screen intake velocity.

Percent of Ohio River Flow Withdrawn by Hanging Rock Energy

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean of Monthly Ohio River Discharge (cfs)	120,004	134,105	157,159	145,379	110,066	67,678	50,675	34,921	41,222	40,344	71,858	105,231
Design Intake Flow (Two Raw Water Pumps Operating) (14,11 mgd)												
Design Intake Flow (cfs)	21,8	21,8	21,8	21,8	21,8	21,8	21,8	21,8	21,8	21,8	21,8	21,8
Percent of River Flow	0,02%	0,02%	0,01%	0,01%	0,02%	0,03%	0,04%	0,06%	0,05%	0,05%	0,03%	0,02%
Daily Monthly Average Intake Flow (2014-18)												
Actual Intake Flow (cfs)	13,0	13,1	13,2	10,1	14,6	15,4	15,6	16,4	16,0	13,4	11,9	12,5
Percent of River Flow	0,01%	0,01%	0,01%	0,01%	0,01%	0,02%	0,03%	0,05%	0,04%	0,03%	0,02%	0,01%

*Based on monthly average intake flow from 2014-2018

Fish and wildlife in the vicinity of the intake structure

Hanging Rock Energy submitted biological characterization data based on biological surveys performed and published by the Ohio River Valley Water Sanitation Commission (ORSANCO) and Ohio River Ecological Research Program (ORERP). In addition, mussel surveys were performed near the facility by ENSR International (AECOM) in 2001, and previously in the Greenup Pool in 1979.

Federal and State-Listed Endangered Species

The U.S. Fish and Wildlife Services (USFWS) and Ohio Department of Natural Resources (ODNR) lists the species in the table below as endangered or threatened in the State of Ohio and nationally.

State and Federally-Listed Species in the Vicinity of Hanging Rock Energy (Lawrence County)

Common Name	Scientific Name	Listing Status	
Mollusks			
Black Sandshell	<i>Ligumia recta</i>	Species of Concern	State
Butterfly	<i>Ellipsaria lineolata</i>	Endangered	State
Clubshell	<i>Pleurobema clava</i>	Endangered	Federal
Creek Heelsplitter	<i>Lasmigona compressa</i>	Species of Concern	State
Deertoe	<i>Truncilla truncata</i>	Species of Concern	State
Ebonyshell	<i>Reginaia ebenus</i>	Endangered	State
Elephant-ear	<i>Elliptio crassidens</i>	Endangered	State
Fanshell	<i>Cyprogenia stegaria</i>	Endangered	State and Federal
Little Spectaclecase	<i>Villosa lienosa</i>	Endangered	State
Longsolid	<i>Fusconaia subrotunda</i>	Endangered	State
Monkeyface	<i>Theliderma metanevra</i>	Endangered	State
Northern Riffleshell	<i>Epioblasma rangiana</i>	Endangered	Federal
Ohio Pigtoe	<i>Pleurobema cordatum</i>	Endangered	State
Pink mucket	<i>Lampsilis abrupta</i>	Endangered	State and Federal
Pocketbook	<i>Lampsilis ovata</i>	Endangered	State
Purple Wartyback	<i>Cyclonaias tuberculata</i>	Species of Concern	State
Round Hickorynut	<i>Obovaria subrotunda</i>	Threatened	Federal
Round Pigtoe	<i>Pleurobema sintoxia</i>	Species of Concern	State
Sheepnose	<i>Plethobasus cyphus</i>	Endangered	State and Federal
Snuffbox	<i>Epioblasma triquetra</i>	Endangered	State and Federal
Threehorn Wartyback	<i>Obliquaria reflexa</i>	Species of Concern	State
Washboard	<i>Megaloniaias nervosa</i>	Endangered	State
Fish			
Channel Darter	<i>Percina copelandi</i>	Species of Concern	State
River Darter	<i>Percina shumardi</i>	Endangered	State
Shoal chub	<i>Macrhybopsis hyostoma</i>	Threatened	State
Western Creek Chubsucker	<i>Erimyzon claviformis</i>	Threatened	State

*Species list compiled from Ohio Department of Natural Resources (ODNR) iPAC and US Fish and Wildlife Service ECOS databases. No Federally-listed fish species have been collected from the Greenup Pool of the Ohio River. In surveys conducted in 2011 and 2016, the Ohio-endangered shoal chub and gilt darter; Ohio-threatened channel darter, river darter, and paddlefish; and species of concern river redhorse were observed. The gilt darter and paddlefish

are not currently species listed as being present in Lawrence County. Further, two Kentucky species of concern (black buffalo and spottail shiner) were collected.

