



**YHPC**, LLC.

**York Haven Power Company**  
*Water Power for the Future*

February 21, 2025

**Via Electronic Filing**

Debbie-Anne Reese, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

RE: York Haven Hydroelectric Project (FERC No. 1888-036)  
Article 401(b) – 2024 Fish Passage Operating Report

Dear Secretary Reese:

In accordance with Article 401(b) of the York Haven Hydroelectric Project (Project) Federal Energy Regulatory Commission (FERC) license, the Pennsylvania Department of Environmental Protection (PADEP) Water Quality Certification (WQC), and the U.S. Fish and Wildlife Service (USFWS) fishway prescription, York Haven Power Company, LLC (YHPC) has enclosed the 2024 Fish Passage Operating Report (Report) for Commission review. The Report must be filed with the Commission annually by March 1, or within 30 days of the annual meeting, whichever is sooner. The Report must document Agency consultation.

YHPC distributed the 2024 draft Report to PADEP, USFWS, and other agencies for review and comment on December 30, 2024, and hosted the annual meeting to review and discuss the Report on January 23, 2025. PADEP and USFWS provided comments on January 16 and January 23, 2025, respectively. YHPC has incorporated their comments into this final Report and included a comment table in the appended consultation record.

If you have any questions regarding this report, please contact me at (804) 624-0422 or [angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com).

Sincerely,

*Angela Woolard*

Angela Woolard  
Manager, Licensing and Compliance  
York Haven Power Company, LLC

cc: Sheila Eyler, USFWS  
Matthew Bearden, USFWS  
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Scott Williamson, PADEP  
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**UPSTREAM AND DOWNSTREAM  
FISH PASSAGE AT THE YORK HAVEN  
HYDROELECTRIC PROJECT (FERC P-1888):  
2024 SUMMARY**

*Prepared For:*

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**February 2025**

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## **EXECUTIVE SUMMARY**

This 2024 report is provided by York Haven Power Company (YHPC), in agreement with the Fish Passage Technical Advisory Committee (FPTAC). The Conowingo Fish Lifts (downstream of the York Haven Project) are the collection site of American Shad, Alewife and Blueback Herring. American Shad, (2,364), Alewife, (88), and Blueback Herring, (21), which were transported upstream from Conowingo in 2024. American Shad and River Herring were released at the Columbia Boat Ramp, downstream of the York Haven Project, (453) and Canal Lock Boat Ramp, upstream of the York Haven and East Channel Dams (1,911).

YHPC's fishway preparations began in early March and volitional passage (not staffed) began on April 1<sup>st</sup>. Beginning on April 1<sup>st</sup>, the entrance and exit gates were opened and the North Fixed Wheel Gate was opened and set to deliver a minimum of 400 cfs to the East Channel. The fish passage criteria for manning the fishway was not met therefore manned operation did not occur. Fishway operation was set to provide resident fish passage (volitional) through December 9 when it was closed.

During the adult American Shad downstream passage period, the sluice gate was opened as required (~370 cfs) for up to a minimum of 2 hours, Monday through Friday. No physical observations of post-spawned adult American Shad were noted by York Haven personnel in the vicinity of the Project powerhouse, ("Station"). During the post-spawned adult downstream passage period, river flow varied from 9,170 cfs to 67,900 cfs.

During the juvenile American Shad downstream passage period (JASPP), river flow varied from 4,960 cfs to 29,200 cfs. Station generation data for October and November confirm that turbine unit operation sequence followed the JASPP, and the sluice gate was operated as required.

## **1.0 INTRODUCTION**

Upstream and downstream fish passage operation at York Haven Hydroelectric Project (FERC No. 1888) is provided for in the Project's FERC License (FERC, 2015) and the Pennsylvania Department of Environmental Protection Water Quality Certification (PADEP, 2014) issued on December 22, 2015, and August 19, 2014, respectively. During the American Shad upstream passage season, the Project is required to provide a minimum flow of 2,000 cfs in the East Channel and spill 4,000 cfs at the Main Dam. The Project is also required to operate and maintain the East Channel Fishway (Fishway) to allow passage of resident fish species each year from April 1 through the earlier of December 15 or until the average daily river temperature is 40°F for three consecutive days. During resident fish passage operation, the Project is required to provide a minimum stream flow of 400 cfs in the East Channel below the East Channel Dam. In addition, the Project is also required to spill water to provide for the downstream passage of adult and juvenile American Shad from May 1 to June 30 and from October 1 to November 30, respectively.

Fish passage operation is overseen by a Fish Passage Technical Advisory Committee comprised of representatives of the U.S. Department of the Interior represented by the U.S. Fish and Wildlife Service (“USFWS”), the Susquehanna River Basin Commission (“SRBC”), the states of Maryland and Pennsylvania and their involved agencies – Maryland Department of Natural Resources (“MDNR”), Pennsylvania Fish and Boat Commission (“PFBC”) and Pennsylvania Department of Environmental Resources (“PADEP”). The FPTAC is responsible for reviewing and monitoring the maintenance and operation of the fish passage facilities at the Project, reviewing and providing comments on the annual report, and recommending studies and/or modifications to improve upstream and downstream passage.

In 2024, Conowingo, in accordance with FPTAC, operated the East and West Lifts to support trap and transport of American Shad and River Herring. Conowingo agreed to transport and release American Shad and River Herring upriver, 80% were to be transported and released above York Haven Dam and the remaining 20% were to be released upstream of Safe Harbor Dam. Conowingo also agreed to remove Northern Snakeheads, Flathead Catfish, and Blue Catfish from the East and West Lift catch, as they are considered to be invasive species by the MDNR. Because volitional passage was suspended at the East Lift, the Resource Agencies and Brookfield Renewable Partners L.P. agreed to suspend lift operations at Holtwood and Safe Harbor Hydroelectric Projects, downstream of York Haven Project.

## **2.0 YORK HAVEN FISHWAY OPERATIONS**

The installation and operation of the Fishway are part of a cooperative private, state and federal effort to restore American Shad (*Alosa sapidissima*) and other migratory fish to the Susquehanna River. In 1997, YHPC and the Resource Agencies reached a settlement agreement to revise the type and location of the York Haven fish passage facility. The Fishway is located in Dauphin County, Pennsylvania at the Three Mile Island end of the East Channel Dam at the Project. The Fishway was placed in service by YHPC in April 2000.

Fishway operation coincides with a springtime minimum flow release in accordance with the Project License and Water Quality Certification. YHPC maintains a spill of up to 4,000 cfs over the Main Dam and a minimum release of approximately 2,000 cfs in the East Channel during spring Fishway operation. River flow in excess of spring minimum flow requirements and station capacity is spilled over the Main and East Channel Dams.

## **2.1 Project Operation**

The hydroelectric station located in York Haven, Pennsylvania built in 1904, is located at River mile 55 in Dauphin and York counties, Pennsylvania (Figure 1 and Figure 2). It is the fourth upstream hydroelectric dam on the River. The Project is a 20 unit run-of-river facility capable of producing approximately 19 MW and has an estimated hydraulic capacity of 17,000 cfs. It includes two dams that impound approximately 5 miles of the River forming Lake Frederic. The Main Dam is approximately 5,000 ft long with a maximum height of 17 ft. The East Channel Dam is approximately 925 ft long with a maximum height of 9 ft. When River flow exceeds station hydraulic capacity (55% of the year), water is spilled over the two dams. During the spring spawning season, river flows in excess of spring minimum flow requirements are spilled over the Main and East Channel dams.

## **2.2 Fishway Design, Maintenance and Operation**

### **2.2.1 Fishway Design**

Fishway design incorporated numerous criteria established by the USFWS and the other Resource Agencies. The Fishway has an operating limit of 150,000 cfs River flow (East Channel flow limit of approximately 22,000 cfs). The Fishway includes two sections; a “weir cut” and a vertical notch fish ladder. Figure 3 provides the general arrangement of the Fishway. A detailed description of the Fishway and its major components is included in the York Haven Project Fishway Operation Plan dated December 2023 (YHFOP). Volitional passage at the Fishway is to begin on or about April 1, conditions permitting.

### **2.2.2 Fishway Maintenance**

Per the YHFOP, preparation and maintenance of the Fishway began in March. Resident fish passage operation is scheduled to end on December 15 or when the average daily water temperature is  $\leq$  40 degrees Fahrenheit for three consecutive days. Based on low temperatures meeting the requirements for closure in the beginning of December, YHPC closed the Fishway on December 9, 2024. During the Fishway closure procedures an overall inspection is undertaken, and minor repairs are completed.

### **2.2.3 Fishway Operation**

Fishway preparations begin in March and volitional passage (not staffed) begins on April 1. Starting on April 1, the entrance and exit gates are opened and the adjustable crowder gate is set to full open (24 inches). The diffuser gate located on the east wall of the ladder, in the energy dissipation pool, is set to full open and allowed supplemental attraction water to pass into and through the diffuser (Figure 3). In addition, during volitional passage, the North fixed wheel gate is opened and set to deliver a minimum of 400 cfs to the East Channel. Based on a 2023 request by the USFWS and the PADEP (Appendix I) to improve internal fish passage efficiencies of fish that find and enter the serpentine vertical notch ladder, the Project no longer opens the diffuser gate that feeds the floor diffuser inside the entrance gate. The YHFOP, Section 5.1, also states that the diffuser gate will remain closed during fishway operation.

Water temperature was collected in the Fishway at 60-minute intervals from April 1 through December 9 (Appendix II) with an Onset Hobo Water Temperature Pro v2 Data Logger (U22-001) that has a  $\pm$  0.4°F accuracy. The monitor was suspended approximately 3 ft above

the bottom (Elev. 274.63 ft) of the Fishway exit flume opposite the counting window on the east side of the exit flume (Figure 3).

#### **2.2.4 Fish Counts**

The YHFOP describes criteria to begin manned fishway operation and the procedures used to count fish. Manned fishway operation is to begin four days after 500 American Shad are transported from the Conowingo East and West Lifts and stocked downstream of York Haven. Fish that pass through the ladder are identified to species and enumerated as they pass the counting window by a biologist and/or technician. Fish passage by the viewing window is controlled by opening or closing an aluminum grating gate with an electric hoist controlled from inside the viewing room. The stop gate is opened each morning at 0800 hrs and closed nightly at 1600 hrs when the Fishway is manned. Occasionally, it is closed for brief periods to enable personnel staffing the Fishway to remove debris from screens and the fishway exit as well as conduct other activities as needed. In addition, the adjustable crowder screen is adjusted as needed to allow better observation of all fish that passed.

Fish passage data is entered on a field data sheet and uploaded onto a computer. Files are uploaded each evening, checked and corrected as necessary. Data reporting is PC-based and accomplished by program scripts, or macros, created within Microsoft Excel spreadsheets. Passage data and operational conditions are supplied electronically to YHPC's on-site coordinator/manager and other appropriate YHPC personnel on a daily basis. Passage information is subsequently provided electronically by YHPC personnel to members of the FPTAC.

### **2.3 Results**

#### **2.3.1 East Channel Fishway Operation**

In general, manned fishway operation is considered the migratory fish passage season while the period prior to and after the manned operation is considered the resident fish passage season. The criteria for manned fishway operation, however, was not met and therefore the fishway operated in an unmanned condition throughout 2024. Starting on April 1, the fishway began operating. Based on contractor availability and having met water temperature criteria of the average daily water temperature being  $\leq$  40 degrees Fahrenheit for three consecutive days, the fishway was closed on December 9. April 1 through December 9, water temperatures varied from 33.9°F to 86.8°F and River flows ranged from 4,960 cfs to 264,000 cfs (Figure 4).

On October 15, 2024, Sheila Eyler of the U.S. Fish and Wildlife Service notified York Haven staff that she observed the fishway to be inoperable while on-site the previous day. Although there was a low level of water in the fishway, water was not passing over the top of the floor crowding screen at the viewing window, resulting in impassable conditions. Ultimately, debris and sediment build-up at the exit gate precluded passage at the ECF for an undetermined period of time interfering with the ECF functionality was observed. Flows were being obstructed by debris and sediment, and the function of the exit gate was restricted. Upon obtaining the necessary approvals, YHPC began maintenance on October 25 and fishway operation was restored on November 4. Maintenance required lowering water levels in the vicinity of the fishway exit, removing debris, and removing sediment.

## **3.0 DOWNSTREAM FISH PASSAGE**

Article 401 of the Project license, Conditions III.B.2.b and 3.a.i and ii of the Pennsylvania Department of Environmental Protection (PADEP) Water Quality Certification, and 9.9.6 of the United States Fish and Wildlife Service (USFWS) fishway prescription require downstream passage of adult and juvenile American Shad. Downstream passage of adult American Shad is expected to occur from May 1 to June 30 while downstream passage of juvenile American Shad is to occur from October 1 through November 30. Based on a USFWS request received on January 15, 2021, the Project began collecting water temperature in the Station forebay at 60-minute intervals in 2021 with an Onset Hobo Water Temperature Pro v2 Data Logger (U22-001) that has a  $\pm 0.4^{\circ}\text{F}$  accuracy. In 2024, the monitor was suspended in a standpipe on the west side of the forebay approximately 4 ft above the bottom behind the trash rack in the exciter pit area located on the south of turbine Unit 1. Kleinschmidt staff attempted to download the logger prior to the juvenile American shad passage season and found that the logger was lost. This caused a loss of data from throughout the fish passage season until October 2 when the data logger was replaced. Water temperature data at the ECF and forebay were nearly identical from October 2 until December 9 (Figure 4). It can be assumed that water temperatures were also similar prior to this period. In the future, the logger will be checked more frequently (monthly is planned) to reduce future data loss.

### **3.1 Adult American Shad Passage**

When River flows exceed the sum of Station hydraulic capacity (17,000 cfs), and required flows through the East Channel (2,000 cfs) and required flows over the Main Dam ((4,000 cfs), (Total of 23,000 cfs)), the Project, according to its FERC License and 401 Water Quality Certification, is to open and spill water via the forebay Sluice Gate ( $\sim 370$  cfs) to the extent practicable for a period of 1 to 2 hours during the morning on weekdays, subject to Project personnel availability and access requirements for operations and maintenance purposes and may be provided in connection with opening of the forebay Sluice Gate for purposes of passing debris. During the post-spawned adult downstream passage period, river flow varied from 9,170 cfs to 67,900 cfs (Figure 4). Average daily water temperature varied by 27.8 degrees at the Project (Fishway) and ranged from a low of  $51.7^{\circ}\text{F}$  on May 3 to a high of  $79.5^{\circ}\text{F}$  on June 2.

During the adult downstream passage period, the sluice gate was opened as required ( $\sim 370$  cfs) for up to 2 hours, Monday through Friday (Figure 5). No physical observations of post-spawned adult American Shad were noted by Station personnel.

### **3.2 Juvenile American Shad Passage**

During the Juvenile American Shad Passage Period (JASPP), October 1 to November 30, YHPC operates the turbines as follows. Depending on available River flow, Units 1-6 (propeller/Kaplan units) may be operated without restriction up to available River flow. Unit 14 (larger single Francis unit) may be operated if river flow exceeds capacity of Units 1 to 6; Units 7 to 13 and 15 to 20 (double Francis units) may be operated in ascending order if river flow exceeds capacity of Units 1-6 and 14. During the downstream JASPP, the Station is to also open and spill water via the Forebay Sluice Gate ( $\sim 370$  cfs) between the hours of 5 PM to 11 PM EST (Figure 6). If during the downstream passage period, River flow exceeds the sum of Project hydraulic capacity, required flows through the East Channel and required flows over the Main Dam (if any), the Project is also to open and spill water via the forebay sluice gate to

the extent practicable for 1 to 2 hours during the morning, subject to Project access requirements for operations and maintenance purposes.

York Haven operations complied with the requirements of the JASAPP with the approved modifications requested to accommodate the juvenile American Shad headrace turbine avoidance study. River flow varied from 4,960 cfs to 29,200 cfs and conditions were not conducive to meeting all operational scenarios of the juvenile shad study plan (Figure 4). In emails dated 10/02/2024 and 11/11/2024, YHPC requested that preferential Turbine Unit operation be altered to facilitate safe deployment of acoustic receivers in the Projects headrace and provide operational scenarios more closely aligned with those required for the shad study. Additionally, the sluice gate operation was extended to 12/03/2024 to accommodate shad study test specimens. The PADEP and USFWS approved the requested operational changes via emails dated 10/04/2024 and 11/14/2024 (Appendix I). The modified operations occurred from October 7-9 during daylight hours (receiver deployment) and from November 15-26 (operational scenarios).

## **4.0 LITERATURE CITED**

Commonwealth of Pennsylvania Department of Environmental Protection. August 19, 2014.

Water Quality Certification for the York Haven Hydroelectric Project and Related Mitigation, DEP File No. EA67-023: York Haven Power Company, LLC, 65 pp.

Federal Energy Regulatory Commission. December 15, 2015. Order Issuing New License for York Haven Power Company, LLC. 135 pp.

York Haven Power Company, LLC, and Kleinschmidt. 2023. Fishway Operation Plan. FERC Accession No. 20231220-5267.

## **FIGURES**

**Figure 1. General Layout of the York Haven Hydroelectric Project Showing the Location of the Fishway and Canal Lock Boat Ramp**

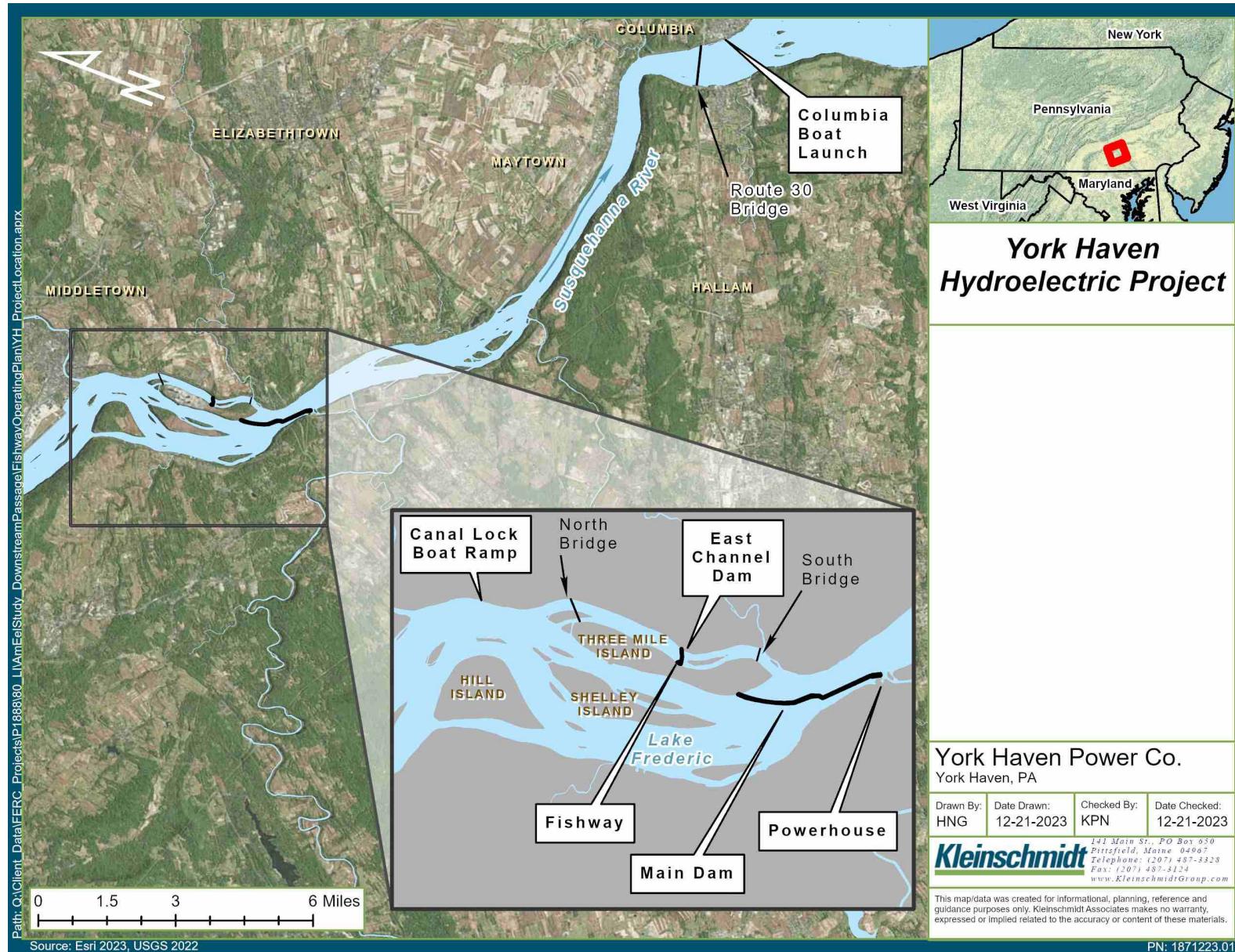
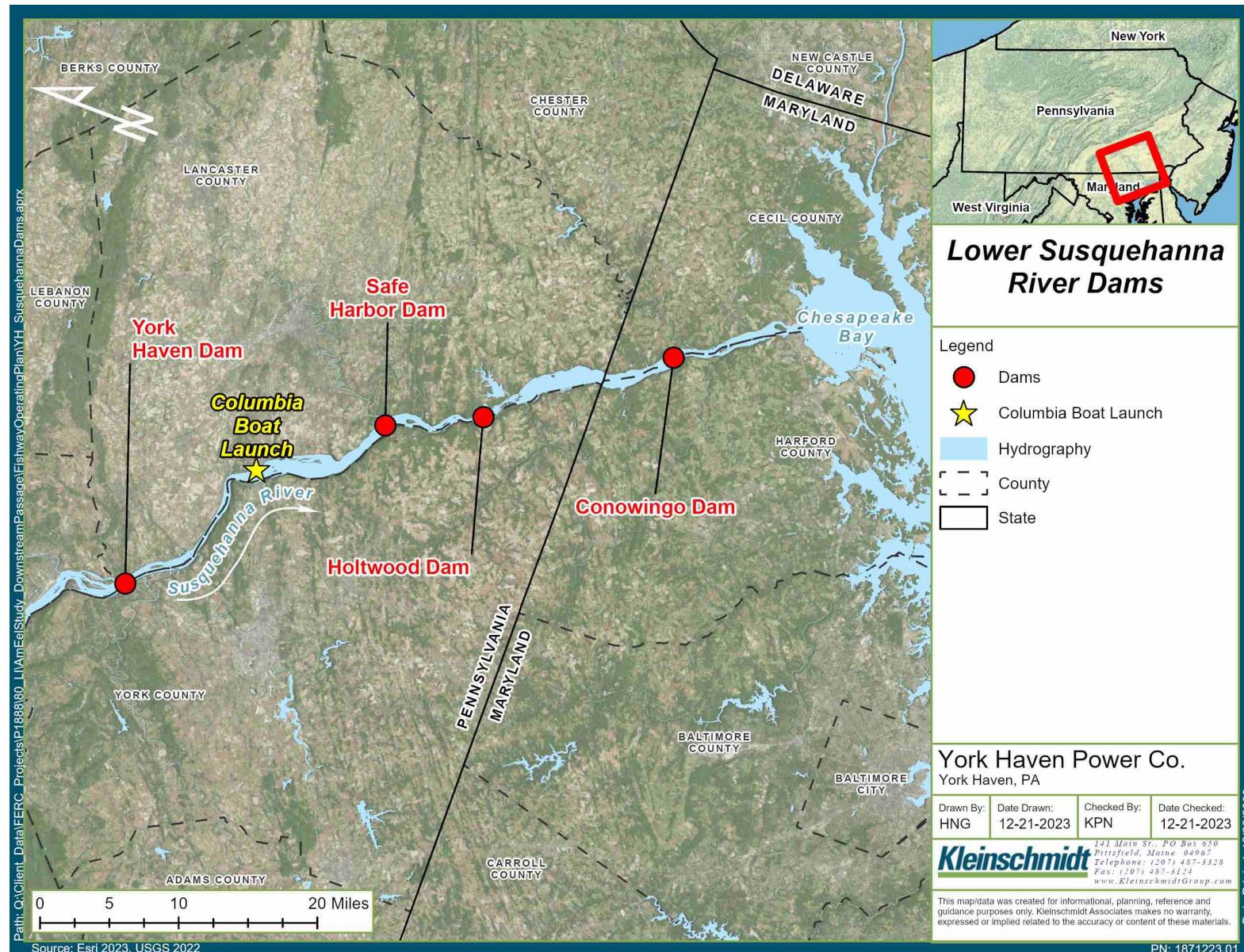
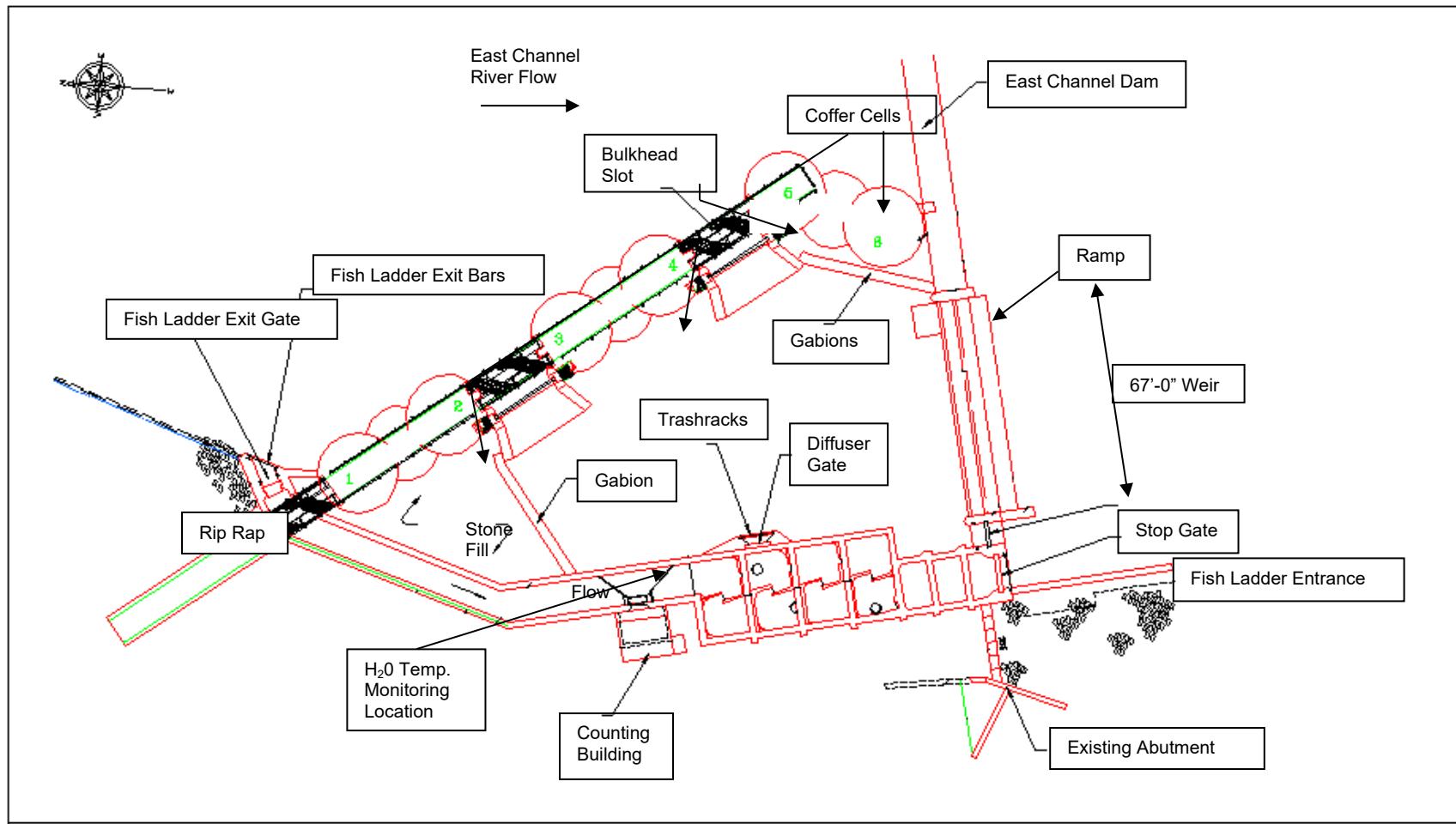


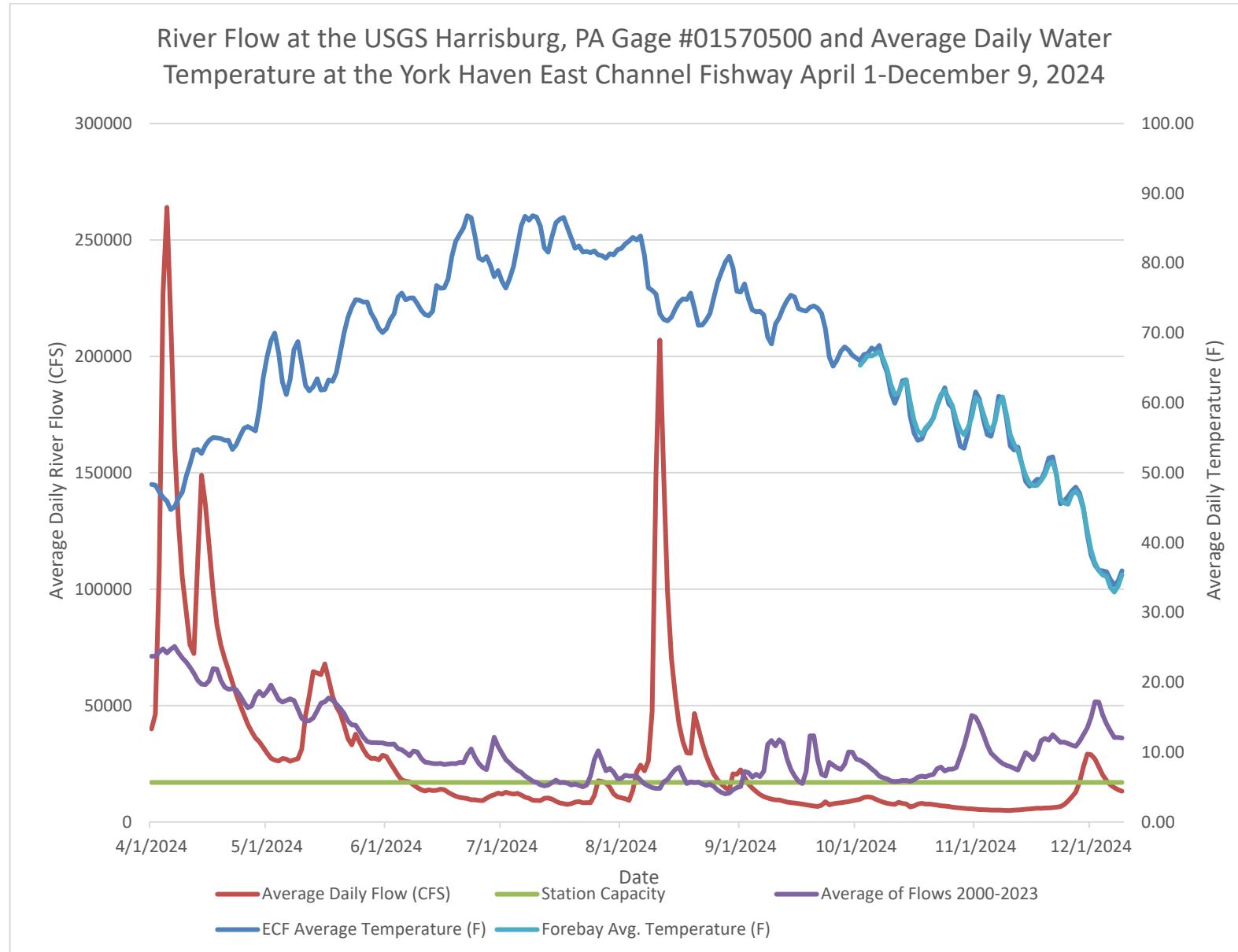
Figure 2. Location of Four Lower Susquehanna River Hydroelectric Projects and the Columbia Boat Ramp



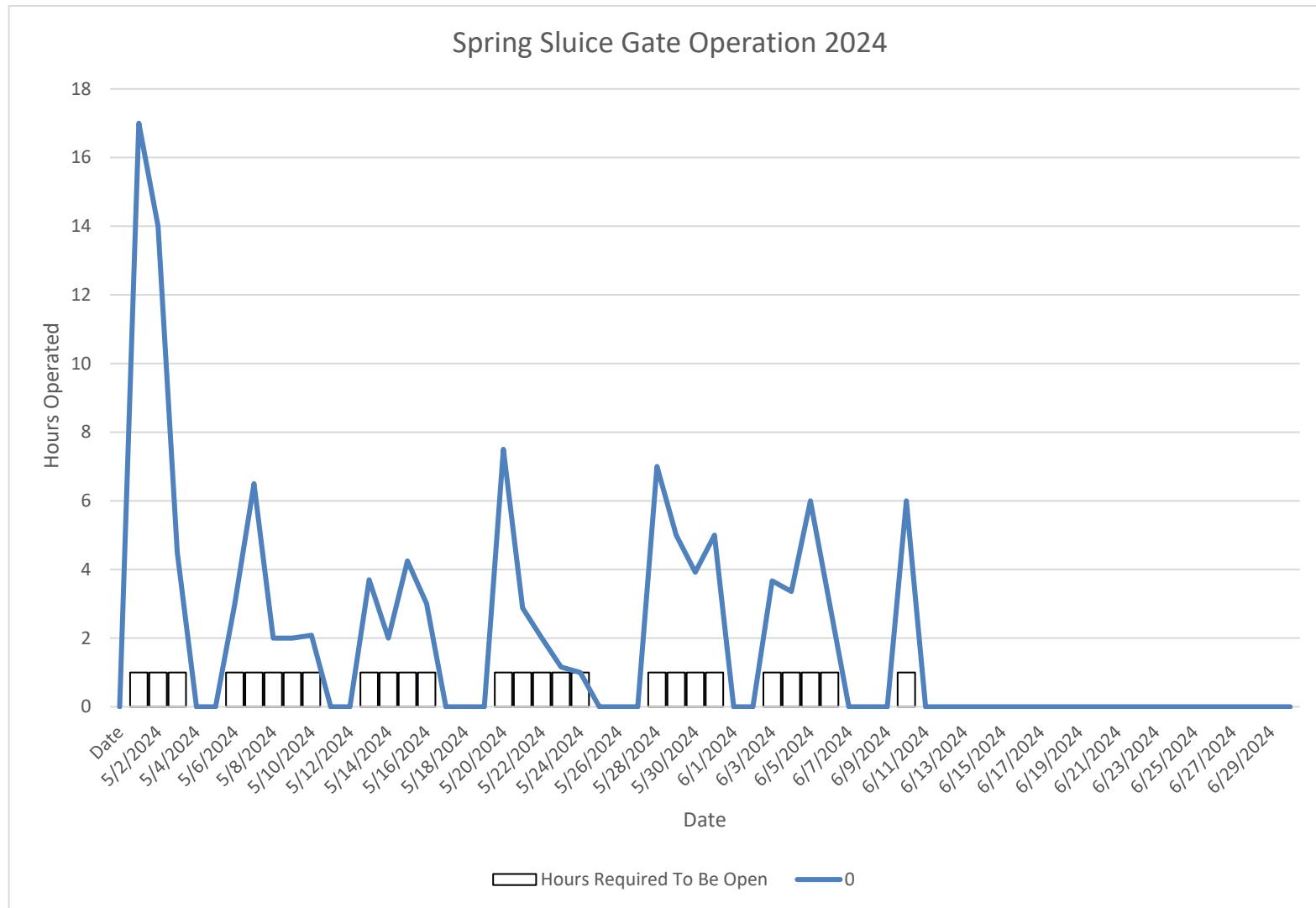
**Figure 3. General Arrangement - York Haven Fishway**



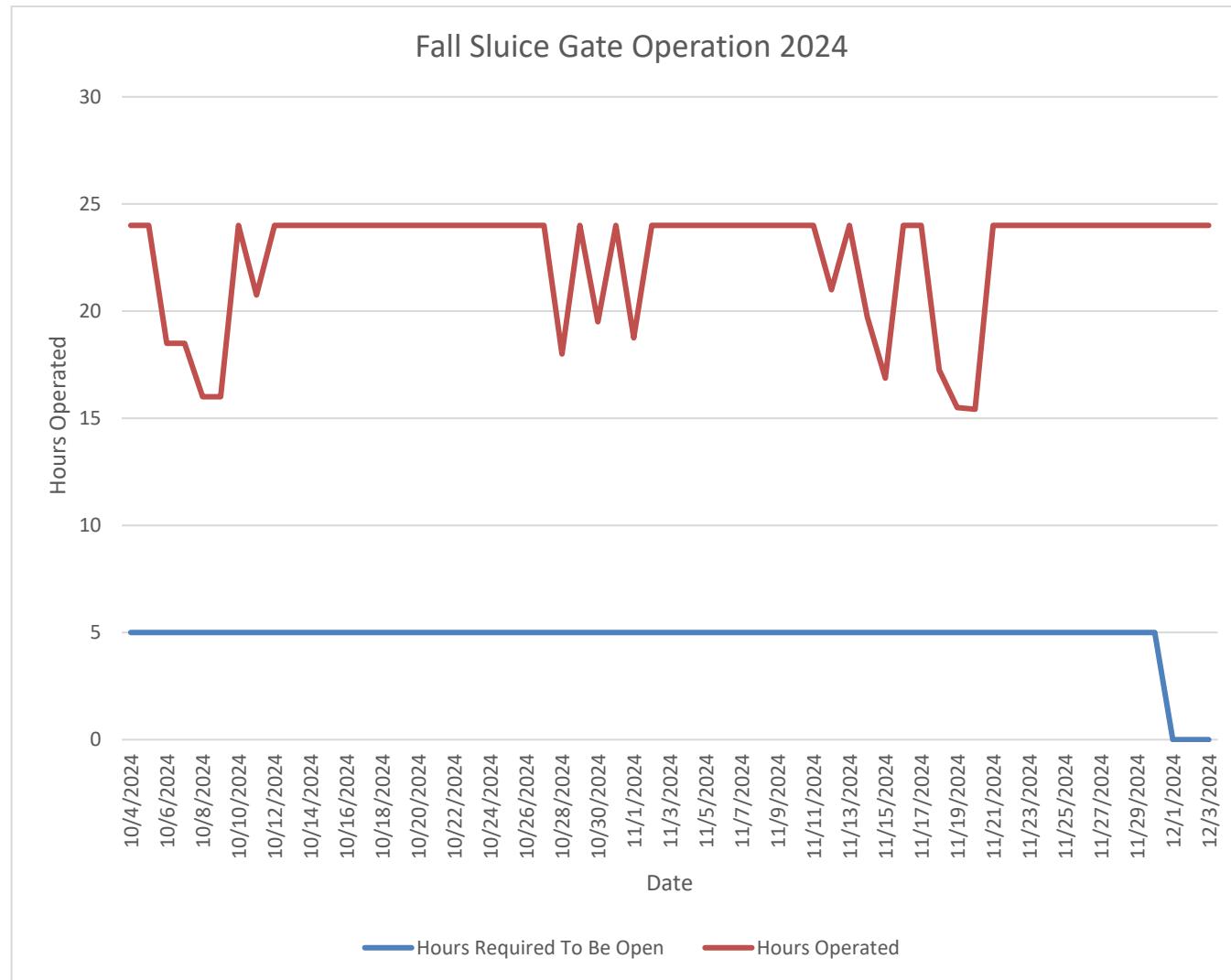
**Figure 4. Plot of River Flow at the USGS Harrisburg Station (01570500) and Average Daily Water Temperature (F) at the York Haven East Channel Fishway in 2024 and 23-Year Average Flow Values (2000-2023)**



**Figure 5. York Haven Sluice Gate Operation, May 1 to June 30, 2024**



**Figure 6. York Haven Sluice Gate Operation, October 1 to December 3, 2024**



## **APPENDIX I**

### **Consultation Record**

**Response to Comments on the Upstream and Downstream Fish Passage at the York Haven  
Hydroelectric Project Annual Report (FERC No. P-1888)**

No.	Date	Comment	Response
<b>PADEP</b>			
1	1/16/2025	<b>Section 3.0 Downstream Fish Passage-</b> Prior to the juvenile American Shad passage season, staff discovered that the Forebay data logger was lost. PADEP recommends more frequent (i.e. 1 x month, etc.) checks on the logger in the future to reduce the chance of data loss. We look forward to discussing with York Haven during our upcoming meeting next week.	<i>York Haven's plans for 2025 include more frequent (i.e., approximately monthly) maintenance and data downloads of the water temperature monitors.</i>
<b>USFWS</b>			
2	1/23/2025	<u>Section 2.3.1, first paragraph</u>  The sentence references Figure 6, which is incorrect. Figure 6 is not currently correctly referenced in the text of the report. Presumably it should be referenced in Section 3.2.	<i>The reference has been removed from Section 2.3.1 and included in Section 3.2.</i>
3	1/23/2025	<u>Section 2.3.1, last paragraph on Pg 3</u>  This paragraph should be rephrased as suggested below to better describe the incident. Note that from my conversations with staff on site the day of my visit, they said the viewing window looked the same when they first arrived for the field study as it did day I was there. That was a couple weeks earlier. Unless you have records when the fishway operation was previously checked by YHPC staff and was adequately operating, the statement that it was inoperable for an unknown period of time should remain in the report.  <u>In On October 15, 2024, Sheila Eyler of the U.S. Fish and Wildlife Service notified York Haven staff that she observed the fishway to be inoperable while on-site the previous day. Although there was a low level of water in the fishway, water was not passing over the top of the floor crowding screen at the viewing window, resulting in impassable conditions. Ultimately, debris and sediment build-up at</u>	<i>The report has been revised consistent with the USFWS request.</i>

No.	Date	Comment	Response
		<i>the exit gate, combined with lack of opening appropriate gates as specified within the Fishway Operation Plan precluded passage at the ECF for an undetermined period of time interfering with the ECF functionality was observed. Flows were being obstructed by debris and sediment, and the function of the exit gate was restricted. Upon obtaining the necessary approvals, YHPC began maintenance on October 25 and fishway operation was restored on November 4. Maintenance required lowering water levels in the vicinity of the fishway exit, removing debris, and removing sediment.</i>	
4	1/23/2025	<u>Section 3.2</u> Please describe any deviations in the preferential turbine operation plan that occurred during the downstream juvenile American shad season conducted to accommodate the juvenile shad telemetry study. The agencies approved a waiver for a deviation, but there is no reference in the report to modified operations in late November.	<i>Section 3.2 has been revised to include the approved deviations from the required preferential turbine operation. Email correspondence with resource agencies is included in Appendix I.</i>
5	1/23/2025	<u>Figure 6.</u> It appears the sluice gate was not open on November 13, 16, and 17. This is not consistent with the required operation of the Sluice from 5:00pm to 11:00pm from October 1 – November 30, though the figure would suggest that the sluice was also not required to be open. This deviation of operation should be referenced and explained in the report.	<i>The sluice gate operating logs were reviewed and discussed with York Haven staff. The operating log was not correctly transcribed into the Excel file used to generate the figure in the draft report. The sluice gate was operated on November 13, 16, and 17 as required. The corrections have been made for the figure contained in the Final Report.</i>
6	1/23/2025	<u>Supporting Data</u> The Service requests that the data from the tables and figures be provided in an excel file. This submittal should include station generation data.	<i>An Excel file with the requested data has been included to the resource agency distribution.</i>
7	1/23/2025	In future correspondence, please also include Matthew Bearden for U.S. Fish and Wildlife Service ( <a href="mailto:matthew_bearden@fws.gov">matthew_bearden@fws.gov</a> ) as he replaced Rick McCorkle as the Service's hydropower coordinator for Pennsylvania.	<i>Mr. Bearden has been added to the distribution list.</i>

**From:** [Eyler, Sheila](#)  
**To:** [Angela Woolard](#); [Eberts, Ron](#); [Aaron Henning](#); [Miller, Jeremy](#); [Jesus Morales](#); [shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov); [Nievinski, Brian](#); [Williamson, Scott](#); [Emily Zollweg-Horan](#); [Bearden, Matthew G](#)  
**Cc:** [Mike Hreben](#); [Tom O'Connor](#); [Jeremy Burnell](#); [Jody Smet](#); [Joyce Foster](#)  
**Subject:** Re: [EXTERNAL] York Haven Hydroelectric Project (FERC No. 1888) - Draft 2024 Fishway Operation Annual Report for Review  
**Date:** Thursday, January 23, 2025 11:51:19 AM  
**Attachments:** [image002.png](#)  
  [image003.png](#)

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Good morning,

Thank you for the opportunity to review the York Haven Hydroelectric Project Draft 2024 Fishway Operation Annual Report. The Service provides the following comments for your consideration:

Section 2.3.1, first paragraph

The sentence references Figure 6, which is incorrect. Figure 6 is not currently correctly referenced in the text of the report. Presumably it should be referenced in Section 3.2

Section 2.3.1, last paragraph on Pg 3

This paragraph should be rephrased as suggested below to better describe the incident. Note that from my conversations with staff on site the day of my visit, they said the viewing window looked the same when they first arrived for the field study as it did day I was there. That was a couple weeks earlier. Unless you have records when the fishway operation was previously checked by YHPC staff and was adequately operating, the statement that it was inoperable for an unknown period of time should remain in the report.

*In On October 15, 2024, Sheila Eyler of the U.S. Fish and Wildlife Service notified York Haven staff that she observed the fishway to be inoperable while on-site the previous day. Although there was a low level of water in the fishway, water was not passing over the top of the floor crowding screen at the viewing window, resulting in impassable conditions. Ultimately, debris and sediment build-up at the exit gate, combined with lack of opening appropriate gates as specified within the Fishway Operation Plan precluded passage at the ECF for an undetermined period of time interfering with the ECF functionality was observed. Flows were being obstructed by debris and sediment, and the function of the exit gate was restricted. Upon obtaining the necessary approvals, YHPC began maintenance on October 25 and fishway operation was restored on November 4. Maintenance required lowering water levels in the vicinity of the fishway exit, removing debris, and removing sediment.*

Section 3.2

Please describe any deviations in the preferential turbine operation plan that occurred during

the downstream juvenile American shad season conducted to accommodate the juvenile shad telemetry study. The agencies approved a waiver for a deviation, but there is no reference in the report to modified operations in late November.