In the 1979 Greenup Pool mussel survey, Ohio-listed species were observed but not within nearly 30 miles of Hanging Rock Energy. The 2001 study conducted at the facility CWIS did not identify any listed species.

Federal Critical Habitat

None were identified.

Fragile Species

Fragile species are defined in 40 CFR 125.92 (m) as “... a species of fish or shellfish that has an impingement survival rate of less than 30 percent even when the BTA technology of modified travelling screens are in operation.” The fragile species at Hanging Rock Energy include gizzard shad.

Other Agency Reviews

The United States Fish and Wildlife Service (USFWS) was provided Hanging Rock Energy’s 316(b) information in October 2024 pursuant 40 C.F.R. § 124.10. USFWS did not have any comments

Impingement and Entrainment

Impingement

No site-specific impingement studies have been performed at the site.

Based on the use of cylindrical wedgewire screens and a through-screen intake velocity below 0.5 fps, it is anticipated that healthy, impingeable-sized fish would be capable of avoiding the CWIS. This also significantly reduces impacts to mussel glochidia from impingement while attached to a host fish. In addition, based on their limited mobility and hydraulic conditions at the intake screens, probability of adult mussel impingement would be very low to non-existent.

Through-Screen Intake Velocity Calculations

Open Area = Screen Area X percent open = 44.6 sq. ft.

Design Intake Flow = 9,800 gpm (21.8 cfs)

Slot Velocity = Flow divided by open area

= 21.8 cu. ft./sec divided by 44.6 sq. ft.

= 0.49 ft./sec Design Through-Screen Velocity

Entrainment

No site-specific entrainment studies have been performed at the site. In absence of study data, the susceptibility of relevant species to entrainment was evaluated from the distribution and life history of these species.

Fish entrainment is expected from March to August due to the emergence of eggs and early life stages, with the peak period being May and June. Mussel glochidia are not considered susceptible to entrainment because they attach to fish of larger sizes that cannot pass into the cooling system.

The hydraulic area of influence (AOI) of the Hanging Rock Energy intake is expected to be small and as such, the probability of an entrainable organism entering the AOI is also small. Further, the probability of an organism

being entrained from within the AOI is quite low due to the narrow-slot screens, which exclude most fish based on size. These facts, paired with the offshore location of the screens significantly reduce the chance of both fish encountering the intake and actually being drawn into the CWIS.

Compliance with 40 CFR 125.94(c) and (d)

This facility utilizes the following to minimize adverse environmental impacts:

1. Impingement

- a. ***Impingement Mortality BTA - 40 CFR 125.94(c)(1)***: Hanging Rock Energy proposes closed-cycle recirculation as the impingement BTA compliance option.

2. Entrainment

- a. ***Site-Specific Entrainment Standards – 40 CFR 125.94(d)***: The permittee proposes closed-cycle recirculation. Assuming that the reduction in entrainment is commensurate with reduction in flow, Hanging Rock Energy has reduced entrainment by more than 97-percent. By rule, closed-cycle recirculating systems are considered BTA for both new units at existing facilities and new facilities. Additionally, narrow-slot wedgewire screens are a recognized technology for reducing entrainment by exclusion.

Director Requirements

The Director is required to include monitoring requirements, record keeping requirements, and reporting requirements within the permit. Additionally, the Director is required to make site-specific entrainment requirements weighing various factors.

Monitoring

40 CFR 125.96(a) – Monitoring requirements for impingement mortality for existing facilities:

The Director may establish monitoring requirements such as intake velocity, biological monitoring, and flow measurements. Flow monitoring is proposed to continue at the intake station to confirm future intake velocity calculations.

40 CFR 125.96(b) – Monitoring requirements for entrainment for existing facilities:

The Director may establish monitoring requirements for entrainment. A flow monitoring requirement is proposed to continue for the intake station to characterize makeup withdrawals.

40 CFR 125.96(e) – Visual or remote inspections:

To comply with the regulation, the permit proposes weekly visual or remote monitoring devices to ensure that all technologies installed are maintained and operated as designed. However, this weekly requirement is not extended to the offshore intake per the discretion allowed by the rule.

Should the facility be performing work or an inspection on the offshore intake scheduled as a result of maintenance or conditions required by other regulatory agencies, the permittee shall also perform an inspection (remotely or visually) of the offshore intake screen for 316(b) purposes. The inspection, for 316(b) purposes, will ensure that the offshore intake is being operated with good engineering and maintenance practices. This condition does not require the permittee to conduct any inspections beyond what is scheduled for other

purposes. The results of the inspection shall be documented and retained by the facility for Agency review until the subsequent permit is issued.

Reporting and Recordkeeping Requirements

40 CFR 125.97(a) – Monitoring Reports

The permittee is required to submit eDMRs which will characterize intake and discharge rates.