**Figure 6.**

It appears the sluice gate was not open on November 13, 16, and 17. This is not consistent with the required operation of the Sluice from 5:00pm to 11:00pm from October 1 – November 30, though the figure would suggest that the sluice was also not required to be open. This deviation of operation should be referenced and explained in the report.

**Supporting Data**

The Service requests that the data from the tables and figures be provided in an excel file. This submittal should include station generation data.

In future correspondence, please also include Matthew Bearden for U.S. Fish and Wildlife Service (matthew\_bearden@fws.gov) as he replaced Rick McCorkle as the Service's hydropower coordinator for Pennsylvania.

Please feel free to reach out to me if you have any questions.

Sheila Eyler  
U.S. Fish and Wildlife Service  
Mid-Atlantic Fish & Wildlife Conservation Office  
717-387-2117

---

**From:** Angela Woolard <angela.woolard@eaglecreekre.com>  
**Sent:** Monday, December 30, 2024 1:14 PM  
**To:** Eyler, Sheila <sheila\_eyler@fws.gov>; Eberts, Ron <reborts@pa.gov>; Aaron Henning <ahenning@srbc.net>; Miller, Jeremy <jeremmillie@pa.gov>; Morales, Jesus J <jesus\_morales@fws.gov>; Shawn Seaman -DNR- <shawn.seaman@maryland.gov>; Niewinski, Brian <bniewinski@pa.gov>; Williamson, Scott <scwilliams@pa.gov>; Emily Zollweg-Horan <emily.zollweg-horan@dec.ny.gov>  
**Cc:** Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Tom OConnor <Tom.OConnor@eaglecreekre.com>; Jeremy Burnell <Jeremy.Burnell@eaglecreekre.com>; Jody Smet <Jody.Smet@eaglecreekre.com>; Joyce Foster <joyce.foster@eaglecreekre.com>  
**Subject:** [EXTERNAL] York Haven Hydroelectric Project (FERC No. 1888) - Draft 2024 Fishway Operation Annual Report for Review

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Good afternoon, agencies:

Attached is a draft of the 2024 York Haven fishway operation annual report for your review and comment.

Please submit written comments (or a written response indicating no comment if that is the case) by **January 31, 2025**.

Prior to this comment deadline, we need to hold our annual meeting to discuss this report. **Below are some proposed dates/times; please let me know by Friday, January 3<sup>rd</sup> which of these dates/times work for your agency so that I can get the meeting scheduled on everyone's calendars.**

- Tuesday, January 14 at 3 pm
- Wednesday, January 15 at 3 pm
- Thursday, January 23 at 11 am

Thank you,

**Angela M. Woolard | Licensing and Compliance Manager  
Affiliates of Eagle Creek Renewable Energy**

Mobile: 804-624-0422

Email: [angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)



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**From:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>

**Sent:** Thursday, December 28, 2023 4:03 PM

**To:** Sheila Eyer <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Miller, Jeremy <[jeremmillie@pa.gov](mailto:jeremmillie@pa.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>; Niewinski, Brian <[bniewinski@pa.gov](mailto:bniewinski@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Emily Zollweg-Horan <[emily.zollweg-horan@dec.ny.gov](mailto:emily.zollweg-horan@dec.ny.gov)>

**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Chris Frese

<[Chris.Frese@KleinschmidtGroup.com](mailto:Chris.Frese@KleinschmidtGroup.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>

**Subject:** [External] York Haven Hydro Project (FERC No. 1888) - 2023 Fishway Operation Plan Annual Report DRAFT for review

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I'm still working on a date and time to schedule the annual meeting in January 2024. Currently, Jan. 24 and 25 are the two dates with the most potential. I'll send a Teams invitation as soon as the meeting time is confirmed.

Thank you,

**Ben E. Lenz | Licensing and Compliance Manager  
Eagle Creek Renewable Energy**

Mobile: 203 240 3664

Email: [benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)



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**From:** [Eberts, Ron](#)  
**To:** [Angela Woolard](#); [Eyler, Sheila](#); [Aaron Henning](#); [Miller, Jeremy](#); [Jesus Morales](#); [shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov); [Nievinski, Brian](#); [Williamson, Scott](#); [Emily Zollweg-Horan](#)  
**Cc:** [Mike Hreben](#); [Tom O'Connor](#); [Jeremy Burnell](#); [Jody Smet](#); [Joyce Foster](#)  
**Subject:** RE: [External] York Haven Hydroelectric Project (FERC No. 1888) - Draft 2024 Fishway Operation Annual Report for Review  
**Date:** Thursday, January 16, 2025 1:53:56 PM  
**Attachments:** [image001.png](#)  
[image004.png](#)  
[image005.png](#)  
[2024 York Haven Annual Report Draft 12-30-2024.pdf](#)

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Angela,

PADEP received the attached DRAFT 2024 York Haven Annual Report on 12/30/2024. PADEP has reviewed the DRAFT report and have the following comments:

1. **Section 3.0 Downstream Fish Passage**- Prior to the juvenile American Shad passage season, staff discovered that the Forebay data logger was lost. PADEP recommends more frequent (i.e. 1 x month, etc.) checks on the logger in the future to reduce the chance of data loss. We look forward to discussing with York Haven during our upcoming meeting next week.

Thank you for the opportunity to comment and review.

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist  
Department of Environmental Protection  
Southcentral Regional Office  
Waterways & Wetlands Program  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4819 | Fax: 717.705.4760  
THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER: 1-800-541-2050.

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**From:** Angela Woolard <angela.woolard@eaglecreekre.com>  
**Sent:** Monday, December 30, 2024 1:14 PM  
**To:** Sheila Eyler <Sheila\_Eyler@fws.gov>; Eberts, Ron <reborts@pa.gov>; Aaron Henning <ahenning@srbc.net>; Miller, Jeremy <jeremmillie@pa.gov>; Morales, Jesus J <jesus\_morales@fws.gov>; Shawn Seaman -DNR- <shawn.seaman@maryland.gov>; Niewinski, Brian <bniewinski@pa.gov>; Williamson, Scott <scwilliams@pa.gov>; Emily Zollweg-Horan <emily.zollweg-horan@dec.ny.gov>  
**Cc:** Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Tom OConnor <Tom.OConnor@eaglecreekre.com>; Jeremy Burnell <Jeremy.Burnell@eaglecreekre.com>; Jody Smet <Jody.Smet@eaglecreekre.com>; Joyce Foster <joyce.foster@eaglecreekre.com>  
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- Tuesday, January 14 at 3 pm
- Wednesday, January 15 at 3 pm
- Thursday, January 23 at 11 am

Thank you,

**Angela M. Woolard | Licensing and Compliance Manager  
Affiliates of Eagle Creek Renewable Energy**

Mobile: 804-624-0422

Email: [angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)



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**From:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Sent:** Thursday, December 28, 2023 4:03 PM  
**To:** Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Miller, Jeremy <[jeremymille@pa.gov](mailto:jeremymille@pa.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>; Niewinski, Brian <[bniewinski@pa.gov](mailto:bniewinski@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Emily Zollweg-Horan <[emily.zollweg-horan@dec.ny.gov](mailto:emily.zollweg-horan@dec.ny.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Chris Frese <[Chris.Frese@KleinschmidtGroup.com](mailto:Chris.Frese@KleinschmidtGroup.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>  
**Subject:** [External] York Haven Hydro Project (FERC No. 1888) - 2023 Fishway Operation Plan Annual Report DRAFT for review

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Agencies –

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Thank you,

**Ben E. Lenz | Licensing and Compliance Manager  
Eagle Creek Renewable Energy**

Mobile: 203 240 3664

Email: [benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)



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**From:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>  
**Sent:** Wednesday, November 13, 2024 3:44 PM  
**To:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Shawn Seaman -DNR- <[sshawn.seaman@maryland.gov](mailto:sshawn.seaman@maryland.gov)>  
**Cc:** Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Lee Holmes <[lee.holmes@eaglecreekre.com](mailto:lee.holmes@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Cory Hoffman <[choffman@normandeau.com](mailto:choffman@normandeau.com)>; Angela Woolard <[angela.wolard@eaglecreekre.com](mailto:angela.wolard@eaglecreekre.com)>  
**Subject:** Re: [EXTERNAL] York Haven juvenile American shad headrace turbine avoidance study update and generating unit operations modification approval request

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Good afternoon Ben et al.,

The Service approves the proposed changes to the York Haven Juvenile American Shad Headrace Turbine Avoidance study plan as described in your email dated November 11, 2024. The Service supports YHPC's request to 1) alter the preferential order of unit operation to allow for operation of the Francis units during the remainder of the study period and 2) to extend operation of the downstream sluice to December 3, 2024 to accommodate the proposed changes to the release of shad and operation of units as proposed in your email dated November 11, 2024.

Sheila Eyler  
U.S. Fish and Wildlife Service  
Mid-Atlantic Fish & Wildlife Conservation Office  
717-387-2117

---

**From:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Sent:** Monday, November 11, 2024 5:52 PM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher

<[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Shawn Seaman -DNR-<[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>  
**Cc:** Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Lee Holmes <[lee.holmes@eaglecreekre.com](mailto:lee.holmes@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Cory Hoffman <[choffman@normandeau.com](mailto:choffman@normandeau.com)>; Angela Woolard <[angela.woolar@eaglecreekre.com](mailto:angela.woolar@eaglecreekre.com)>  
**Subject:** [EXTERNAL] York Haven juvenile American shad headrace turbine avoidance study update and generating unit operations modification approval request

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Greetings: To date, the juvenile shad study at York Haven is proceeding well, albeit at a slower pace than anticipated. The tagging specimens are holding well in captivity, which has allowed for flexibility in waiting for a change from the stable dry, warm, low river discharge conditions that have persisted and are forecasted to continue since the study began. There are four remaining tag/release sessions prior to November 30 when the forebay sluice operation for juvenile shad outmigration passage season ends. The study plan envisions releases occurring at a range of river discharge amounts that would result in varying dispatching of the turbine unit types, (Francis and non-Francis), to observe how the juvenile shad behave in response to the resulting hydraulic patterns. While the forebay sluice has been operating continuously as planned, primarily only the non-Francis units immediately upstream and adjacent to the forebay sluice entrance (see yellow highlighted in figure below) have been operating b/c of the requirement to do so during shad outmigration season and the lack of water to operate more units. Without operating the Francis units during this study, observations of shad behavior in response to the operation of this turbine unit type will not occur. The impact to juvenile shad behavior of operating the Francis units will remain unknown. Understanding the influence on juvenile shad behavior in response to the Francis units' operation will provide evidence as to whether alternatives to the current preferential unit dispatching for juvenile shad protection and passage are possible, for example, operating the forebay sluice for juvenile shad and simultaneously operating the Francis units for eel downstream passage protection.

To not miss the opportunity to fully understand the behavioral influence on juvenile shad, YHPC suggests modifying the requirement to preferentially operate the lower order (non-Francis, Nos. 1-6 in figure below) during the remaining outmigration protection season to allow operation of the higher order Francis units, (Nos. 7-20 in figure below), first and/or in combination with some of the non-Francis units. The following two operation scenarios in order of preference would be:

- 1) Equal numbers (or equivalent hydraulic output, if possible) of lower number non-Francis lower and lower number Francis units, and
- 2) Lower number Francis units only that are available. An example unit discharging scenario for No.

1 could be a combination of one or two of the non-Francis units (Unit 3 or 4) and two of the Francis Units (Units 12 and 13 or 13 and 15). This would benefit understanding any complexities associated with operating both turbine unit types. An example of unit discharging scenario for No. 2 would be only the Francis units with prioritization of the lower numbers. Keep in mind that the ability to implement specific unit dispatching schedules is always going to be limited by unit availability.

Of course, if the current weather pattern changes and river discharge increases, the unit dispatch prioritization would revert to standard operation for juvenile shad protection and passage. To allow flexibility in preferential unit operation, please indicate your approval of modifying the PaDEP water quality certificate B.3.a.i and USFWS fishway prescription condition 9.9.6.a.i unit dispatching prioritization to allow the flexibility as described above to benefit the ongoing juvenile shad downstream passage effectiveness study.

In addition, the final tag/release session will occur the last week of November. To allow the possibility of detecting for the full amount of tag life of the final release batch, it will be necessary to continue operating the forebay sluice until December 3. This would be an additional operational modification that your approval is requested.

Please indicate if you approve of these operation modifications as soon as possible. If approved prior to **Friday, November 15**, the modification can be implemented for the next scheduled release.

If you have any questions or would like to meet to discuss, please contact me.

**Ben Lenz | Licensing and Compliance Manager  
Eagle Creek Renewable Energy**  
Email: [benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)



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**From:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>  
**Sent:** Friday, October 4, 2024 11:36 AM

**To:** Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>

**Cc:** Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Lee Holmes <[lee.holmes@eaglecreekre.com](mailto:lee.holmes@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Cory Hoffman <[choffman@normandeau.com](mailto:choffman@normandeau.com)>; Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>

**Subject:** RE: [EXTERNAL] York Haven juvenile American shad headrace turbine avoidance study update and generating unit operations modification notification

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Ben,

PA DEP approves your request to modifying the generating unit operational restriction to deploy the higher number generating units primarily and lower number unit secondarily during daylight hours for three days the week of October 7 and to-be-determined week in mid- to late-November 2024 to facilitate the implementation of the juvenile shad headrace turbine avoidance study.

Regards,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist  
Department of Environmental Protection  
Southcentral Regional Office  
Waterways & Wetlands Program  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4819 | Fax: 717.705.4760

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER: 1-800-541-2050.

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**From:** Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>  
**Sent:** Friday, October 4, 2024 10:37 AM  
**To:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>  
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**Subject:** RE: [EXTERNAL] York Haven juvenile American shad headrace turbine avoidance study update and generating unit operations modification notification

Hi Ben,

Thank you for passing this along. The USFWS approves your request to modify the generating unit operation restriction for the three days in the week of October 7 and the TBD week in November. We request that you inform us when the dates in November have been selected.

Thanks,  
Matt

**Matthew Bearden**

Fish and Wildlife Biologist  
U.S. Fish & Wildlife Service  
Pennsylvania Field Office

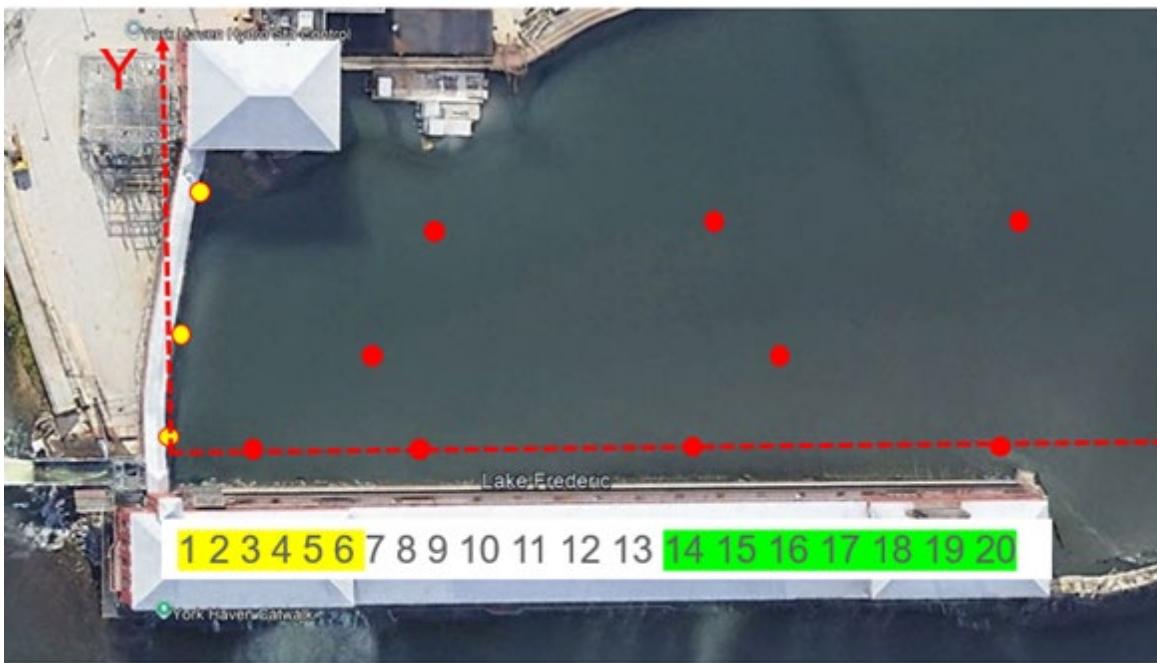
---

**From:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Sent:** Wednesday, October 2, 2024 11:15 AM  
**To:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>  
**Cc:** Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Lee Holmes <[lee.holmes@eaglecreekre.com](mailto:lee.holmes@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Cory Hoffman <[choffman@normandeau.com](mailto:choffman@normandeau.com)>; Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Subject:** [EXTERNAL] York Haven juvenile American shad headrace turbine avoidance study update and generating unit operations modification notification  
**Importance:** High

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Greetings: Preparations for the upcoming juvenile American Shad headrace turbine avoidance study are ongoing. An essential task of the study is to deploy acoustic receivers in the immediate vicinity of the turbine and forebay sluice gate intakes. To do this safely, the units need to be shut down at the locations that the boat-based equipment deployment is occurring. Given that the juvenile shad downstream protection season (October 1 to November 30) unit deployment restrictions currently require generating with units 1 through 6 first and then the higher number units secondarily, it is necessary to modify this sequencing of unit operation. To create safe working conditions to install the receivers (red and yellow dots on figure) and associated anchoring equipment from a boat nearest units one thru six (highlighted yellow in figure), the higher number units (highlighted green) will need to be operated instead of units 1 thru 6 to maintain a stable headpond during the in-water activities. Changing the deployment sequence of the units will be a modification of the operational requirements for juvenile shad downstream protection. The installation of the equipment will take up to three days, tentatively scheduled for Monday – Wednesday (Oct. 7-9). The removal of the equipment after the field study is complete, (tentatively, mid-November), will also require modifying the generating unit deployment sequence for the same reason.

To safely deploy the acoustic receiver equipment in the forebay of the York Haven Project, please indicate your approval of modifying the PaDEP water quality certificate B.3.a.i and USFWS fishway prescription condition 9.9.6.a.i to deploy the higher number generating units primarily and lower number unit secondarily during daylight hours for three days the week of October 7 and to-be-determined week in mid- to late-November 2024. Please indicate your approval of modifying this generating unit operational restriction for these periods of time to facilitate the implementation of the juvenile shad headrace turbine avoidance study by **5 pm Friday, October 4, 2024**. If you have any questions, please contact me.



**Ben Lenz | Licensing and Compliance Manager**  
**Eagle Creek Renewable Energy**  
Email: [benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)



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---

**From:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>  
**Sent:** Wednesday, October 23, 2024 9:50 AM  
**To:** Angela Woolard <[angela.wolard@eaglecreekre.com](mailto:angela.wolard@eaglecreekre.com)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** Re: [External] RE: York Haven East Channel Fishway Operation

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Angela,

The Service supports YHPC's request to open the wheel gates to lower the pond level to facilitate removal of sediment at the fishway exit. The Service also supports the closure of the fishway gate during the sediment removal activities to ensure sediment is not introduced into the fishway.

With respect to the amount of sediment being proposed to be removed, can you please provide information on how the depth of the proposed sediment removal (3') compares to the invert elevation at the bottom of the exit channel of the fishway and compares to the channel of the river bottom upstream of the dam that is being reconnected to the fishway? This information is critical to ensure the planned sediment removal will fully reconnect the fishway exit to the river upstream of the dam.

Thank you,  
Sheila Eyler  
U.S. Fish and Wildlife Service  
Mid-Atlantic Fish & Wildlife Conservation Office  
717-387-2117

---

**From:** Angela Woolard <[angela.wolard@eaglecreekre.com](mailto:angela.wolard@eaglecreekre.com)>  
**Sent:** Tuesday, October 22, 2024 4:18 PM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Hello all:

The work plan and erosion and sediment control measures for removal of the sediment at the East Channel Fishway are shown on the attached pdf.

A turbidity curtain will be installed to contain the sediment within the work area. The curtain will remain in place after the work has been completed until the sediment has settled and the water cleared. Then the curtain will be removed. Timber mats will be used to access the work area.

The sediment and debris in the area shown in the attached pdf will be removed and taken to the NLF stockpile area. The debris on the river bank will also be removed and taken to the NLF stockpile area.

YHPC hereby requests your approval of a variance to open both wheel gates at the east dam beginning tomorrow, 10/23, to lower the pond level in the vicinity of the sediment to be removed to approximately El. 278. This is approximately the level shown in the attached photo – EDam Fishway Exit Upstream 17Oct2024. This will expose the top of the sediment to allow it to dry a good amount, which will help in the removal and transport of the sediment, and will allow for a dryer and more stable bearing surface for the timber mats. Because it takes a few days for the drying to occur, both wheel gates be opened for the entire period - starting tomorrow through the end of the work period (anticipated 10/30).

YHPC also hereby requests your approval of a variance to close the gate to the fishway while the work is being performed and the turbidity curtain is up (anticipated from 10/25 through 10/30) so that sediment does not get into it. When the gate is closed, the fishway will be checked and any fish stranded in the fishway will be collected and placed into the east channel.

If these variances are approved, work is scheduled to start this Friday, 25 October, and weather permitting, finish by Wednesday, 30 October.

Thank you in advance for your prompt consideration of these requests.

Regards,  
Angela

**From:** Angela Woolard  
**Sent:** Monday, November 4, 2024 1:34 PM  
**To:** Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Kavulich, Bethany <[bkavulich@pa.gov](mailto:bkavulich@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Good afternoon, agencies:

Sediment removal at York Haven's East Channel Fishway is now complete – please see photos below. The East Channel Fishway has been reopened for normal operations. We appreciate your support.

Regards,  
Angela





**From:** Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>  
**Sent:** Thursday, October 24, 2024 8:18 AM  
**To:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Kavulich, Bethany <[bkavulich@pa.gov](mailto:bkavulich@pa.gov)>; Miller, Jeremy <[jeremimille@pa.gov](mailto:jeremimille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

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YHPC,

PA DEP approves the attached E&S Plan, and the requested variance.

Regards,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist  
Department of Environmental Protection  
Southcentral Regional Office  
Waterways & Wetlands Program  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4819 | Fax: 717.705.4760

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER: 1-800-541-2050.

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**From:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Sent:** Wednesday, October 23, 2024 4:01 PM  
**To:** Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Kavulich, Bethany <[bkavulich@pa.gov](mailto:bkavulich@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Hello all:

Our goal is to improve the operation of the east channel fishway as quickly as possible with the least environmental impact. We considered an impervious cofferdam and determined that it would cause increased environmental impact, significantly lengthen the schedule, and delay needed improvements at the fishway exit. The river bottom disturbance would be considerably larger (at least double) than what is currently proposed and would likely trigger additional authorizations. Opening the wheel gates as proposed will help to significantly dry out the area and turbidity curtains will prevent sediment transport into the river or fishway. We have scheduled this work for this Friday, October 25, 2024, and need to open the wheel gates ASAP (preferably this evening) to dry out the area. We appreciate the USFWS approval of our variance request and ask PADEP to concur. If necessary, we are happy to schedule a time to talk this afternoon – please let us know.

Regarding the USFWS question about the amount of sediment to be removed, we will be excavating to below the bottom level of the fishway gate so that the fish will have a reconnected path to the river.

Thank you,  
Angela

**From:** Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>  
**Sent:** Wednesday, October 23, 2024 9:08 AM  
**To:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Kavulich, Bethany <[bkavulich@pa.gov](mailto:bkavulich@pa.gov)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

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Angela, et. all,

Was there any consideration to installing an impervious cofferdam, to then pump (through a filter bag) the work area dry, and then remove the sediment? A turbidity curtain does not do anything to exclude water from moving into the work area.

Regards,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist  
Department of Environmental Protection  
Southcentral Regional Office  
Waterways & Wetlands Program  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4819 | Fax: 717.705.4760

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER: 1-800-541-2050.

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**From:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**From:** Angela Woolard  
**Sent:** Tuesday, October 22, 2024 4:19 PM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Miller, Jeremy <[jeremmillie@pa.gov](mailto:jeremmillie@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Mike Magnan <[Mike.Magnan@eaglecreekre.com](mailto:Mike.Magnan@eaglecreekre.com)>; Daniel Hacker <[Daniel.Hacker@eaglecreekre.com](mailto:Daniel.Hacker@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Hello all:

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A turbidity curtain will be installed to contain the sediment within the work area. The curtain will remain in place after the work has been completed until the sediment has settled and the water cleared. Then the curtain will be removed. Timber mats will be used to access the work area.

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YHPC hereby requests your approval of a variance to open both wheel gates at the east dam beginning tomorrow, 10/23, to lower the pond level in the vicinity of the sediment to be removed to approximately El. 278. This is approximately the level shown in the attached photo – EDam Fishway Exit Upstream 17Oct2024. This will expose the top of the sediment to allow it to dry a good amount, which will help in the removal and transport of the sediment, and will allow for a dryer and more stable bearing surface for the timber mats. Because it takes a few days for the drying to occur, both wheel gates be opened for the entire period - starting tomorrow through the end of the work period (anticipated 10/30).

YHPC also hereby requests your approval of a variance to close the gate to the fishway while the work is being performed and the turbidity curtain is up (anticipated from 10/25 through 10/30) so that sediment does not get into it. When the gate is closed, the fishway will be checked and any fish stranded in the fishway will be collected and placed into the east channel.

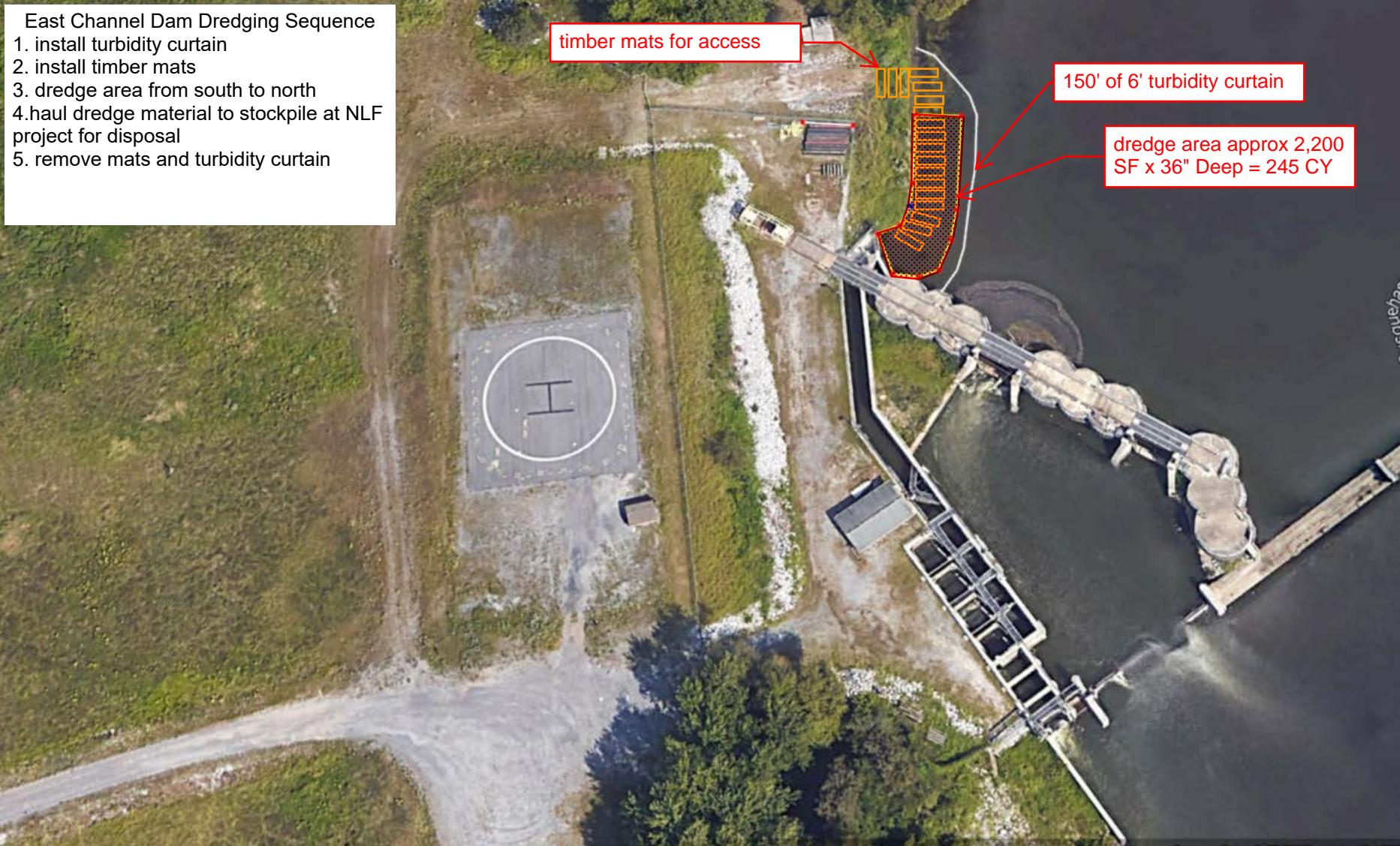
If these variances are approved, work is scheduled to start this Friday, 25 October, and weather permitting, finish by Wednesday, 30 October.

Thank you in advance for your prompt consideration of these requests.

Regards,  
Angela

## East Channel Dam Dredging Sequence

1. install turbidity curtain
2. install timber mats
3. dredge area from south to north
4. haul dredge material to stockpile at NLF project for disposal
5. remove mats and turbidity curtain





Debris on Bank 10/21/2024



ECF Exit Upstream Gate 10/17/2024



ECF Exit Upstream 10/17/2024

**From:** Angela Woolard  
**Sent:** Monday, October 21, 2024 5:17 PM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Good afternoon:

The debris on the bank in the photos was too large to haul up the slope by hand; it will be removed by the same machinery that will be used to remove the sediment. We expect to have an E&S Plan ready to share tomorrow, and our contractor currently expects to be ready to begin the work on Friday.

Thank you,  
Angela

**From:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>  
**Sent:** Monday, October 21, 2024 7:29 AM  
**To:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

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Good morning,

Thank you for the update. With respect to the attached photos, can you please confirm if the debris that was removed from the exit gate, was then removed from the bank immediately upstream of the exit gate?

Thank you,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist  
Department of Environmental Protection

Southcentral Regional Office  
Waterways & Wetlands Program  
909 Elmerton Avenue | Harrisburg, PA 17110  
Phone: 717.705.4819 | Fax: 717.705.4760

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER: 1-800-541-2050.

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**From:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Sent:** Friday, October 18, 2024 5:43 PM  
**To:** Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Hello all:

Today we cleaned the intake to and pit of the fish exit gate, and the gate is now opening/closing the entire way. The fishway is fully functioning with the required flow – please see the attached photos.

We are still drawing up an E&S Plan to pursue getting the sediment delta near the fishway removed, as noted in my update this morning, and we will share that once available.

Thank you,  
Angela

**From:** Angela Woolard  
**Sent:** Friday, October 18, 2024 11:12 AM  
**To:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Good morning, all:

Just a quick update that the U.S. Army Corps of Engineers did verify this morning that the removal of sediment will be covered under a non-reporting PASPGP authorization. We are having our construction contractor draw up an E&S Plan for the work, and once it has been prepared we will share it with this group.

Also, we have a contractor currently on site working with the fish exit gate.

Thank you,  
Angela

**From:** Angela Woolard  
**Sent:** Thursday, October 17, 2024 7:00 PM  
**To:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Miller, Jeremy <[jeremymille@pa.gov](mailto:jeremymille@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Good evening, Sheila and all:

YHPC's plant manager was able to exercise the fish exit gate several times today and it is currently open about three inches more than it was yesterday. The vendor will be out tomorrow to clean it and we are hopeful that it will be completely open by COB tomorrow. The river level has also risen since yesterday, providing more flow through the fishway. The plant manager also opened the two vertical gates on the crowder wall, allowing additional flow through the fishway.

Attached are some photos – the south vertical gate open, the north vertical gate open, and the water going over the exit gate.

We are also checking with the U.S. Army Corps of Engineers to see if they agree that the existing 401 WQC will allow for us to remove the sediment near the entrance.

Thank you,  
Angela

**From:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>  
**Sent:** Thursday, October 17, 2024 9:46 AM  
**To:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>; Bearden, Matthew G <[matthew\\_bearden@fws.gov](mailto:matthew_bearden@fws.gov)>; Morales, Jesus J <[jesus\\_morales@fws.gov](mailto:jesus_morales@fws.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** Re: [External] RE: York Haven East Channel Fishway Operation

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Good morning Angela,

Thank you for the update.

FYI - I am cc'ing Jesus Morales (Fishway Engineer) and Matthew Bearden (FERC-Project Biologist) from FWS.

Can your team provide a photo inside the fishway, particularly in the area of the crowder wall at the viewing window to show whether the fishway is passable at this time (similar to the attached that I took Monday 10/14/24 on-site). Based on the attached photo, water was not passing over the elevated floor screen near the viewing window causing a complete blockage inside the fishway and the doors of the crowder wall were not in the open position.

Per the York Haven Fishway Operation Plan, December 2023, pg 15,:

*"During resident fish passage operation, the two 5 ft-wide doors located in the upstream and downstream crowder wall are opened during the resident passage season, providing fish additional routes to pass upstream of the counting area. Opening both gates reduces submerged aquatic vegetation and leaf litter from clogging the screens (Photo 5.9)."*



Photo 5.9 from the 2023 Fishway Operation Plan.

To follow the existing Fishway Operation Plan, the doors on the crowder screen should be opened as soon as possible and remain open for the resident fish passage season.

Ultimately, I suspect flows and water depth in the fishway will continue to be very low given the current low headpond elevation, and sediment build-up at the fishway exit. York Haven should develop a plan to remove the sediment buildup from the fishway exit to ensure proper water supply to the fishway and a clear route of escapement for fish from the fishway exit into the East Channel.

Thank you for your attention to this matter,

Sheila Eyler  
U.S. Fish and Wildlife Service  
Mid-Atlantic Fish & Wildlife Conservation Office  
717-387-2117

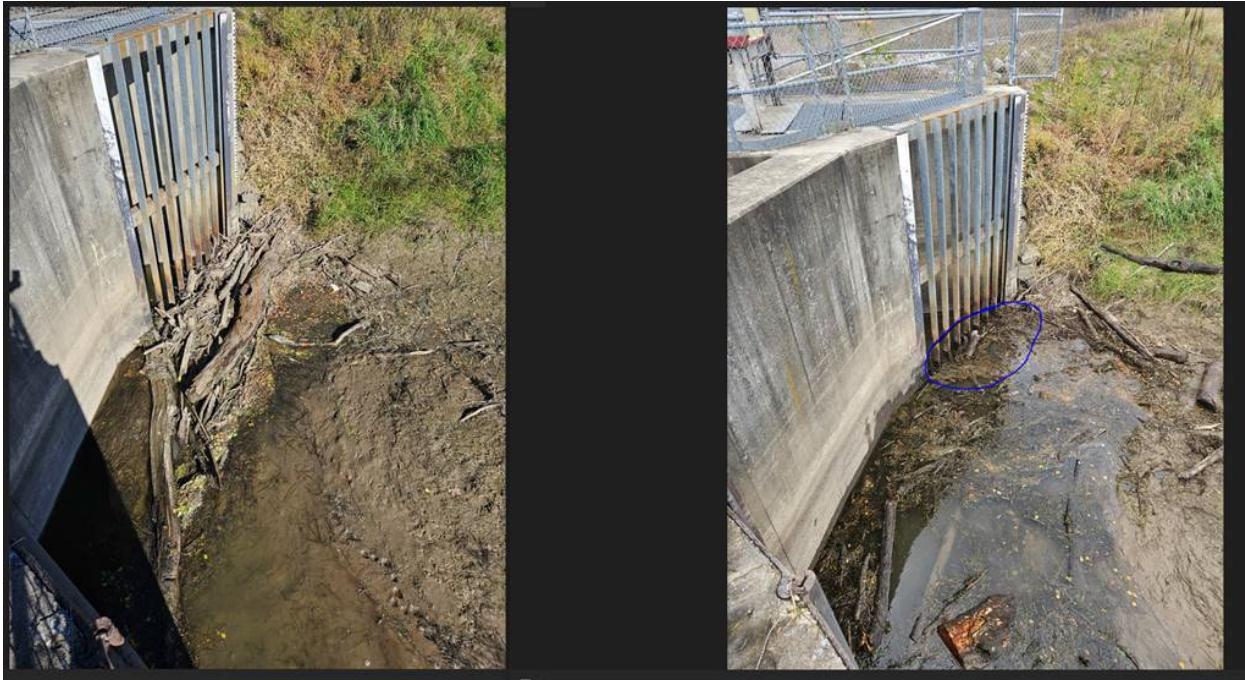
---

**From:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Sent:** Wednesday, October 16, 2024 5:34 PM  
**To:** Eberts, Ron <[reberts@pa.gov](mailto:reberts@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Hello, agencies:

YHPC Operations staff went to the East Channel Fishway today to try and remove as much of the natural debris as they could by hand. Both wheel gates were closed at 12:30 PM, the crew worked on removing the debris for a little over an hour and cleared what they safely could, and both wheel gates were fully re-opened at 1:45PM.

The left photo is from yesterday, and the right photo is from today after clearing debris. The blue circled area is where small, compacted debris (grass, etc.) has built up and cannot be removed by hand; it will need to be removed with the sediment. During normal river flow, this sedimentation is usually underwater and the fishway receives the required flow.



In the process of doing this work, the crew also discovered that the fish exit gate will not fully open; there must be debris stuck in the pit/track (the gate opens by receding into a pocket at the bottom of the fishway). The gate will currently not open more than 15%. A vendor has been contacted to clean the gate track and pit. YHPC expects to know by COB tomorrow when this work can be conducted and will provide an update.

Thanks,

**Angela M. Woolard | Licensing and Compliance Manager**

**Affiliates of Eagle Creek Renewable Energy**

Mobile: 804-624-0422

Email: [angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)



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**From:** Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>  
**Sent:** Wednesday, October 16, 2024 12:40 PM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>;  
Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Sheila Eyler  
<[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell  
<[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>;  
Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster  
<[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

Ron, Sheila,

Thank you for the quick response. I just called our plant manager who is in the field with his team removing debris and let him know. He will document the time the gates were closed and reopened and take photos. We should be able to share that information with you later today.

**Jody J. Smet, AICP**  
**Chief Compliance Officer**  
**Senior Vice President Regulatory Affairs**  
**Eagle Creek Renewable Energy**

**From:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>  
**Sent:** Wednesday, October 16, 2024 12:26 PM  
**To:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation

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YHPC,

We approve your request for a short-term variance to allow YHPC to close both wheel gates for approximately 4 hours.

Please provide us with the time both gates were closed and re-opened, and photos of the debris that was removed.

Thank you,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist

Department of Environmental Protection

Southcentral Regional Office

Waterways & Wetlands Program

909 Elmerton Avenue | Harrisburg, PA 17110

Phone: 717.705.4819| Fax: 717.705.4760

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR  
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**From:** Angela Woolard <[angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)>  
**Sent:** Wednesday, October 16, 2024 11:58 AM  
**To:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>  
**Cc:** Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; David Fox <[David.Fox@eaglecreekre.com](mailto:David.Fox@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation  
**Importance:** High

Hello All:

YHPC Operations staff will be at the East Channel Fishway today cutting the large pieces of natural debris so that it can be more easily removed. To facilitate removal of the natural debris, YHPC is hereby requesting approval for a short-term variance to allow YHPC to close both wheel gates for approximately 4 hours. Closing both wheel gates would raise the water level and make the natural debris more buoyant so that it is easier to remove. As an alternative, at a minimum, YHPC requests a short-term variance of approximately 4 hours to provide the minimum flow through the south wheel gate instead of the north wheel gate, which may raise the water level enough.

In the longer term, dredging the sediment delta that has accumulated in the East Channel Fishway is necessary. YHPC will be reaching out the USACE to determine if a permit is required and to develop a plan and schedule.

Thank you

**From:** Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>  
**Sent:** Wednesday, October 16, 2024 8:47 AM  
**To:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Cc:** Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Sheila Eyer <[Sheila\\_Eyer@fws.gov](mailto:Sheila_Eyer@fws.gov)>; Williamson, Scott <[scwilliams@pa.gov](mailto:scwilliams@pa.gov)>  
**Subject:** RE: [External] RE: York Haven East Channel Fishway Operation  
**Importance:** High

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Ben,

Please note that YHPC is currently in violation of the 401 WQC:

“YORK HAVEN Project shall operate and maintain the East Channel Fish Passage System to allow passage of resident fish species each year from ***April 1 through the earlier of December 15*** or until the average daily river temperature, measured at either the United States Geological Survey gage at Harrisburg or at the temperature sensor at YORK HAVEN Project is equal to or less than 40 degrees Fahrenheit for three consecutive days.”

“During the period that the East Channel Fish Passage System is in operation for the passage of fish, YORK HAVEN Project ***shall manage debris to maintain the functioning and operability of the East Channel Fish Passage System sufficient to allow and not significantly impede the passage of fish.***”

“Except when the East Channel Fish Passage System must be closed for repairs and maintenance or except as otherwise ***approved by the PADEP in writing***, YORK HAVEN shall leave the East Channel Fish Passage System open for passage of resident fish during the period April 1 through the end of the resident fish passage season (earlier of December 15 or until the average daily river temperature is < 40 degrees Fahrenheit for three consecutive days).”

Regards,

Ronald C. Eberts, Jr. | Environmental Protection Compliance Specialist

Department of Environmental Protection

Southcentral Regional Office

Waterways & Wetlands Program

909 Elmerton Avenue | Harrisburg, PA 17110

Phone: 717.705.4819| Fax: 717.705.4760

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**From:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Sent:** Tuesday, October 15, 2024 1:29 PM  
**To:** Sheila Eyler <[Sheila\\_Eyler@fws.gov](mailto:Sheila_Eyler@fws.gov)>  
**Cc:** Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Eberts, Ron <[reborts@pa.gov](mailto:reborts@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>  
**Subject:** [External] RE: York Haven East Channel Fishway Operation

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Sheila: The fishway is in operation but, yes, the flow through fishway is depleted due to multiple factors - low river discharge, an ongoing impoundment level reduction for facilitating safe in-water work conditions for the nature-like fishway spillway section work and dam repair, and the primary issue, debris blockage and silt accumulation at the exit rack. This debris accumulation has been in place for the past several weeks and, as you observed, limits flow through the fishway channel. The pieces of debris are large and the lack of buoyancy limits the ability to use hand tools to clear the intake. Today, one of the wheel gates was closed to see if that would raise the elevation enough to release the debris, but it was unsuccessful. If the debris can be moved, that will improve flow in the fishway. Operations staff will attempt to cut up the larger pieces with an extended saw in the upcoming week, but it may still be a challenge to float the pieces to remove them. Will keep you posted as soon as that can be done to let you know if this is successful. In the longer term, dredging the sediment accumulation is a likely necessity to try to ensure consistent flow to the fishway channel during low river discharge conditions. Let me know if you have any more questions or want to meet to discuss.



**Ben Lenz | Licensing and Compliance Manager**

**Eagle Creek Renewable Energy**

Email: [benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)



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**From:** Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>  
**Sent:** Tuesday, October 15, 2024 7:16 AM  
**To:** Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>  
**Cc:** Miller, Jeremy <[jeremmill@pa.gov](mailto:jeremmill@pa.gov)>; Ron Eberts <[reborts@pa.gov](mailto:reborts@pa.gov)>; Kuhn, Kristopher <[kkuhn@pa.gov](mailto:kkuhn@pa.gov)>  
**Subject:** York Haven East Channel Fishway Operation

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Good morning Ben,

I was on site yesterday to observe the juvenile shad tagging by Normandeau Associates that is occurring near the East Channel Fishway and I noticed that the fishway was not operational (essentially drained) and it is my understanding that it has been non-operational for a few weeks.

I haven't seen any variance or operation modification requests from YHPC for the shutdown of the fishway. Can you please provide information on why it isn't operational at this time and what is the plan to resume operation?

Thank you,

Sheila Eyler

U.S. Fish and Wildlife Service

Mid-Atlantic Fish & Wildlife Conservation Office

717-387-2117

**From:** Angela Woolard <angela.woolard@eaglecreekre.com>  
**Sent:** Friday, April 12, 2024 2:55 PM  
**To:** Josh Tryniewski <jtryniews@pa.gov>; Aaron Henning <ahenning@srbc.net>; Miller, Jeremy <jeremmille@pa.gov>; Ron Eberts <reborts@pa.gov>; Rob Bourdon <robert.bourdon@maryland.gov>; Zollweg-Horan, Emily C (DEC <emily.zollweg-horan@dec.ny.gov>; shawn.seaman@maryland.gov; Eyler, Sheila <Sheila\_eyler@fws.gov>; Niewinski, Brian <bniewinski@pa.gov>  
**Cc:** Mark Gross <Mark.Gross@eaglecreekre.com>; Tom O'Connor <Tom.OConnor@eaglecreekre.com>; Jeremy Burnell <Jeremy.Burnell@eaglecreekre.com>; Jody Smet <Jody.Smet@eaglecreekre.com>; Joyce Foster <joyce.foster@eaglecreekre.com>; Benjamin Lenz <benjamin.lenz@eaglecreekre.com>; Mike Hreben <Mike.Hreben@KleinschmidtGroup.com>; Isabelle Croteau <Isabelle.Croteau@KleinschmidtGroup.com>  
**Subject:** RE: York Haven (FERC No. 1888) - High Flow Event - East Channel Fishway Closure Notice

Hello all:

Due to high Susquehanna River flows from more recent rain, we had to close the fish ladder again today at 1200. We are expecting to open it back up on Tuesday (4/16) based on the forecast.