40 CFR 125.97(c) – Annual certification

The permittee is required to submit an annual certification indicating any substantial changes at any unit which may impact cooling water intake. This is consistent with the rule.

40 CFR 125.97(d) – Permit reporting records retention

The permittee shall retain all records of all submissions related to 316(b) until the subsequent permit is issued.

Site Specific Entrainment BTA Determination

The permittee proposes closed-cycle recirculating system to minimize entrainment. For both *new units at existing facilities* and *new facilities*, closed-cycle recirculating systems are indicated as the best technology available according to the 40 CFR 125.94(e) and 40 CFR 125.85, respectively, although additional measures may be required depending on site conditions and *new facilities* also require additional flow requirements based on water source body. For *existing units*, the Director must weigh factors to determine whether there are entrainment control technologies that perform better than the selected technologies. However, since this facility employs closed cycle cooling and utilizes narrow-slot cylindrical wedgewire screens, no other technologies were evaluated.

Must Consider Factors

The following correlate to subparagraphs of 40 CFR 125.98(f)(2) and are factors the Director must consider in BTA determination.

Numbers and types of organism entrained, including, specifically, the numbers and species (or lowest taxonomic classification possible) of Federally-listed, threatened and endangered species, and designated critical habitat (e.g., prey base).

The number of entrained organisms is expected to be minimal due to the low portion of the Ohio River withdrawn and exclusion of small life stages achieved by the cylindrical wedgewire screens. Biological surveys conducted at and near the facility indicate that it is unlikely for any State or Federally-listed species to be entrained.

Impact of changes in particulate emissions or other pollutants associated with entrainment technologies.

Cooling towers are already in place.

Land availability inasmuch as it relates to the feasibility of entrainment technology.

No evaluation was performed on land availability as it relates to additional entrainment reduction technologies.

Remaining useful plant life.

There is no proposed production end date for this facility.

Quantified and qualitative social benefits and costs of available entrainment technologies when such information on both benefits and costs is of sufficient rigor to make a decision.

There is no data on the social benefits and costs of available entrainment technology of sufficient rigor to weigh this factor.

May consider factors

The following correlate to subparagraphs of 40 CFR 125.98(f)(3) and are factors the Director may consider when determining BTA.

Entrainment impacts on the waterbody.

The entrainment impacts are thought to be negligible based on the small size of the intake versus the size of the water body and the utilization of narrow-slot cylindrical wedgewire screens to exclude organisms.

Thermal discharge impacts.

There are no concerns for thermal impacts from the discharge from the facility.

Credit for reductions in flow associated with the retirement of units occurring within the ten years preceding October 14, 2014.

This is not applicable.

Impacts on the reliability of energy delivery within the immediate area.

This is not applicable.

Impacts on water consumption.

The impact on water consumption is thought to be negligible as the withdrawals a minimal amount versus the size of the water body.

Availability of process water, gray water, waste water, reclaimed water, or other waters of appropriate quantity and quality for reuse as cooling water.

The permittee has not evaluated alternatives for water reuse.

Summary

The Director considers the Hanging Rock Energy cooling water intake structure to be BTA to minimize adverse environmental impacts based on the use of a recirculating cooling system, narrow-slot cylindrical wedgewire screens, and a design through-screen intake velocity that is less than 0.5 fps. In addition, the facility withdrawals a very low percentage of the monthly average of Ohio River flows.

Addendum 1. Acronyms

ABS	Anti-backsliding
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BPJ	Best professional judgment
BPT	Best Practicable Control Technology Currently Available
BTJ	Best technical judgment
CFR	Code of Federal Regulations
CONSWLA	Conservative substance wasteload allocation
CWA	Clean Water Act
CWIS	Cooling water intake structure
DMR	Discharge Monitoring Report
DMT	Dissolved metal translator
ELG	Federal effluent limitation guideline
gpm	Gallons per minute
IMZM	Inside mixing zone maximum
MDL	Analytical method detection limit
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
NSPS	New source performance standards
OAC	Ohio Administrative Code
Ohio EPA	Ohio Environmental Protection Agency
ORC	Ohio Revised Code
ORSANCO	Ohio River Valley Water Sanitation Commission
PEL	Preliminary effluent limit
PEQ	Projected effluent quality
PMP	Pollution Minimization Program
PPE	Plant performance evaluation
SIC	Standard Industrial Classification
TBEL	Technology-based effluent limit
TMDL	Total Daily Maximum Load
TRE	Toxicity reduction evaluation
TU	Toxicity unit
U.S. EPA	United States Environmental Protection Agency
WET	Whole effluent toxicity
WLA	Wasteload allocation
WQBEL	Water-quality-based effluent limit
WQS	Water Quality Standards