Thank you,  
Angela

**From:** Angela Woolard  
**Sent:** Monday, April 8, 2024 1:07 PM  
**To:** Tryniewski, Joshua <[jtryniews@pa.gov](mailto:jtryniews@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Miller, Jeremy <[jeremmille@pa.gov](mailto:jeremmille@pa.gov)>; Ron Eberts <[reborts@pa.gov](mailto:reborts@pa.gov)>; Rob Bourdon <[robert.bourdon@maryland.gov](mailto:robert.bourdon@maryland.gov)>; Zollweg-Horan, Emily C (DEC <[emily.zollweg-horan@dec.ny.gov](mailto:emily.zollweg-horan@dec.ny.gov)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>; Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Brian Niewinski <[bniewinski@pa.gov](mailto:bniewinski@pa.gov)>  
**Cc:** Mark Gross <[Mark.Gross@eaglecreekre.com](mailto:Mark.Gross@eaglecreekre.com)>; Tom O'Connor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Mike Hreben <[Mike.Hreben@KleinschmidtGroup.com](mailto:Mike.Hreben@KleinschmidtGroup.com)>; [isabelle.croteau@kleinschmidtgroup.com](mailto:isabelle.croteau@kleinschmidtgroup.com)  
**Subject:** RE: York Haven (FERC No. 1888) - High Flow Event - East Channel Fishway Closure Notice

Good afternoon all –

YHPC has reopened the East Channel Fishway this morning, as flow has receded to back below 150,000 cfs. There was no damage found and the fishway is back to operational.

Thank you,  
Angela

**From:** Angela Woolard  
**Sent:** Thursday, April 4, 2024 11:38 AM  
**To:** Tryninski, Joshua <[jtryninski@pa.gov](mailto:jtryninski@pa.gov)>; Aaron Henning <[ahenning@srbc.net](mailto:ahenning@srbc.net)>; Miller, Jeremy <[jeremymille@pa.gov](mailto:jeremymille@pa.gov)>; Ron Eberts <[reberts@pa.gov](mailto:reberts@pa.gov)>; Rob Bourdon <[robert.bourdon@maryland.gov](mailto:robert.bourdon@maryland.gov)>; Zollweg-Horan, Emily C (DEC <[emily.zollweg-horan@dec.ny.gov](mailto:emily.zollweg-horan@dec.ny.gov)>; Shawn Seaman -DNR- <[shawn.seaman@maryland.gov](mailto:shawn.seaman@maryland.gov)>; Eyler, Sheila <[sheila\\_eyler@fws.gov](mailto:sheila_eyler@fws.gov)>; Brian Niewinski <[bniewinski@pa.gov](mailto:bniewinski@pa.gov)>  
**Cc:** Mark Gross <[Mark.Gross@eaglecreekre.com](mailto:Mark.Gross@eaglecreekre.com)>; Tom OConnor <[Tom.OConnor@eaglecreekre.com](mailto:Tom.OConnor@eaglecreekre.com)>; Jeremy Burnell <[Jeremy.Burnell@eaglecreekre.com](mailto:Jeremy.Burnell@eaglecreekre.com)>; Jody Smet <[Jody.Smet@eaglecreekre.com](mailto:Jody.Smet@eaglecreekre.com)>; Joyce Foster <[joyce.foster@eaglecreekre.com](mailto:joyce.foster@eaglecreekre.com)>; Benjamin Lenz <[benjamin.lenz@eaglecreekre.com](mailto:benjamin.lenz@eaglecreekre.com)>; Mike Hreben <[Mike.Hreben@KleinschmidtGroup.com](mailto:Mike.Hreben@KleinschmidtGroup.com)>; [isabelle.croteau@kleinschmidtgroup.com](mailto:isabelle.croteau@kleinschmidtgroup.com)  
**Subject:** York Haven (FERC No. 1888) - High Flow Event - East Channel Fishway Closure Notice

Good morning all:

York Haven Power Company, LLC (YHPC) opened the East Channel Fishway (ECF) March 20, 2024, for volitional resident fish passage. In accordance with Section 5.2 of the York Haven Project Fishway Operation Plan, YHPC is closing the East Channel Fishway today, April 4, 2024, due to extremely high flows on the Susquehanna River, to prevent potential damage to Fishway components. Currently, flows are at about 206,000 cfs, and are predicted to crest tomorrow morning at about 280,000 cfs. We will likely leave the ECF closed until at least Monday, April 8.

Thank you,

**Angela M. Woolard | Licensing and Compliance Manager**  
**Eagle Creek Renewable Energy**  
Mobile: 804-624-0422  
Email: [angela.woolard@eaglecreekre.com](mailto:angela.woolard@eaglecreekre.com)



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## **APPENDIX II**

**Fishway Water Temperature (°F) - March 31 through December 9, 2024**

Date	Daily Avg. Water Temperature (°F)
4/1/2024	48.3
4/2/2024	48.2
4/3/2024	47.2
4/4/2024	46.5
4/5/2024	45.9
4/6/2024	44.7
4/7/2024	45.1
4/8/2024	46.4
4/9/2024	47.2
4/10/2024	49.5
4/11/2024	51.2
4/12/2024	53.2
4/13/2024	53.3
4/14/2024	52.8
4/15/2024	53.9
4/16/2024	54.7
4/17/2024	55.0
4/18/2024	55.0
4/19/2024	54.9
4/20/2024	54.6
4/21/2024	54.6
4/22/2024	53.3
4/23/2024	54.0
4/24/2024	55.3
4/25/2024	56.4
4/26/2024	56.6
4/27/2024	56.3
4/28/2024	56.0
4/29/2024	59.1
4/30/2024	63.5
5/1/2024	66.6
5/2/2024	68.9
5/3/2024	70.0
5/4/2024	67.2
5/5/2024	63.0
5/6/2024	61.2
5/7/2024	63.3
5/8/2024	67.6
5/9/2024	68.8
5/10/2024	65.7
5/11/2024	62.5

Date	Daily Avg. Water Temperature (°F)
5/12/2024	61.7
5/13/2024	62.3
5/14/2024	63.5
5/15/2024	61.9
5/16/2024	61.9
5/17/2024	63.3
5/18/2024	63.1
5/19/2024	64.3
5/20/2024	67.1
5/21/2024	70.1
5/22/2024	72.2
5/23/2024	73.7
5/24/2024	74.8
5/25/2024	74.7
5/26/2024	74.5
5/27/2024	74.5
5/28/2024	72.9
5/29/2024	71.9
5/30/2024	70.7
5/31/2024	70.1
6/1/2024	70.6
6/2/2024	72.0
6/3/2024	72.7
6/4/2024	75.2
6/5/2024	75.7
6/6/2024	74.8
6/7/2024	75.0
6/8/2024	75.0
6/9/2024	74.2
6/10/2024	73.3
6/11/2024	72.6
6/12/2024	72.5
6/13/2024	73.1
6/14/2024	76.8
6/15/2024	76.4
6/16/2024	76.5
6/17/2024	77.7
6/18/2024	81.0
6/19/2024	83.1
6/20/2024	84.1
6/21/2024	85.1

Date	Daily Avg. Water Temperature (°F)
6/22/2024	86.8
6/23/2024	86.5
6/24/2024	83.9
6/25/2024	80.8
6/26/2024	80.4
6/27/2024	81.0
6/28/2024	79.7
6/29/2024	78.1
6/30/2024	78.9
7/1/2024	77.4
7/2/2024	76.4
7/3/2024	77.8
7/4/2024	79.5
7/5/2024	82.5
7/6/2024	85.3
7/7/2024	86.7
7/8/2024	86.2
7/9/2024	86.8
7/10/2024	86.6
7/11/2024	85.3
7/12/2024	82.2
7/13/2024	81.6
7/14/2024	83.8
7/15/2024	85.8
7/16/2024	86.3
7/17/2024	86.6
7/18/2024	85.1
7/19/2024	83.6
7/20/2024	82.1
7/21/2024	82.5
7/22/2024	81.6
7/23/2024	81.7
7/24/2024	81.5
7/25/2024	81.8
7/26/2024	81.2
7/27/2024	81.1
7/28/2024	80.7
7/29/2024	81.4
7/30/2024	81.2
7/31/2024	81.9
8/1/2024	82.1

Date	Daily Avg. Water Temperature (°F)
8/2/2024	82.7
8/3/2024	83.2
8/4/2024	83.7
8/5/2024	83.3
8/6/2024	83.9
8/7/2024	81.1
8/8/2024	76.5
8/9/2024	76.1
8/10/2024	75.6
8/11/2024	72.8
8/12/2024	72.0
8/13/2024	71.7
8/14/2024	72.3
8/15/2024	73.5
8/16/2024	74.4
8/17/2024	74.9
8/18/2024	74.8
8/19/2024	75.7
8/20/2024	73.6
8/21/2024	71.1
8/22/2024	71.2
8/23/2024	71.9
8/24/2024	72.8
8/25/2024	75.0
8/26/2024	77.3
8/27/2024	78.8
8/28/2024	80.2
8/29/2024	81.0
8/30/2024	79.3
8/31/2024	76.0
9/1/2024	75.9
9/2/2024	77.0
9/3/2024	74.9
9/4/2024	73.3
9/5/2024	73.0
9/6/2024	73.1
9/7/2024	72.6
9/8/2024	69.4
9/9/2024	68.5
9/10/2024	70.0
9/11/2024	72.2

Date	Daily Avg. Water Temperature (°F)
9/12/2024	73.6
9/13/2024	74.6
9/14/2024	75.4
9/15/2024	75.2
9/16/2024	73.5
9/17/2024	73.3
9/18/2024	73.2
9/19/2024	73.7
9/20/2024	73.9
9/21/2024	73.6
9/22/2024	72.8
9/23/2024	70.6
9/24/2024	66.6
9/25/2024	65.2
9/26/2024	66.1
9/27/2024	67.4
9/28/2024	68.0
9/29/2024	67.6
9/30/2024	66.8
10/1/2024	66.4
10/2/2024	66.0
10/3/2024	66.9
10/4/2024	67.1
10/5/2024	67.9
10/6/2024	67.5
10/7/2024	68.2
10/8/2024	65.8
10/9/2024	64.3
10/10/2024	61.5
10/11/2024	59.9
10/12/2024	61.3
10/13/2024	63.2
10/14/2024	63.3
10/15/2024	58.1
10/16/2024	55.7
10/17/2024	54.6
10/18/2024	54.8
10/19/2024	56.2
10/20/2024	56.8
10/21/2024	57.8
10/22/2024	59.6

Date	Daily Avg. Water Temperature (°F)
10/23/2024	61.0
10/24/2024	62.2
10/25/2024	59.9
10/26/2024	59.3
10/27/2024	56.3
10/28/2024	53.8
10/29/2024	53.5
10/30/2024	55.6
10/31/2024	58.9
11/1/2024	61.6
11/2/2024	60.5
11/3/2024	57.6
11/4/2024	55.5
11/5/2024	55.2
11/6/2024	57.5
11/7/2024	60.9
11/8/2024	60.7
11/9/2024	57.7
11/10/2024	53.8
11/11/2024	53.3
11/12/2024	53.7
11/13/2024	51.3
11/14/2024	48.8
11/15/2024	48.1
11/16/2024	48.5
11/17/2024	49.1
11/18/2024	49.0
11/19/2024	50.2
11/20/2024	52.1
11/21/2024	52.3
11/22/2024	49.7
11/23/2024	45.5
11/24/2024	46.0
11/25/2024	46.6
11/26/2024	47.4
11/27/2024	47.9
11/28/2024	47.0
11/29/2024	45.0
11/30/2024	41.1
12/1/2024	38.2
12/2/2024	36.8

Date	Daily Avg. Water Temperature (°F)
12/3/2024	36.0
12/4/2024	36.0
12/5/2024	35.8
12/6/2024	34.7
12/7/2024	33.9
12/8/2024	34.5
12/9/2024	36.0

## **APPENDIX III**

**Station Generation Data - October through November 2024**

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20	
01-10-2024 00:59	276.22	-856.0974731	-783.4532471	-371.8554688	-689.3341064	-789.7861938	-728.1401367	0	0	-214.1420898	-67.32556152	-530.8695679	-146.705719	-14.58738899	-124.9061279	-340.7289429	-191.6803589	-189.2981567	-23.21165848	-7.713400841	-146.3699188	
01-10-2024 01:59	276.24	0.014541149	0.016127467	0.008829296	0.007293344	0.009431303	0.01178553	0	0	0.0108549	0	0	0	0.010674953	0.012569427	0	0	0	0	0		
01-10-2024 02:59	276.18	0.015421867	0.016957283	0.00943625	0.007806659	0.010031223	0.011842608	0	0	0.011338711	0	0	0	0	0.010908365	0.013350964	0	0	0	0	0	
01-10-2024 03:59	276.28	0.017280579	0.007118464	0.007941723	0.008405328	0.007484913	0.007465601	0	0	0.012332916	0	0	0	0	0.011239767	0.014200687	0	0	0	0	0	
01-10-2024 04:59	276.28	0.018220901	0.007495403	0.008350372	0.008749247	0.007682562	0.007683992	0	0	0.013138294	0	0	0	0	0.012187004	0.015063763	0	0	0	0	0	
01-10-2024 05:59	276.29	0.015335083	0.005960464	0.007151127	0.007352114	0.006473303	0.006433249	0	0	0.010889053	0	0	0	0	0.009776115	0.012499332	0	0	0	0	0	
01-10-2024 06:59	276.3	0.014556408	0.015855312	0.014962673	0.014125347	0.015614986	0.015253067	0	0	0	0	0	0	0	0.013526917	0	0	0	0	0	0	
01-10-2024 07:59	276.38	0.013118744	0.014678001	0.010666337	0.01411119	0.016411304	0.016237736	0	0	0	0	0	0	0	0	0.014474392	0	0	0	0	0	
01-10-2024 08:59	276.39	0.014819145	0.016106129	0.011921406	0.013186455	0.017832279	0.017393112	0	0	0	0	0	0	0	0	0.015649796	0	0	0	0	0	
01-10-2024 09:59	276.37	0.012483597	0.013782501	0.009974448	0.011066437	0.015582561	0.015062332	0	0	0	0	0	0	0	0	0.013198853	0	0	0	0	0	
01-10-2024 10:59	276.37	0.013332367	0.01478672	0.010690689	0.01231432	0.016006069	0.016168594	0	0	0	0	0	0	0	0	0.013913155	0	0	0	0	0	
01-10-2024 11:59	276.34	0.013300896	0.014439583	0.010678291	0.012675285	0.017755508	0.016996384	0	0	0	0	0	0	0	0	0.014919281	0	0	0	0	0	
01-10-2024 12:59	276.19	0.014003754	0.015250206	0	0.014324188	0.015524864	0.014781952	0	0	0.010386467	0	0	0	0.010648608	0.006341308	0.010261059	0.01814117	0	0	0		
01-10-2024 13:59	276.26	0.016974449	0.017677307	0	0	0	0	0	0	0.011534691	0	0	0	0.01087749	0.006872714	0.009726048	0.01246357	0.013829887	0.012986004	0.009173542	0	
01-10-2024 14:59	276.17	0.018033981	0.018687248	0	0	0	0	0	0	0.011974812	0	0	0	0.011216521	0.007630467	0.01106596	0.013234138	0.014415979	0.013781309	0.009464025	0	
01-10-2024 15:59	276.27	0.020458221	0.001029968	0	0	0	0	0	0	0.012722969	0	0	0	0.011804342	0.00865519	0.011187553	0.014136314	0.015478134	0.014514208	0.00973773	0	
01-10-2024 16:59	276.28	0.022155762	0	0	0	0	0	0	0	0.013907375	0	0	0	0.012927532	0.009041309	0.013955116	0.014730453	0.016342163	0.015239716	0.011202574	0	
01-10-2024 17:59	276.32	0.019388199	0	0	0	0	0	0	0	0.01180172	0	0	0	0.011782746	0.007708311	0.011827469	0.013235092	0.014014244	0.013257504	0.009713411	0	
01-10-2024 18:59	276.35	0.020500183	0	0	0	0	0	0	0	0.012706757	0	0	0	0.012086391	0.008404255	0.011533737	0.013395309	0.015219688	0.014454842	0.010469437	0	
01-10-2024 19:59	276.38	0.017290115	0	0	0	0	0	0	0	0.010733604	0	0	0	0.010383606	0.006815434	0.008998871	0.011768341	0.012908459	0.012060642	0.008747101	0	
01-10-2024 20:59	276.31	0.018106461	0	0	0	0	0	0.01612854	0	0	0.011340141	0	0	0	0.01129379	0.006821632	0.010015488	0.012364384	0.013064384	0.012361526	0.009091854	0
01-10-2024 21:59																						
01-10-2024 22:59	276.29	0.020002365	0	0	0	0	0	0.017894745	0	0	0.0122509	0	0	0	0.011963844	0.007802486	0.01123333	0.013820648	0.014965057	0.013558388	0.009559631	0
01-10-2024 23:59	276.29	0.021015167	0	0	0	0	0	0.018783569	0	0	0.012849808	0	0	0	0.01276207	0.008384705	0.010292053	0.014326096	0.015067101	0.014425278	0.009994507	0
02-10-2024 00:59	276.28	0.021720886	0	0	0	0	0	0.01953125	0	0	0.013622284	0	0	0	0.01361084	0.009144306	0.013866425	0.014629364	0.016710281	0.015101433	0.010648727	0
02-10-2024 01:59	276.28	0.018806458	0	0	0	0	0	0.016897202	0	0	0.011758804	0	0	0	0.011547089	0.007160187	0.009926796	0.012981415	0.014237404	0.013426781	0.009423256	0
02-10-2024 02:59	276.27	0.019676208	0	0	0	0	0	0.017765045	0	0	0.012273788	0	0	0	0.012216568	0.008172035	0.009935379	0.013500214	0.014744759	0.013691902	0.00994777	0
02-10-2024 03:59	276.21	0.020606995	0	0	0	0	0	0.018655777	0	0	0.012992859	0	0	0	0.011994362	0.007863998	0.010934843	0.014064789	0.015497208	0.014448166	0.01020813	0
02-10-2024 04:59	276.19	0.017230988	0	0	0	0	0	0.015506744	0	0	0.010631561	0	0	0	0.010296822	0.006609917	0.008863449	0.01200676	0.012678146	0.01190567	0.008890288	0
02-10-2024 05:59	276.21	0.018131256	0	0	0	0	0	0.011640549	0	0	0.011268616											

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
04-10-2024 01:59	276.57	0.016952515	0.018920898	0.008491516	0.016571045	0.018218994	0.017738342	0	0.01266861	0.012104034	0	0	0	0.01171875	0	0	0	0	0	0	
04-10-2024 02:59	276.58	0.014556885	0.016433716	0.007289886	0.014053345	0.015769958	0.015441895	0	0.010738373	0.010971069	0	0	0	0.012283325	0	0	0	0	0	0	
04-10-2024 03:59	276.62	0.015411377	0.017478943	0.007732391	0.014778137	0.016654968	0.016265869	0	0.011482239	0.01133728	0	0	0	0.011932373	0	0	0	0	0	0	
04-10-2024 04:59	276.68	0.016075134	0.018249512	0.008148193	0.015426636	0.017318726	0.016983032	0	0.012451172	0.011478424	0	0	0	0.011722565	0	0	0	0	0	0	
04-10-2024 05:59	276.71	0.016891479	0.019012451	0.008407593	0.016220093	0.018066406	0.017730713	0	0.012500763	0.012126923	0	0	0	0.011768341	0	0	0	0	0	0	
04-10-2024 06:59	276.6	0.014099121	0.016059875	0.0077156372	0.014045715	0.015510559	0.015197754	0	0.010452271	0.010852814	0.012313366	0	0	0.010654449	0	0	0	0	0	0	
04-10-2024 07:59	276.45	0.013839722	0.016120911	0.007019043	0.014183044	0.015830994	0.015708923	0	0.010883331	0.011074066	0.012161732	0	0.011878967	0.007681847	0.011463165	0	0	0	0	0	
04-10-2024 08:59	276.41	0.014587402	0.016967773	0.007347107	0.014976501	0.016700745	0.01650238	0	0.01140213	0.011886597	0.012580872	0	0	0.008602142	0.012268066	0.014638901	0	0	0	0	
04-10-2024 09:59	276.33	0.011955261	0.014068604	0.006278992	0.011810303	0.014396667	0.014335632	0	0.009860092	0.009883881	0.011505604	0	0.010688782	0.006844521	0.010047913	0.012340546	0	0	0	0	
04-10-2024 10:59	276.17	0.013549805	0.015655518	0.007087708	0.014953613	0.01638031	0.015869141	0	0.010181427	0.010684967	0.012330055	0	0.011047363	0.007224083	0.010139465	0.013187408	0	0	0	0	
04-10-2024 11:59	276.17	0	0.019348145	0.009292603	0.017005592	0.017768866	0.016868591	0	0.011074066	0.011100769	0.012846947	0	0.011045456	0.007473946	0.011581421	0.013999939	0	0	0	0	
04-10-2024 12:59	276.22	0.018836975	0.020500183	0.009620667	0.017086343	0.018646424	0.017822266	0	0.012142181	0.007522583	0.013834	0	0.012989044	0	0.012466431	0	0	0	0	0	
04-10-2024 13:59	276.22	0.018432617	0.020736694	0.009246826	0.01753601	0.019470215	0.018814087	0	0.012241364	0.012454987	0.01433754	0	0	0.013114929	0	0	0	0	0	0	
04-10-2024 14:59	276.3	0.014137268	0.016433716	0.007247925	0.014221191	0.016494751	0.016288757	0	0.010837555	0.010684967	0.01240921	0	0	0.011260986	0	0	0	0	0	0	
04-10-2024 15:59	276.33	0.013618469	0.014701843	0.00730896	0.011039734	0.01725769	0.017417908	0	0.011581421	0.011516571	0.013694763	0	0	0.012535095	0	0	0	0	0	0	
04-10-2024 16:59	276.37	0.01058197	0.011375427	0.00604248	0.007652283	0.009979248	0.012329102	0	0.010215759	0.009897243	0.011639595	0	0	0.011001587	0	0	0	0	0	0	
04-10-2024 17:59	276.4	0.011940002	0.008844268	0.006523132	0.008453369	0.010726929	0.013206482	0	0.011062622	0.010478973	0.012605667	0	0	0	0.012657166	0	0	0	0	0	
04-10-2024 18:59	276.45	0.012519836	0.009162903	0.008912231	0.008796692	0.011421204	0.013916016	0	0.011615753	0.011413574	0.012964249	0	0	0	0.011764526	0	0	0	0	0	
04-10-2024 19:59	276.5	0.012649536	0.00907135	0.0086904602	0.00920105	0.011917114	0.014610291	0	0.01197223	0.011985779	0.014482498	0	0	0	0.013214111	0	0	0	0	0	
04-10-2024 20:59	276.55	0.013343811	0.009391785	0.007377625	0.009712219	0.012329102	0.01537323	0	0.012691498	0.012470245	0.014606476	0	0	0	0.013397217	0	0	0	0	0	
04-10-2024 21:59	276.66	0.018806458	0.013282776	0	0.012084961	0.014205933	0.016639709	0	0.013980865	0.013160706	0.015514374	0	0	0	0.014694214	0	0	0	0	0	
04-10-2024 22:59	276.72	0.016586304	0.011810303	0	0.011024475	0.012405396	0.014572144	0	0.011943817	0.0117836	0.014255524	0	0	0	0.012329102	0	0	0	0	0	
04-10-2024 23:59	276.79	0.014160156	0.009986877	0	0.009544373	0.010597229	0.01247406	0	0.010723114	0.010082245	0.011672974	0	0	0	0.011680603	0	0	0	0	0	
05-10-2024 00:59	276.86	0.014953613	0.010704041	0	0.00994873	0.011283875	0.013198853	0	0.011291504	0.010635376	0.012290955	0	0	0	0.012161255	0	0	0	0	0	
05-10-2024 01:59	276.95	0.015365601	0.010734558	0	0.012161255	0.013168335	0.013511658	0	0.011486053	0.010902405	0.012645721	0	0	0	0.012763977	0	0	0	0	0	
05-10-2024 02:59	277.01	0.015670776	0.01374054	0	0.012786865	0.015411377	0.014205933	0	0.012104034	0.011489868	0.013519287	0	0	0	0.013374329	0	0	0	0	0	
05-10-2024 03:59	277.03	0.016700745	0.014717102	0	0.013717651	0.016456604	0.01512146	0	0.012695131	0.012355804	0.014305115	0	0	0	0.014076233	0	0	0	0	0	
05-10-2024 04:59	277.07	0.017349243	0.015411377	0	0.014472961	0.017181396	0.015640259	0	0.013412476	0.012271881	0.015062332	0	0	0	0.014771837	0	0	0	0	0	
05-10-2024 05:59	277.1	0.017974854	0.015846252	0	0.014541626	0.017829895	0.016197205	0	0.013568878	0.013290405	0.015268326	0	0	0	0.015296936	0	0	0	0	0	
05-1																					

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
07-10-2024 02:59	277.29	0.015289307	0.016906738	0.014579773	0.013450623	0.008972168	0.013442993	0	0	0	0	0	0	0	0.011650085	0	0	0	0	0	
07-10-2024 03:59	277.33	0.017074585	0.018188477	0.009712219	0.003684998	0.009933472	0.014099121	0	0	0	0	0	0	0	0.011329651	0	0	0	0	0	
07-10-2024 04:59	277.35	0.017608643	0.018981934	0.0102005	0.003425598	0.010314941	0.014709473	0	0	0	0	0	0	0	0.012054443	0	0	0	0	0	
07-10-2024 05:59	277.36	0.018768311	0.011795044	0.010894775	0.0079422	0.01083374	0.015319824	0	0	0	0	0	0	0	0.013427734	0	0	0	0	0	
07-10-2024 06:59	277.34	0.019500732	0.012527466	0.011390686	0.008666992	0.011306763	0.016052246	0	0	0	0	0	0	0	0.01361084	0	0	0	0	0	
07-10-2024 07:59	277.26	0.020645142	0.012908936	0.011932373	0.008956909	0.011901855	0.016921997	0	0	0	0	0	0	0	0.014541626	0	0	0	0	0	
07-10-2024 08:59	277.24	0.017837524	0.011123657	0.010009766	0.007629395	0.01020813	0.014694214	0	0	0	0	0	0	0	0.012680054	0	0	0	0	0	
07-10-2024 09:59	277.26	0.018188477	0.011108398	0.010429382	0.007644653	0.01071167	0.015655518	0	0	0	0	0	0	0	0	0	0	0	0	0	
07-10-2024 10:59	277.11	0.014312744	0.008789063	0.008331299	0.005905151	0.008529663	0.012939453	0	0	0.010559082	0.01260376	0	0	0	0.01146698	0	0	0	0	0	
07-10-2024 11:59	277.01	0.014297485	0.008575439	0.008636475	0.005554199	0.008911133	0.013153076	0	0	0.011154175	0.012901306	0.015923513	0	0	0.012756348	0	0	0	0	0	
07-10-2024 12:59	276.65	0.006973267	0.009567261	0.00693512	0.007247925	0.007492065	0.007492065	0	0	0.011161804	0.013347626	0.016264081	0.012220383	0.007414818	0.012771606	0.014709473	0.016019821	0	0	0	
07-10-2024 13:59	276.48	0.006546021	0.005157471	0.003585815	0.000930786	0.006790161	0.007034302	0	0	0.011238098	0.013339996	0.016769648	0.012907028	0.008392334	0.012832642	0.014709473	0.015371323	0	0	0	
07-10-2024 14:59	276.33	0.00151062	0.001708984	0.002426147	3.05E-05	0.005767822	0.005859375	0	0	0.009849548	0.011806488	0.014431	0.010770798	0.00756073	0.011245728	0.012889862	0.013893127	0.012994766	0	0	0
07-10-2024 15:59	276.12	0.000198364	0.00038147	0.001930237	0.000106812	0.006072998	0.006149292	0	0	0.010276794	0.012561798	0.015269756	0.01158905	0.007684708	0.011001587	0.013572693	0.014535904	0.014188766	0	0	0
07-10-2024 16:59	275.91	0.005462646	0.007995605	0.004623413	0.000839233	0.006837573	0.006347656	0	0	0.010360718	0.01291275	0.015982628	0.011972427	0.007753372	0.010772705	0.014148712	0.016002655	0.01411438	0	0	0
07-10-2024 17:59	276.11	0.00453186	0.004623413	0.003898621	0.000183105	0.007217407	0.007156372	0	0	0.011764526	0.014064789	0.017969608	0.013978958	0	0.013671875	0	0	0	0	0	
07-10-2024 18:59	276.03	0.005935669	0.004241943	0.005325317	0.000808716	0.006469727	0.006240845	0	0	0.010536194	0.012203217	0.015449524	0.011655807	0	0.011871338	0	0	0	0	0	
07-10-2024 19:59	276.04	0.014312744	0.00970459	0.007865906	0.006271362	0.007385254	0.006988525	0	0	0.010009766	0.013614655	0.014790535	0	0	0.012329102	0	0	0	0	0	
07-10-2024 20:59	276.12	0.018112183	0.01222229	0.009277344	0.009124756	0.008499146	0.007736206	0	0	0.010543823	0.013950348	0	0	0	0.012451172	0	0	0	0	0	
07-10-2024 21:59	277.31	0.016067505	0.010696411	0.008232117	0.00769043	0.007369995	0.006805452	0	0	0.008888245	0.012626648	0	0	0	0.012283325	0	0	0	0	0	
07-10-2024 22:59	277.46	0.017074585	0.011550903	0.008453369	0.008682251	0.008026123	0.007446289	0	0	0.009811401	0	0	0	0	0.012039185	0	0	0	0	0	
07-10-2024 23:59	277.53	0.018661499	0.012237549	0.009277344	0.009567261	0.008651733	0.007965088	0	0	0.010261536	0	0	0	0	0	0	0	0	0	0	
08-10-2024 00:59	277.57	0.019195557	0.012771606	0.009773254	0.009979248	0.009094238	0.008483811	0	0	0.010879517	0	0	0	0	0	0	0	0	0	0	
08-10-2024 01:59	277.67	0.016525269	0.011199951	0.008422852	0.008636475	0.0078125	0.00730896	0	0	0.009109497	0	0	0	0	0	0	0	0	0	0	
08-10-2024 02:59	277.71	0.01739502	0.011688232	0.008781433	0.009140015	0.008255005	0.007644653	0	0	0.009506226	0	0	0	0	0	0	0	0	0	0	
08-10-2024 03:59	277.74	0.018188477	0.012359619	0.009422302	0.009521484	0.008605957	0.007949829	0	0	0.01008606	0	0	0	0	0	0	0	0	0	0	
08-10-2024 04:59	277.77	0.019088745	0.012908936	0.009742737	0.009811401	0.009094238	0.008361816	0	0	0.010292053	0	0	0	0	0	0	0	0	0	0	
08-10-2024 05:59	277.75	0.017700195	0.019592285	0.013519287	0.013290405	0.016906738	0.017181396	0	0	0.010406494	0	0	0	0	0	0	0	0	0	0	
08-10-2024 06:59	272.98	0.018615723	0.020309448	0.018188477	0.013641357	0.017791748	0.017822266	0	0	0.01385498	0	0	0	0	0	0	0	0	0	0	
08-10-2024 07:59	277.06	0.015625	0.017745972	0.016090393	0.011978149	0.015274048	0.015533447	0	0	0.011222839	0.012897491	0	0	0	0	0	0	0	0	0	
08-10-2024 08:59	276.86	0.015533447	0.018066406	0.016693115	0.011810303	0.015838623	0.015838623	0	0	0.011192322	0.012741089	0.016343117</									

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
10-10-2024 03:59	276.23	0.02041626	0.02130127	0.009811401	0.013336182	0.019515991	0.017822266	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 04:59	276.21	0.021240234	0.022033691	0.009887695	0.013763428	0.020126343	0.018356323	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 05:59	276.21	0.018371582	0.018997192	0.008834839	0.012237549	0.011398315	0.015777588	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 06:59	276.23	0.019378662	0.020095825	0.009140015	0.012634277	0.012023926	0.016921997	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 07:59	276.22	0.020385742	0.02142334	0.00970459	0.0131073	0.012680054	0.017974854	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 08:59	276.25	0.021972656	0.022918701	0.010406494	0.014465332	0.013397217	0.019119263	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 09:59	276.26	0.023223877	0.024185181	0.010620117	0.015167236	0.014068604	0.020095825	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 10:59	276.24	0.020263672	0.02116394	0.011566162	0.015884399	0.014694214	0.017701995	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 11:59	276.25	0.021759033	0.02255249	0.010467529	0.014205933	0.013275146	0.018844604	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 12:59	276.23	0.019012451	0.019851685	0.009170532	0.012466431	0.011520386	0.016540527	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 13:59	276.2	0.020172119	0.021102905	0.009719849	0.013320923	0.012298584	0.017532349	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 14:59	276.22	0.021972656	0.022705078	0.010437012	0.01411438	0.0131073	0.018844604	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 15:59	276.26	0.019378662	0.020339966	0.009185791	0.012481689	0.011688232	0.016799927	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 16:59	276.23	0.02053833	0.021408081	0.009857178	0.012598888	0.01234436	0.017776489	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 17:59	276.22	0.021392822	0.022415161	0.010131836	0.014007568	0.012954712	0.018630981	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 18:59	276.22	0.022094727	0.023422241	0.010818481	0.014251709	0.013666699	0.019561768	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 19:59	276.21	0.0206922803	0.020690918	0.009368896	0.012695313	0.011837269	0.017318726	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 20:59	276.22	0.020874023	0.021575928	0.009872437	0.013305664	0.01260376	0.018234253	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 21:59	276.22	0.021911621	0.022857666	0.010269165	0.014373779	0.01348877	0.018920898	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 22:59	276.22	0.022766113	0.023635864	0.010604858	0.014984131	0.013961792	0.019805908	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-10-2024 23:59	276.21	0.019744873	0.020172119	0.009109497	0.012969971	0.012176514	0.017181396	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 00:59	276.19	0.020690918	0.02142334	0.009399414	0.013473511	0.012710571	0.018203735	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 01:59	276.19	0.020965576	0.02142334	0.009735107	0.013961792	0.013000488	0.018417358	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 02:59	276.2	0.018341064	0.018829346	0.008346558	0.012023926	0.011352539	0.016296387	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 03:59	276.17	0.019378662	0.019775391	0.009063721	0.012756348	0.011901855	0.017120361	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 04:59	276.19	0.020080566	0.020568848	0.009124756	0.013244629	0.012405396	0.017822266	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 05:59	276.19	0.020568848	0.021240234	0.009506226	0.013565063	0.012832642	0.018493652	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 06:59	276.17	0.022125244	0.022644043	0.010681152	0.014587402	0.013778687	0.019683838	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 07:59	276.16	0.023040771	0.024230957	0.010772705	0.015304565	0.014389038	0.020721436	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 08:59	276.12	0.02041626	0.020935059	0.009689331	0.013626099	0.012619019	0.018066406	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 09:59	276.1	0.017608643	0.018188477	0.008300781	0.011611938	0.01071167	0.015563965	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 10:59	276.12	0.018707275	0.019256592	0.008956909	0.012466431	0.011505127	0.016601563	0	0	0	0	0	0	0	0	0	0	0	0	0	
11-10-2024 11:59	276.14	0.019561768	0.020206237	0.009292603	0.012817383	0.012069702	0.017333984	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-10-2024 12:59	276.14	0.020294189	0.021118164	0.009597778	0.013381958	0.012588501	0														

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
13-10-2024 04:59	277.06	0.019714355	0.021789551	0.014343262	0.019836426	0.019927979	0.020172119	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 05:59	277.11	0.020294189	0.022521973	0.014816284	0.020446777	0.020477295	0.020782471	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 06:59	277.11	0.018585205	0.020263672	0.013427734	0.018295288	0.018615723	0.018737793	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 07:59	277.15	0.021789551	0.02355957	0.021224976	0.020751953	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 08:59	277.17	0.021728516	0	0	0.021362305	0.020172119	0.019348145	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 09:59	277.16	0	0	0.022644043	0.02230835	0.021636963	0.020507813	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 10:59	276.94	0.023406982	0.02444458	0.02243042	0.021942139	0.02166748	0.020599365	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 11:59	276.92	0.024230957	0.02545166	0.023513794	0.022125244	0.022338867	0.021453857	0	0	0	0	0	0	0	0.013961792	0	0	0	0	0	0
13-10-2024 12:59	276.8	0.024932861	0.026092529	0.024414063	0.023132324	0.023284912	0.022125244	0	0	0	0	0	0	0	0.015609741	0	0	0	0	0	0
13-10-2024 13:59	276.74	0.025665283	0.026580811	0.024887085	0.023849487	0.023895264	0.022827148	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 14:59	276.65	0.022491455	0.023193359	0.02166748	0.020736694	0.020843506	0.020050049	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 15:59	276.6	0.019287109	0.019866943	0.018508911	0.01776123	0.018005371	0.017150879	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 16:59	276.55	0.020080566	0.020812988	0.019424438	0.0184021	0.018829346	0.018005371	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 17:59	276.51	0.020874023	0.02154541	0.02015686	0.019256592	0.019622803	0.018707275	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 18:59	276.43	0.02166748	0.022521973	0.020889282	0.019622803	0.020111084	0.019592285	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 19:59	276.35	0.021972656	0.023193359	0.021224976	0.019561768	0.020568848	0.020202637	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 20:59	276.22	0.022705078	0.023468018	0.021530151	0.020477295	0.020965576	0.020874023	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 21:59	276.19	0.022735596	0.023742676	0.020950317	0.020202637	0.021209717	0.021514893	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 22:59	276.09	0.019683838	0.016815186	0.018264771	0.017700195	0.01885205	0.018859863	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-10-2024 23:59	276.11	0.017120361	0.017974854	0.015945435	0.015411377	0.016235352	0.016418457	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 00:59	276.14	0.018615723	0.015350342	0.010864258	0.016998291	0.013305664	0.017608643	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 01:59	276.18	0.019439697	0.016174316	0.011199951	0.018066406	0.014038086	0.018493652	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 02:59	276.23	0.02041626	0.016937256	0.011810303	0.018768311	0.014587402	0.019378662	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 03:59	276.32	0.021362305	0.017456055	0.012329102	0.019744873	0.015380859	0.020172119	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 04:59	276.41	0.02243042	0.018371582	0.012985229	0.020843506	0.016113281	0.021240234	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 05:59	276.44	0.022338867	0.023376465	0.018432617	0.020599365	0.021270752	0.021636963	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 06:59	276.54	0.019927979	0.020965576	0.011917114	0.018768311	0.019104004	0.019256592	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 07:59	276.64	0.017883301	0.018585205	0.010467529	0.016540527	0.016815186	0.016967773	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 08:59	276.7	0.019042969	0.019744873	0.011230469	0.017944336	0.018981934	0.018218994	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 09:59	276.74	0.021789551	0.023040771	0.014358521	0.020812988	0.021057129	0.019897461	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 10:59	276.84	0.024108887	0.025085449	0.015792847	0.022521973	0.022277832	0.021209717	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 11:59	276.85	0.025177002	0.026245117	0.015747077	0.023712158	0.023162842	0.022094727	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 12:59	276.91	0.027404785	0.0284729	0	0.025970459	0.024780273	0.023681641	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 13:59	276.88	0.024291992	0.025390625	0	0.023101807	0.022003174	0.021118164	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-10-2024 14:59	276.97	0.025512695	0.021972656	0	0.024291992	0.02294															



DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
19-10-2024 06:59	277.33	0.020324707	0.021942139	0	0.020385742	0.021057129	0.020629883	0	0	0	0	0	0	0	0.014709473	0	0	0	0	0	
19-10-2024 07:59	277.36	0.021667478	0.022857666	0	0.02142334	0.022033691	0.021636963	0	0	0	0	0	0	0	0.015884399	0	0	0	0	0	
19-10-2024 08:59	277.39	0.022521973	0.023986816	0	0.02233867	0.023071289	0.02255249	0	0	0	0	0	0	0	0.016464233	0	0	0	0	0	
19-10-2024 09:59	277.41	0.023742676	0.025024414	0	0.023223877	0.024047852	0.023590088	0	0	0	0	0	0	0	0.015975952	0	0	0	0	0	
19-10-2024 10:59	277.46	0.021057129	0.022186279	0	0.020568848	0.02142334	0.020935059	0	0	0	0	0	0	0	0.017333984	0	0	0	0	0	
19-10-2024 11:59	277.45	0.018432617	0.019836426	0	0.018035889	0.018951416	0.018707275	0	0	0	0	0	0	0	0.013000488	0	0	0	0	0	
19-10-2024 12:59	277.47	0.01953125	0.020812988	0	0.019073486	0.019989014	0.019561768	0	0	0	0	0	0	0	0.014129639	0	0	0	0	0	
19-10-2024 13:59	277.48	0.020141602	0.021667478	0	0.019744873	0.020812988	0.020355225	0	0	0	0	0	0	0	0.015884399	0	0	0	0	0	
19-10-2024 14:59	277.46	0.021484375	0.022857666	0	0.020782471	0.021514893	0.02142334	0	0	0	0	0	0	0	0.016204834	0	0	0	0	0	
19-10-2024 15:59	277.46	0.022460938	0.023651123	0	0.022094727	0.022674561	0.022277832	0	0	0	0	0	0	0	0.01713562	0	0	0	0	0	
19-10-2024 16:59	277.48	0.0234375	0.024719238	0	0.022888184	0.02355957	0.023284912	0	0	0	0	0	0	0	0.018447876	0	0	0	0	0	
19-10-2024 17:59	277.45	0.020874023	0.022399902	0	0.020446777	0.02142334	0.020965576	0	0	0	0	0	0	0	0.015426636	0	0	0	0	0	
19-10-2024 18:59	277.45	0.018676758	0.019683838	0	0.018127441	0.018951416	0.01852417	0	0	0	0	0	0	0	0.012161255	0	0	0	0	0	
19-10-2024 19:59	277.45	0.019104004	0.020446777	0	0.018768311	0.019500732	0.019195557	0	0	0	0	0	0	0	0.014434814	0	0	0	0	0	
19-10-2024 20:59	277.45	0.019775391	0.020965576	0	0.019714355	0.019714355	0.019897461	0	0	0	0	0	0	0	0.014892578	0	0	0	0	0	
19-10-2024 21:59	277.45	0.020385742	0.021575928	0	0.020019531	0.0206604	0.02041626	0	0	0	0	0	0	0	0.016479492	0	0	0	0	0	
19-10-2024 22:59	277.44	0.020202637	0.020751953	0	0.018768311	0.020965576	0.021118164	0	0	0	0	0	0	0	0.016891479	0	0	0	0	0	
19-10-2024 23:59	277.42	0.020385742	0.020385742	0	0.017669678	0.021667478	0.021820068	0	0	0	0	0	0	0	0.018356323	0	0	0	0	0	
20-10-2024 00:59	277.41	0.015869141	0.016326904	0	0.013092041	0.018951416	0.019226074	0	0	0	0	0	0	0	0.015884399	0	0	0	0	0	
20-10-2024 01:59	277.42	0.01373291	0.014099121	0	0.010955811	0.01651001	0.016784668	0	0	0	0	0	0	0	0.014511108	0	0	0	0	0	
20-10-2024 02:59	277.42	0.014282227	0.014801025	0	0.011694344	0.017242432	0.017547607	0	0	0	0	0	0	0	0.015304565	0	0	0	0	0	
20-10-2024 03:59	277.4	0.014892578	0.015472412	0	0.011596688	0.018096924	0.018310547	0	0	0	0	0	0	0	0.015808105	0	0	0	0	0	
20-10-2024 04:59	277.4	0.01550293	0.016082764	0	0.012207031	0.018707275	0.018981934	0	0	0	0	0	0	0	0.013671875	0	0	0	0	0	
20-10-2024 05:59	277.42	0.015869141	0.016693115	0	0.012969971	0.019561768	0.019805908	0	0	0	0	0	0	0	0.015029907	0	0	0	0	0	
20-10-2024 06:59	277.42	0.016662598	0.017456055	0	0.01348877	0.02041626	0.020599365	0	0	0	0	0	0	0	0.020080566	0	0	0	0	0	
20-10-2024 07:59	277.43	0.017456055	0.018127441	0	0.014129639	0.021118164	0.021484375	0	0	0	0	0	0	0	0.018844604	0	0	0	0	0	
20-10-2024 08:59	277.48	0.018188477	0.019042969	0	0.015075684	0.022033691	0.022460938	0	0	0	0	0	0	0	0.017730713	0	0	0	0	0	
20-10-2024 09:59	277.46	0.013671875	0.014282227	0	0.011138916	0.016662598	0.016784668	0	0	0	0	0	0	0	0.014663696	0	0	0	0	0	
20-10-2024 10:59	277.48	0.014343262	0.014892578	0	0.01171875	0.017425537	0.01763916	0	0	0	0	0	0	0	0.015533447	0	0	0	0	0	
20-10-2024 11:59	277.51	0.015075684	0.01574707	0	0.012237549	0.018218994	0.018371582	0	0	0	0	0	0	0	0.014801025	0	0	0	0	0	
20-10-2024 12:59	277.5	0.015869141	0.016723633	0	0.012878418	0.019195557	0.019378662	0	0	0	0	0	0	0	0.016113281	0	0	0	0	0	
20-10-2024 13:59	277.46	0.016784668	0.017272949	0	0.013702393	0.0202080566	0.020172119	0	0	0	0	0	0	0	0.015411377	0	0	0	0	0	
20-10-2024 14:59	277.47	0.01763916	0.018066406	0	0.014251709	0.020782471	0.021179199	0	0	0	0	0	0	0	0.016311646	0	0	0	0	0	
20-10-2024 15:59	277.48	0.015686035	0.016174316	0	0.012817383	0.018676758	0.018798828	0	0	0	0	0	0	0	0.014511108	0	0	0	0	0	
20-10-2024 16:59	277.5	0.016235352	0.016906738	0	0.013458252	0.019317627															

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
22-10-2024 07:59	275.8	0.016296387	0.016113281	0	0.013153076	0.01751709	0.016723633	0	0	0	0	0	0	0	0.012634277	0	0	0	0	0	
22-10-2024 08:59	275.88	0.017944336	0.017883301	0	0.015319824	0.018737793	0.017883301	0	0	0	0	0	0	0	0.013290405	0	0	0	0	0	
22-10-2024 09:59	275.92	0.020141602	0.020202637	0	0.018157959	0.020202637	0.019104004	0	0	0	0	0	0	0	0.017074585	0	0	0	0	0	
22-10-2024 10:59	275.96	0.022399902	0.022827148	0	0.021026611	0.02166748	0.020385742	0	0	0	0	0	0	0	0.016937256	0	0	0	0	0	
22-10-2024 11:59	275.97	0.023498535	0.02545166	0	0.023010254	0.023193359	0.021789551	0	0	0	0	0	0	0	0.016967773	0	0	0	0	0	
22-10-2024 12:59	276.02	0.026000977	0.027526855	0	0.025115967	0.02520752	0.022888184	0	0	0	0	0	0	0	0.016693115	0	0	0	0	0	
22-10-2024 13:59	276.05	0.023681641	0.021484375	0	0.023468018	0.023254395	0.020996094	0	0	0	0	0	0	0	0.013275146	0	0	0	0	0	
22-10-2024 14:59	276.11	0.021240234	0.022644043	0	0.021026611	0.020629883	0.019042969	0	0	0	0	0	0	0	0.01385498	0	0	0	0	0	
22-10-2024 15:59	276.14	0.023132324	0.024719238	0	0.023284912	0.022277832	0.020263672	0	0	0	0	0	0	0	0.015594482	0	0	0	0	0	
22-10-2024 16:59	276.18	0.024414063	0.026123047	0	0.024291992	0.023254395	0.021179199	0	0	0	0	0	0	0	0.015960693	0	0	0	0	0	
22-10-2024 17:59	276.22	0.025695801	0.027282715	0	0.02532959	0.024291992	0.022399902	0	0	0	0	0	0	0	0.016815186	0	0	0	0	0	
22-10-2024 18:59	276.23	0.026733398	0.028320313	0	0.025817871	0.025512695	0.023498535	0	0	0	0	0	0	0	0.015777588	0	0	0	0	0	
22-10-2024 19:59	276.27	0.02746582	0.028930664	0	0.026855469	0.026000977	0.024108887	0	0	0	0	0	0	0	0.018615723	0	0	0	0	0	
22-10-2024 20:59	276.3	0.024475098	0.025695801	0	0.023925781	0.023254395	0.021423234	0	0	0	0	0	0	0	0.017822266	0	0	0	0	0	
22-10-2024 21:59	276.35	0.021667478	0.022644043	0	0.021057129	0.020446777	0.019042969	0	0	0	0	0	0	0	0.0128479	0	0	0	0	0	
22-10-2024 22:59	276.38	0.022521973	0.023925781	0	0.022064209	0.021362305	0.019958496	0	0	0	0	0	0	0	0.014526367	0	0	0	0	0	
22-10-2024 23:59	276.38	0.023254395	0.024536133	0	0.022857666	0.022399902	0.020812988	0	0	0	0	0	0	0	0.015441895	0	0	0	0	0	
23-10-2024 00:59	276.43	0.024353027	0.025756836	0	0.023773193	0.023376465	0.021789551	0	0	0	0	0	0	0	0.01473999	0	0	0	0	0	
23-10-2024 01:59	276.44	0.025268555	0.026611328	0	0.024719238	0.024291992	0.022705078	0	0	0	0	0	0	0	0.017944336	0	0	0	0	0	
23-10-2024 02:59	276.49	0.026367188	0.027709961	0	0.025482178	0.02520752	0.023498535	0	0	0	0	0	0	0	0.015838623	0	0	0	0	0	
23-10-2024 03:59	276.5	0.027282715	0.028686523	0	0.026550293	0.026123047	0.024414063	0	0	0	0	0	0	0	0.01751709	0	0	0	0	0	
23-10-2024 04:59	276.53	0.024291992	0.025512695	0	0.02355957	0.023193359	0.021728516	0	0	0	0	0	0	0	0.017242432	0	0	0	0	0	
23-10-2024 05:59	276.54	0.02520752	0.026550293	0	0.02444458	0.024108887	0.022460938	0	0	0	0	0	0	0	0.016174316	0	0	0	0	0	
23-10-2024 06:59	276.55	0.022277832	0.023620605	0	0.025268555	0.024719238	0.019958496	0	0	0	0	0	0	0	0.013549805	0	0	0	0	0	
23-10-2024 07:59	276.6	0.023864746	0.025390625	0	0.023529053	0.022460938	0.021179199	0	0	0	0	0	0	0	0.016143799	0	0	0	0	0	
23-10-2024 08:59	276.62	0.02557373	0.027282715	0	0.025146484	0.024169922	0.022521973	0	0	0	0	0	0	0	0.016052246	0	0	0	0	0	
23-10-2024 09:59	276.66	0.026672363	0.028686523	0	0.026367188	0.025268555	0.023803711	0	0	0	0	0	0	0	0.017242432	0	0	0	0	0	
23-10-2024 10:59	276.69	0.024293097	0.025512695	0	0.023864746	0.022583008	0.02130127	0	0	0	0	0	0	0	0.016872221	0	0	0	0	0	
23-10-2024 11:59	276.71	0.025939941	0.02734375	0	0.025421143	0.024108887	0.022521973	0	0	0	0	0	0	0	0.013458252	0	0	0	0	0	
23-10-2024 12:59	276.73	0.027038574	0.028686523	0	0.026733398	0.02532959	0.023498535	0	0	0	0	0	0	0	0.015869141	0	0	0	0	0	
23-10-2024 13:59	276.75	0.028259277	0.029907227	0	0.027587891	0.026306152	0.024475098	0	0	0	0	0	0	0	0.01965332	0	0	0	0	0	
23-10-2024 14:59	276.76	0.02557373	0.027099609	0	0.024932861	0.02355957	0.022277832	0	0	0	0	0	0	0	0.016906738	0	0	0	0	0	
23-10-2024 15:59	276.78	0.026672363	0.028442383	0	0.02633667	0.024841309	0.023376465	0	0	0	0	0	0	0	0.01663208	0	0	0	0	0	
23-10-2024 16:59	276.79	0.023742676	0.02520752	0	0.023345947	0.022094727	0.020751953	0	0	0	0	0	0	0	0.01449585	0	0	0	0	0	
23-10-2024 17:59	276.82	0.024841309	0.026550293	0	0.024627686	0.023010254	0.														

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
25-10-2024 08:59	276.26	0.026489258	0.012512207	0	0.014709473	0.018920898	0.019287109	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 09:59	276.29	0.023864746	0.011169434	0	0.013244629	0.016845703	0.017272949	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 10:59	276.3	0.024902344	0.011657715	0	0.013977051	0.017578125	0.018005371	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 11:59	276.33	0.026184082	0.012023926	0	0.014404297	0.018615723	0.019042969	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 12:59	276.33	0.027587891	0.012695313	0	0.015563965	0.01953125	0.020019531	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 13:59	276.35	0.028686523	0.011413574	0	0.015869141	0.020385742	0.017883301	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 14:59	276.34	0.025817871	0.01184082	0	0.014648438	0.018310547	0.018676758	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 15:59	276.36	0.026855469	0.012329102	0	0.015014648	0.019165039	0.019470215	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 16:59	276.37	0.023925781	0.011352539	0	0.013244629	0.017089844	0.01763916	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 17:59	276.39	0.024658203	0.026489258	0	0.023864746	0.017456055	0.017822266	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 18:59	276.36	0.02545166	0.027526855	0	0.024780273	0.018066406	0.018493652	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 19:59	276.37	0.026306152	0.028442383	0	0.025756836	0.018798828	0.019165039	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 20:59	276.34	0.02722168	0.02935791	0	0.026672363	0.019226074	0.019592285	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 21:59	276.35	0.028015137	0.030334473	0	0.02746582	0.019836426	0.020019531	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
25-10-2024 22:59																					
25-10-2024 23:59	276.28	0.025756836	0.027954102	0	0.025390625	0.018127441	0.018371582	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 00:59																					
26-10-2024 01:59	276.25	0.023620605	0.025512695	0	0.014953613	0.016723633	0.016967773	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 02:59	276.24	0.024475098	0.026611328	0	0.015319824	0.017211914	0.01763916	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 03:59	276.24	0.025512695	0.02734375	0	0.015625	0.017944336	0.018127441	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 04:59	276.24	0.026489258	0.028503418	0	0.016357422	0.018615723	0.018920898	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 05:59	276.22	0.027099609	0.029052734	0	0.016601563	0.019165039	0.01940918	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 06:59	276.22	0.024047852	0.025939941	0	0.014953613	0.016784668	0.017272949	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 07:59	276.21	0.024963379	0.026977539	0	0.015563965	0.017578125	0.018005371	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 08:59	276.17	0.025695801	0.028076172	0	0.016113281	0.018127441	0.018737793	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 09:59	276.2	0.026672363	0.028930664	0	0.016723633	0.018920898	0.019287109	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 10:59	276.16	0.0234375	0.025878906	0	0.014892578	0.016723633	0.016967773	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 11:59	276.21	0.024841309	0.026977539	0	0.015563965	0.01751709	0.01763916	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 12:59	276.16	0.021850586	0.023803711	0	0.016235352	0.018371582	0.015686035	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 13:59	276.21	0.023010254	0.025024414	0	0.014282227	0.016235352	0.016418457	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 14:59	276.17	0.023742676	0.026000977	0	0.014892578	0.016906738	0.017028809	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 15:59	276.13	0.024475098	0.026855469	0	0.015258789	0.017456055	0.017700195	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 16:59	276.13	0.025756836	0.028015137	0	0.015991211	0.018249512	0.018432617	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 17:59	276.16	0.026672363	0.028991699	0	0.016723633	0.018859863	0.019104004	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 18:59	276.09	0.02734375	0.029479998	0	0.016845703	0.019226074	0.01940918	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09399414
26-10-2024 19:59	276.17	0.025512695	0.007080078	0	0.																



DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
31-10-2024 10:59	276.32	0.029418945	0.010559082	0	0.014038086	0	0.017822266	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 11:59	276.25	0.030212402	0.031494141	0	0.02911377	0	0.025024414	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 12:59	276.19	0.03112793	0.028015137	0	0.02996262	0	0.022216797	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 13:59	276.21	0.028076172	0.029296875	0	0.027282715	0	0.023376465	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 14:59	276.14	0.029174805	0.030822754	0	0.028381348	0	0.024353027	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 15:59	276.16	0.026123047	0.02734375	0	0.02545166	0	0.021789551	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 16:59	276.11	0.027282715	0.028564453	0	0.026245117	0	0.022705078	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 17:59	276.11	0.028442383	0.029663086	0	0.027282715	0	0.023681641	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 18:59	276.09	0.029418945	0.030883789	0	0.028198242	0	0.024414063	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 19:59	276.11	0.030456543	0.031860352	0	0.02911377	0	0.025390625	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 20:59	276.05	0.031311035	0.032897949	0	0.030151367	0	0.026184082	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 21:59	276.05	0.028198242	0.029663086	0	0.027038574	0	0.02355957	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 22:59	275.99	0.02520752	0.026489258	0	0.024169922	0	0.021057129	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-10-2024 23:59	276.02	0	0.028625488	0	0.026245117	0	0.022338867	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 00:59	276.12	-953.0372925	-844.9915161	-230.7192078	-728.8085938	-673.3421631	-787.6140747	-12.6822958	-93.3556824	-126.6160812	-95.62545776	-32.51641464	-41.5614777	-22.77142715	-308.2871399	-47.57328415	-30.60649872	-22.4359684	-12.91406822	-0.922107399	-14.88837719
01-11-2024 01:59	276.12	0	0.031239152	0	0.02892518	0	0.024640918	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 02:59	276.15	0	0.032670259	0	0.030043364	0	0.025626659	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 03:59	276.17	0	0.034062386	0	0.031186104	0	0.0267164154	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 04:59	276.2	0	0.030522823	0	0.027892113	0	0.024086475	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 05:59	276.25	0	0.031675339	0	0.029188156	0	0.025008202	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 06:59	276.27	0	0.028283119	0	0.025696754	0	0.02238731	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 07:59	276.31	0	0.029272079	0	0.027172089	0	0.02320385	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 08:59	276.35	0	0.030571938	0	0.028470039	0	0.024461746	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 09:59	276.41	0	0.0321064	0	0.02989769	0	0.025776863	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 10:59	276.52	0	0.033882141	0	0.03156662	0	0.027031898	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 11:59	276.62	0	0.035404205	0	0.032949448	0	0.028205872	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 12:59	276.73	0	0.03216362	0	0.029989243	0	0.025568962	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 13:59	276.73	0	0.033090591	0	0.030879974	0	0.026241302	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 14:59	276.81	0	0.029613495	0	0.0275383	0	0.023521423	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 15:59	276.9	0	0.031160355	0	0.029067993	0	0.021080017	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 16:59	276.99	0	0.032733917	0	0.030529022	0	0.020237506	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 17:59	277.05	0	0.0343647	0	0.031684875	0	0.023010254	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 18:59	277.1	0	0.03537941	0	0.033140182	0	0.023603439	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 19:59	277.18	0	0.036933899	0	0.034540176	0	0.023588181	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 20:59	277.22	0	0.033596039	0	0.031269073	0	0.021871567	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 21:59	277.25	0	0.029651642	0	0.027851105	0	0.019412994	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 22:59	277.31	0	0.031078339	0	0.029071808	0	0.019477844	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01-11-2024 23:59	277.37	0	0.032512665	0																	

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
03-11-2024 10:59	277.58	0	0.035217285	0	0.03263855	0	0.021270752	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 11:59	277.6	0	0.035545349	0	0.03233643	0	0.021728516	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 12:59	277.58	0	0.031799316	0	0.029838562	0	0.019470215	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 13:59	277.58	0	0.033226013	0	0.031082153	0	0.020378113	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 14:59	277.58	0	0.034507751	0	0.032348633	0	0.021224976	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 15:59	277.57	0	0.035766602	0	0.033493042	0	0.020210803	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 16:59	277.58	0	0.032226563	0	0.030181885	0	0.019775391	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 17:59	277.56	0	0.033554077	0	0.031448364	0	0.020553589	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 18:59	277.57	0	0.034950256	0	0.032814026	0	0.021385193	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 19:59	277.57	0	0.031471252	0	0.029655457	0	0.019332886	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 20:59	277.58	0	0.03250885	0	0.030471802	0	0.019920349	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 21:59	277.58	0	0.033821106	0	0.031730652	0	0.020774841	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 22:59	277.58	0	0.035095215	0	0.032859802	0	0.021362305	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03-11-2024 23:59	277.58	0	0.036315918	0	0.034080505	0	0.022422791	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 00:59	277.59	0	0.032806396	0	0.035423279	0	0.022911072	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 01:59	277.59	0	0.033966064	0	0.031860352	0	0.021125793	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 02:59	277.6	0	0.035247803	0	0.033035278	0	0.021865845	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 03:59	277.59	0	0.031539917	0	0.029693604	0	0.019256592	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 04:59	277.59	0	0.033004761	0	0.030845642	0	0.020210266	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 05:59	277.59	0	0.034194946	0	0.031936646	0	0.021018982	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 06:59	277.58	0	0.035095215	0	0.03276062	0	0.021759033	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 07:59	277.59	0	0.036437988	0	0.0340271	0	0.022644043	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 08:59	277.58	0	0.033172607	0	0.03565979	0	0.023902893	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 09:59	277.55	0	0.034545898	0	0.032562256	0	0.021873474	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 10:59	277.56	0	0.03616333	0	0.033798218	0	0.022834778	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 11:59	277.54	0	0.032363892	0	0.030456543	0	0.02053833	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 12:59	277.56	0	0.033752441	0	0.031814575	0	0.02141571	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 13:59	277.55	0	0.034912109	0	0.032989502	0	0.022407532	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 14:59	277.56	0	0.036300659	0	0.034179688	0	0.023231506	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 15:59	277.55	0	0.037582397	0	0.03527832	0	0.024101257	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 16:59	277.59	0	0.038818359	0	0.036590576	0	0.024917603	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 17:59	277.57	0	0.035202026	0	0.033157349	0	0.022575378	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 18:59	277.59	0	0.031616211	0	0.029632568	0	0.020225525	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 19:59	277.59	0	0.032745361	0	0.030654907	0	0.020767212	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 20:59	277.59	0	0.034072876	0	0.032150269	0	0.021377563	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 21:59	277.58	0	0.035507202	0	0.033477783	0	0.026115417	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 22:59	277.57	0	0.036712646	0	0.034561157	0	0.027145386	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04-11-2024 23:59	277.56	0	0.03805542	0	0.035720825	0	0.028076172	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-11-2024 00:59	277.56	0	0.034408569	0	0.032089233	0	0.025177002	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05-11-2024 01:59	277.56	0	0.035552979	0	0.033187866	0	0.026092529	0	0	0											

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
06-11-2024 11:59	277.51	0	0.033203125	0	0.031036377	0	0.025390625	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 12:59	277.49	0	0.034454346	0	0.032440186	0	0.026367188	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 13:59	277.51	0	0.03578186	0	0.033447266	0	0.027313232	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 14:59	277.51	0	0.036972046	0	0.034576416	0	0.026443481	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 15:59	277.52	0	0.038406372	0	0.035949707	0	0.027450562	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 16:59	277.54	0	0.034805298	0	0.03276062	0	0.024887085	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 17:59	277.54	0	0.036056519	0	0.033676147	0	0.025772095	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 18:59	277.54	0	0.037384033	0	0.035049438	0	0.026672363	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 19:59	277.54	0	0.033676147	0	0.031585693	0	0.024093628	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 20:59	277.55	0	0.035247803	0	0.032897949	0	0.025146484	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 21:59	277.55	0	0.03666687	0	0.034225464	0	0.026168823	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 22:59	277.56	0	0.03793335	0	0.035369873	0	0.027130127	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06-11-2024 23:59	277.56	0	0.034332275	0	0.031921387	0	0.024566665	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 00:59	277.57	0	0.035491943	0	0.033096313	0	0.025222778	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 01:59	277.57	0	0.036865234	0	0.034255981	0	0.026153564	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 02:59	277.56	0	0.037841797	0	0.035308838	0	0.026748657	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 03:59	277.57	0	0.03414917	0	0.03187561	0	0.024230957	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 04:59	277.57	0	0.035430908	0	0.03302002	0	0.025115967	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 05:59	277.58	0	0.036560059	0	0.034072876	0	0.025924683	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 06:59	277.57	0	0.037872314	0	0.035461426	0	0.026824951	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 07:59	277.57	0	0.033935547	0	0.031738281	0	0.024047852	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 08:59	277.59	0	0.034820557	0	0.032546997	0	0.024505615	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 09:59	277.58	0	0.036254883	0	0.033981323	0	0.025650024	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 10:59	277.58	0	0.037811279	0	0.035583496	0	0.02684021	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 11:59	277.57	0	0.034362793	0	0.032104492	0	0.024291992	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 12:59																					
07-11-2024 13:59	277.57	0	0.036529541	0	0.034362793	0	0.02784729	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 14:59	277.59	0	0.037841797	0	0.035461426	0	0.028793335	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 15:59	277.57	0	0.034118652	0	0.031982422	0	0.026016235	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 16:59	277.56	0	0.035430908	0	0.033111572	0	0.02696228	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 17:59	277.57	0	0.036651611	0	0.034301758	0	0.027832031	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 18:59	277.55	0	0.038085938	0	0.035766602	0	0.0287323	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 19:59	277.55	0	0.034729004	0	0.032226563	0	0.026550293	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 20:59	277.54	0	0.035888672	0	0.033538818	0	0.027526855	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 21:59	277.54	0	0.036987305	0	0.034790039	0	0.028488159	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 22:59	277.53	0	0.038208008	0	0.035797119	0	0.029464722	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07-11-2024 23:59	277.52	0	0.034637451	0	0.03237915	0	0.026702881	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-11-2024 00:59	277.52	0	0.035766602	0	0.03338623	0	0.027664185	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-11-2024 01:59	277.53	0	0.037109375	0	0.034698486	0	0.028701782	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08-11-2024 02:59	277.51	0	0.033416748</td																		

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
09-11-2024 12:59	277.44	0	0.035186768	0	0.033050537	0	0.027282715	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 13:59	277.44	0	0.036621094	0	0.034393311	0	0.028381348	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 14:59	277.43	0	0.03793335	0	0.035461426	0	0.029449463	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 15:59	277.44	0	0.039215088	0	0.036621094	0	0.03036499	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 16:59	277.43	0	0.035461426	0	0.033233643	0	0.027496338	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 17:59	277.42	0	0.036743164	0	0.034454346	0	0.027801514	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 18:59	277.44	0	0.038208008	0	0.035888672	0	0.028503418	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 19:59	277.44	0	0.034606934	0	0.03237915	0	0.025604248	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 20:59	277.43	0	0.03604126	0	0.033630371	0	0.027008057	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 21:59	277.43	0	0.03729248	0	0.034973145	0	0.027404785	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 22:59	277.44	0	0.038635254	0	0.036071777	0	0.027923584	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09-11-2024 23:59	277.43	0	0.039978027	0	0.037414551	0	0.028900146	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 00:59	277.42	0	0.036437988	0	0.034118652	0	0.026550293	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 01:59	277.42	0	0.037780762	0	0.035247803	0	0.02734375	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 02:59	277.44	0	0.033874512	0	0.031646729	0	0.024719238	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 03:59	277.42	0	0.03515625	0	0.032867432	0	0.025848389	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 04:59	277.42	0	0.036346436	0	0.033935547	0	0.02722168	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 05:59	277.45	0	0.037536621	0	0.035095215	0	0.028198242	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 06:59	277.46	0	0.038482666	0	0.036010742	0	0.028961182	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 07:59	277.45	0	0.039550781	0	0.036956787	0	0.029815674	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 08:59	277.45	0	0.035644531	0	0.03326416	0	0.026885986	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 09:59	277.43	0	0.037353516	0	0.034912109	0	0.028106689	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 10:59	277.42	0	0.038452148	0	0.036071777	0	0.029052734	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 11:59	277.41	0	0.034759521	0	0.032531738	0	0.026397705	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 12:59	277.4	0	0.035980225	0	0.033477783	0	0.027160645	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 13:59	277.43	0	0.036895752	0	0.034606934	0	0.028106689	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 14:59	277.43	0	0.038055452	0	0.035644531	0	0.028930664	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 15:59	277.42	0	0.034332275	0	0.032196045	0	0.026184082	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 16:59	277.44	0	0.035461426	0	0.03314209	0	0.027069092	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 17:59	277.44	0	0.036468506	0	0.034118652	0	0.027252197	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 18:59	277.46	0	0.03793335	0	0.035675049	0	0.027801514	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 19:59	277.44	0	0.039611816	0	0.037017822	0	0.029388428	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 20:59	277.44	0	0.035766602	0	0.033477783	0	0.026580811	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 21:59	277.45	0	0.037017822	0	0.034332275	0	0.026763916	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 22:59	277.46	0	0.037902832	0	0.035461426	0	0.027496338	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-11-2024 23:59	277.45	0	0.03427124	0	0.032012939	0	0.024993896	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-11-2024 00:59	277.47	0	0.035430908	0	0.03314209	0	0.025878906	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-11-2024 01:59	277.49	0	0.036468506	0	0.034332275	0	0.026184082	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-11-2024 02:59	277.46	0	0.037384033	0	0.035095215	0	0.027252197	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-11-2024 03:59	277.48	0	0.038787842	0	0.036437988	0	0.028564453	0	0	0											

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
12-11-2024 13:59	277.67	0	0.034973145	0	0.032867432	0	0.026062012	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 14:59	277.53	0	0.03616333	0	0.034088135	0	0.027038574	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 15:59	277.54	0	0.037322998	0	0.03515625	0	0.027954102	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 16:59	277.55	0	0.038604736	0	0.036529541	0	0.029052734	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 17:59	277.53	0	0.039825439	0	0.037414551	0	0.029327393	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 18:59	277.55	0	0.040802002	0	0.038574219	0	0.030181885	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 19:59	277.56	0	0.037414551	0	0.03503418	0	0.026947021	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 20:59	277.52	0	0.038818359	0	0.036560059	0	0.028289795	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 21:59	277.52	0	0.034790039	0	0.032592773	0	0.025817871	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 22:59	277.55	0	0.035919189	0	0.033874512	0	0.026794434	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-11-2024 23:59	277.56	0	0.036560059	0	0.034545898	0	0.027191162	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 00:59	277.51	0	0.037750244	0	0.035766602	0	0.028167725	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 01:59	277.51	0	0.039001465	0	0.036987305	0	0.029388428	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 02:59	277.51	0	0.040527344	0	0.038330078	0	0.030090332	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 03:59	277.53	0	0.036743164	0	0.034759521	0	0.027404785	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 04:59	277.54	0	0.038024902	0	0.035858154	0	0.028106689	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 05:59	277.51	0	0.034423828	0	0.032653809	0	0.025817871	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 06:59	277.51	0	0.036010742	0	0.033935547	0	0.026885986	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 07:59	277.52	0	0.037902832	0	0.035858154	0	0.028320313	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 08:59	277.52	0	0.039978027	0	0.037475586	0	0.029632568	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 09:59	277.52	0	0.041442871	0	0.039001465	0	0.030975342	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 10:59	277.54	0	0.037963867	0	0.035522461	0	0.028411865	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 11:59	277.54	0	0.03894043	0	0.036407471	0	0.029327393	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 12:59	277.55	0	0.040710449	0	0.038116455	0	0.030670166	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 13:59	277.53	0	0.03717041	0	0.034912109	0	0.028137207	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 14:59	277.53	0	0.038635254	0	0.036437988	0	0.029205322	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 15:59	277.53	0	0.040100098	0	0.037811279	0	0.030426025	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 16:59	277.56	0	0.036437988	0	0.034332275	0	0.027587891	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 17:59	277.57	0	0.037841797	0	0.035858154	0	0.028594971	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 18:59	277.57	0	0.039123535	0	0.03704834	0	0.029296875	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 19:59	277.57	0	0.040405273	0	0.038269043	0	0.030517578	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 20:59	277.57	0	0.036743164	0	0.034484863	0	0.027954102	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 21:59	277.54	0	0.037841797	0	0.035705566	0	0.028839111	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 22:59	277.57	0	0.039306641	0	0.03717041	0	0.029937744	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-11-2024 23:59	277.56	0	0.035644531	0	0.033569336	0	0.027038574	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-11-2024 00:59	277.57	0	0.036315918	0	0.034362793	0	0.027740479	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-11-2024 01:59	277.57	0	0.037597656	0	0.035461426	0	0.028656006	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-11-2024 02:59	277.57	0	0.038696289	0	0.036682129	0	0.029632568	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-11-2024 03:59	277.55	0	0.039733887	0	0.037536621	0	0.03036499	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-11-2024 04:59	277.58	0	0.041015625	0	0.038757324	0	0.031280518	0	0												

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
15-11-2024 14:59	277.72	0	0	0	0	0	0.031707764	0	0	0.022614479	0	0.02937603	0	0	0	0.026985168	0	0	0	0	0
15-11-2024 15:59	277.7	0	0	0	0	0	0.028839111	0	0	0.020557404	0	0.026596069	0	0	0	0.024793625	0	0	0	0	0
15-11-2024 16:59	277.69	0	0	0	0	0	0.029724121	0	0	0.021161079	0	0.027664185	0	0	0	0.025525093	0	0	0	0	0
15-11-2024 17:59	277.69	0	0	0	0	0	0.03012085	0	0	0.022375107	0	0.028407097	0	0	0	0.025990486	0	0	0	0	0
15-11-2024 18:59	277.69	0	0	0	0	0	0.027038574	0	0	0.019810677	0	0.025605202	0	0	0	0.023880005	0	0	0	0	0
15-11-2024 19:59	277.7	0	0	0	0	0	0.028259277	0	0	0.020410538	0	0.026824951	0	0	0	0.024706841	0	0	0	0	0
15-11-2024 20:59	277.69	0	0	0	0	0	0.029052734	0	0	0.021235466	0	0.027376175	0	0	0	0.025355339	0	0	0	0	0
15-11-2024 21:59	277.7	0	0	0	0	0	0.030059814	0	0	0.021509171	0	0.028226852	0	0	0	0.026441574	0	0	0	0	0
15-11-2024 22:59	277.67	0	0	0	0	0	0.030914307	0	0	0.022397995	0	0.029518127	0	0	0	0.027206421	0	0	0	0	0
15-11-2024 23:59	277.67	0	0	0	0	0	0.028076172	0	0	0.020376205	0	0.02696991	0	0	0	0.024681091	0	0	0	0	0
16-11-2024 00:59	277.7	0	0	0	0	0	0.029052734	0	0	0.021318436	0	0.027685165	0	0	0	0.025735855	0	0	0	0	0
16-11-2024 01:59	277.67	0	0	0	0	0	0.030029297	0	0	0.021907806	0	0.028863907	0	0	0	0.026538849	0	0	0	0	0
16-11-2024 02:59	277.67	0	0	0	0	0	0.03112793	0	0	0.022089005	0	0.029705048	0	0	0	0.027347565	0	0	0	0	0
16-11-2024 03:59	277.68	0	0	0	0	0	0.031982422	0	0	0.022859573	0	0.030653	0	0	0	0.027973175	0	0	0	0	0
16-11-2024 04:59	277.69	0	0	0	0	0	0.02911377	0	0	0.021032333	0	0.027629852	0	0	0	0.025255203	0	0	0	0	0
16-11-2024 05:59	277.67	0	0	0	0	0	0.029968262	0	0	0.021270752	0	0.02845192	0	0	0	0.026165009	0	0	0	0	0
16-11-2024 06:59	277.68	0	0	0	0	0	0.030822754	0	0	0.02173233	0	0.029233932	0	0	0	0.027275085	0	0	0	0	0
16-11-2024 07:59	277.66	0	0	0	0	0	0.028106689	0	0	0.02015686	0	0.026290894	0	0	0	0.024478912	0	0	0	0	0
16-11-2024 08:59	277.75	0	0	0	0	0	0.02923584	0	0	0.020605087	0	0.02779007	0	0	0	0.025619507	0	0	0	0	0
16-11-2024 09:59	277.67	0	0	0	0	0	0.030151367	0	0	0.021059036	0	0.028728485	0	0	0	0.026166916	0	0	0	0	0
16-11-2024 10:59	277.68	0	0	0	0	0	0.03137207	0	0	0.021495819	0	0.029457092	0	0	0	0.027317047	0	0	0	0	0
16-11-2024 11:59	277.67	0	0	0	0	0	0.032043457	0	0	0.02236557	0	0.029834747	0	0	0	0.027572632	0	0	0	0	0
16-11-2024 12:59	277.67	0	0	0	0	0	0.029263537	0	0	0.02041626	0	0.027645111	0	0	0	0.02538681	0	0	0	0	0
16-11-2024 13:59	277.62	0	0	0	0	0	0.030303955	0	0	0.020908356	0	0.028064728	0	0	0	0.026062012	0	0	0	0	0
16-11-2024 14:59	277.62	0	0	0	0	0	0.02734375	0	0	0.018438339	0	0.025859833	0	0	0	0.023696899	0	0	0	0	0
16-11-2024 15:59	277.67	0	0	0	0	0	0.026977539	0	0	0.019132614	0	0.025875092	0	0	0	0.024120331	0	0	0	0	0
16-11-2024 16:59	277.65	0	0	0	0	0	0.027740479	0	0	0.019599915	0	0.027244568	0	0	0	0.025417328	0	0	0	0	0
16-11-2024 17:59	277.67	0	0	0	0	0	0.02835083	0	0	0.020698547	0	0.028053284	0	0	0	0.025928497	0	0	0	0	0
16-11-2024 18:59	277.7	0	0	0	0	0	0.028594971	0	0	0.020786285	0	0.029193878	0	0	0	0.026950836	0	0	0	0	0
16-11-2024 19:59	277.71	0	0	0	0	0	0.029998779	0	0	0.021045685	0	0.030204773	0	0	0	0.027565002	0	0	0	0	0
16-11-2024 20:59	277.71	0	0	0	0	0	0.030792236	0	0	0.02173996	0	0.030937195	0	0	0	0.02854538	0	0	0	0	0
16-11-2024 21:59	277.72	0	0	0	0	0	0.02722168	0	0	0.019802094	0	0.028224945	0	0	0	0.026279449	0	0	0	0	0
16-11-2024 22:59	277.7	0	0	0	0	0	0.024658203	0	0	0.017766886	0	0.025264747	0	0	0	0.023700714	0	0	0	0	0
16-11-2024 23:59	277.71	0	0	0	0	0	0.026245117	0	0	0.018424988	0	0.026298523	0	0	0	0.024124146	0	0	0	0	0
17-11-2024 00:59	277.75	0	0	0	0	0	0.027679443	0	0	0.018821716	0	0.026847839	0	0	0	0.025028229	0	0	0	0	0
17-11-2024 01:59	277.7	0	0	0	0	0	0.028389111	0	0	0.019870758	0	0.027935028	0	0	0	0.026035309	0	0	0	0	0
17-11-2024 02:59	277.73	0	0	0	0	0	0.029846191	0	0	0.020103455	0	0.029136658	0	0	0	0.02689743	0	0	0	0	0</

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
18-11-2024 15:59	277.66	0	0	0.04082489	0	0	0	0	0	0.017150879	0	0.026992798	0	0	0	0.023506165	0	0	0	0	0
18-11-2024 16:59	277.66	0	0	0.037117004	0	0	0	0	0	0.017738342	0	0.027442932	0	0	0	0.024131775	0	0	0	0	0
18-11-2024 17:59	277.66	0	0	0.038207054	0	0	0	0	0	0.018592834	0	0.028305054	0	0	0	0.024932861	0	0	0	0	0
18-11-2024 18:59	277.66	0	0	0.039579391	0	0	0	0	0	0.018753052	0	0.02948761	0	0	0	0.025505066	0	0	0	0	0
18-11-2024 19:59	277.67	0	0	0.041080475	0	0	0	0	0	0.019554138	0	0.030647278	0	0	0	0.02646637	0	0	0	0	0
18-11-2024 20:59	277.67	0	0	0.042331696	0	0	0	0	0	0.01991272	0	0.031303406	0	0	0	0.027542114	0	0	0	0	0
18-11-2024 21:59	277.67	0	0	0.043645859	0	0	0	0	0	0.020851135	0	0.032737732	0	0	0	0.02809906	0	0	0	0	0
18-11-2024 22:59	277.63	0	0	0.045042038	0	0	0	0	0	0.021156311	0	0.033340454	0	0	0	0.029289246	0	0	0	0	0
18-11-2024 23:59	277.63	0	0	0.036302567	0	0	0	0	0	0.017204285	0	0.027076721	0	0	0	0.023605347	0	0	0	0	0
19-11-2024 00:59	277.67	0	0	0.037532806	0	0	0	0	0	0.017616272	0	0.02784729	0	0	0	0.024848938	0	0	0	0	0
19-11-2024 01:59	277.63	0	0	0.038906097	0	0	0	0	0	0.018180847	0	0.028869629	0	0	0	0.025276184	0	0	0	0	0
19-11-2024 02:59	277.64	0	0	0.040269852	0	0	0	0	0	0.01860464	0	0.029792786	0	0	0	0.026145935	0	0	0	0	0
19-11-2024 03:59	277.65	0	0	0.041240692	0	0	0	0	0	0.019035339	0	0.030937195	0	0	0	0.026733398	0	0	0	0	0
19-11-2024 04:59	277.64	0	0	0.042831421	0	0	0	0	0	0.019538879	0	0.031661987	0	0	0	0.027793884	0	0	0	0	0
19-11-2024 05:59	277.66	0	0	0.038764954	0	0	0	0	0	0.017578125	0	0.028945923	0	0	0	0.025642395	0	0	0	0	0
19-11-2024 06:59	277.64	0	0	0.039962769	0	0	0	0	0	0.018218994	0	0.029464722	0	0	0	0.02570343	0	0	0	0	0
19-11-2024 07:59	277.65	0	0	0.041419983	0	0	0	0	0	0.021186829	0	0.030952454	0	0	0	0.02709198	0	0	0	0	0
19-11-2024 08:59	277.66	0	0	0.043178558	0	0	0	0	0	0.022071383	0	0.032791138	0	0	0	0.028358459	0	0	0	0	0
19-11-2024 09:59	277.67	0	0	0.04491806	0	0	0	0	0	0.022743225	0	0.033370972	0	0	0	0.028785706	0	0	0	0	0
19-11-2024 10:59	277.69	0	0	0.041275024	0	0	0	0	0	0.018569946	0	0.027328491	0	0	0	0.026924133	0	0	0	0	0
19-11-2024 11:59	277.69	0	0	0.038047791	0	0	0	0	0	0.019248962	0	0.028671265	0	0	0	0.024795532	0	0	0	0	0
19-11-2024 12:59	277.68	0	0	0.039276123	0	0	0	0	0	0.019882202	0	0.029632568	0	0	0	0.025871277	0	0	0	0	0
19-11-2024 13:59	277.75	0	0	0.040775299	0	0	0	0	0	0.020469666	0	0.030914307	0	0	0	0.026756287	0	0	0	0	0
19-11-2024 14:59	277.76	0	0	0.042415619	0	0	0	0	0	0.020721436	0	0.031890869	0	0	0	0.027450562	0	0	0	0	0
19-11-2024 15:59	277.68	0	0	0.043685913	0	0	0	0	0	0.02191925	0	0.032745361	0	0	0	0.02848053	0	0	0	0	0
19-11-2024 16:59	277.66	0	0	0.039913177	0	0	0	0	0	0.020362854	0	0.029800415	0	0	0	0.026168823	0	0	0	0	0
19-11-2024 17:59	277.65	0	0	0.041065216	0	0	0	0	0	0.021034241	0	0.031295776	0	0	0	0.026687622	0	0	0	0	0
19-11-2024 18:59	277.64	0	0	0.04246521	0	0	0	0	0	0.021629333	0	0.032150269	0	0	0	0.027549744	0	0	0	0	0
19-11-2024 19:59	277.65	0	0	0.038906097	0	0	0	0	0	0.020004272	0	0.029449463	0	0	0	0.025543213	0	0	0	0	0
19-11-2024 20:59	277.64	0	0	0.040275574	0	0	0	0	0	0.020172119	0	0.030487061	0	0	0	0.026443481	0	0	0	0	0
19-11-2024 21:59	277.63	0	0	0.041557312	0	0	0	0	0	0.020797729	0	0.031539917	0	0	0	0.027099609	0	0	0	0	0
19-11-2024 22:59	277.61	0	0	0.042961121	0	0	0	0	0	0.021308899	0	0.032363892	0	0	0	0.028198242	0	0	0	0	0
19-11-2024 23:59	277.61	0	0	0.039237976	0	0	0	0	0	0.019378662	0	0.029830933	0	0	0	0.025588989	0	0	0	0	0
20-11-2024 00:59	277.6	0	0	0.040641785	0	0	0	0	0	0.020744324	0	0.030990601	0	0	0	0.026763916	0	0	0	0	0
20-11-2024 01:59	277.6	0	0	0.041793823	0	0	0	0	0	0.0209198	0	0.031265259	0	0	0	0.026992798	0	0	0	0	0
20-11-2024 02:59	277.6	0	0	0.042945862	0	0	0	0	0	0.021018982	0	0.032531738	0	0	0	0.02799878	0	0	0	0	0
20-11-2024 03:59	277.58	0	0	0.0390625	0	0	0	0	0	0.019790649	0	0.030059814	0	0	0	0.025619507	0	0	0		

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
21-11-2024 16:59	277.35	0	0	0.040939331	0	0	0	0	0	0.022064209	0	0.03137207	0	0	0	0.026916504	0.029385567	0	0	0	0
21-11-2024 17:59	277.34	0	0	0.037765503	0	0	0	0	0	0.020141602	0	0.028930664	0	0	0	0.024658203	0.027311802	0	0	0	0
21-11-2024 18:59	277.33	0	0	0.039321899	0	0	0	0	0	0.020843506	0	0.030487061	0	0	0	0.025878906	0.027739048	0	0	0	0
21-11-2024 19:59	277.32	0	0	0.040313721	0	0	0	0	0	0.021728516	0	0.031265259	0	0	0	0.026763916	0.028079033	0	0	0	0
21-11-2024 20:59	277.31	0	0	0.041549683	0	0	0	0	0	0.022445679	0	0.032089233	0	0	0	0.027542114	0.029284477	0	0	0	0
21-11-2024 21:59	277.3	0	0	0.042663574	0	0	0	0	0	0.022872925	0	0.033065796	0	0	0	0.027755737	0.030665398	0	0	0	0
21-11-2024 22:59	277.28	0	0	0.043899536	0	0	0	0	0	0.023574829	0	0.033813477	0	0	0	0.028335571	0.03173542	0	0	0	0
21-11-2024 23:59	277.28	0	0	0.039871216	0	0	0	0	0	0.021377563	0	0.030929565	0	0	0	0.026550293	0.028727531	0	0	0	0
22-11-2024 00:59	277.3	0	0	0.041229248	0	0	0	0	0	0.022323608	0	0.031600952	0	0	0	0.027096090	0.02960968	0	0	0	0
22-11-2024 01:59	277.29	0	0	0.042404175	0	0	0	0	0	0.022186279	0	0.032470703	0	0	0	0.028121948	0.029996872	0	0	0	0
22-11-2024 02:59	277.29	0	0	0.043457031	0	0	0	0	0	0.023651123	0	0.0337677	0	0	0	0.028686523	0.031742096	0	0	0	0
22-11-2024 03:59	277.27	0	0	0.039825439	0	0	0	0	0	0.020980835	0	0.030502319	0	0	0	0.025939941	0.027626038	0	0	0	0
22-11-2024 04:59	277.26	0	0	0.040786743	0	0	0	0	0	0.021728516	0	0.031356812	0	0	0	0.026794434	0.029066086	0	0	0	0
22-11-2024 05:59	277.26	0	0	0.041885376	0	0	0	0	0	0.021987915	0	0.032119751	0	0	0	0.02746582	0.029304504	0	0	0	0
22-11-2024 06:59	277.25	0	0	0.042617798	0	0	0	0	0	0.022415161	0	0.03263855	0	0	0	0.027893066	0.030321121	0	0	0	0
22-11-2024 07:59	277.22	0	0	0.043075562	0	0	0	0	0	0.023269653	0	0.033325195	0	0	0	0.028244019	0.029966354	0	0	0	0
22-11-2024 08:59	277.27	0	0	0.039733887	0	0	0	0	0	0.021102905	0	0.030700684	0	0	0	0.02583313	0.027933121	0	0	0	0
22-11-2024 09:59	277.27	0	0	0.041275024	0	0	0	0	0	0.022354126	0	0.031707764	0	0	0	0.027069092	0.029222488	0	0	0	0
22-11-2024 10:59	277.22	0	0	0.037902832	0	0	0	0	0	0.020324707	0	0.029418945	0	0	0	0.024932861	0.027236938	0	0	0	0.022751689
22-11-2024 11:59	277.2	0	0	0.038986206	0	0	0	0	0	0.020935059	0	0.030044556	0	0	0	0.025604248	0.027673721	0	0	0	0.023008466
22-11-2024 12:59	277.19	0	0	0.040588379	0	0	0	0	0	0.021484375	0	0.031188965	0	0	0	0.026657104	0.02850914	0	0	0	0.02418685
22-11-2024 13:59	277.18	0	0	0.04208374	0	0	0	0	0	0.022598267	0	0.031860352	0	0	0	0.027267456	0.029335022	0	0	0	0.024610043
22-11-2024 14:59	277.16	0	0	0.043273926	0	0	0	0	0	0.023071289	0	0.032745361	0	0	0	0.02784729	0.030551911	0	0	0	0.025415897
22-11-2024 15:59	277.16	0	0	0.039810181	0	0	0	0	0	0.020904541	0	0.030288696	0	0	0	0.025970459	0.028186798	0	0	0	0.024023056
22-11-2024 16:59	277.17	0	0	0.041229248	0	0	0	0	0	0.021636963	0	0.031723022	0	0	0	0.026794434	0.029380798	0	0	0	0.024368286
22-11-2024 17:59	277.16	0	0	0.042526245	0	0	0	0	0	0.022384644	0	0.032455444	0	0	0	0.027267456	0.02986908	0	0	0	0.022878647
22-11-2024 18:59	277.13	0	0	0.038833618	0	0	0	0	0	0.020751953	0	0.029815674	0	0	0	0.025115967	0.027603149	0	0	0	0.022787151
22-11-2024 19:59	277.14	0	0	0.040206909	0	0	0	0	0	0.0206604	0	0.030578613	0	0	0	0.02584389	0.027565002	0	0	0	0.023434639
22-11-2024 20:59	277.13	0	0	0.041519165	0	0	0	0	0	0.022232056	0	0.031906128	0	0	0	0.02755373	0.029060364	0	0	0	0.024251938
22-11-2024 21:59	277.14	0	0	0.042755127	0	0	0	0	0	0.022415161	0	0.032669067	0	0	0	0.027648926	0.02980423	0	0	0	0.025119781
22-11-2024 22:59	277.15	0	0	0.039031982	0	0	0	0	0	0.020751953	0	0.029922485	0	0	0	0.025817871	0.027732849	0	0	0	0.023068428
22-11-2024 23:59	277.13	0	0	0.0404205105	0	0	0	0	0	0.021179199	0	0.031265259	0	0	0	0.026367188	0.028991699	0	0	0	0.023972511
23-11-2024 00:59	277.12	0	0	0.041519165	0	0	0	0	0	0.021987915	0	0.03163147	0	0	0	0.026992798	0.029109955	0	0	0	0.024917603
23-11-2024 01:59	277.19	0	0	0.042831421	0	0	0	0	0	0.022415161	0	0.032989502	0	0	0	0.027954102	0.030479431	0	0	0	0.025564194
23-11-2024 02:59	277.33	0	0	0.039215088	0	0															

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20	
24-11-2024 17:59	277.57	0	0	0.039764404	0	0	0	0	0	0.019989014	0	0.030334473	0	0	0	0.025939941	0.028213501	0	0	0	0.022262573	
24-11-2024 18:59	277.59	0	0	0.040893555	0	0	0	0	0	0.020477295	0	0.031280518	0	0	0	0.026641846	0.029273987	0	0	0	0.022968292	
24-11-2024 19:59	277.59	0	0	0.042175293	0	0	0	0	0	0.020828247	0	0.031921387	0	0	0	0	0.027191162	0.029724121	0	0	0	0.023761749
24-11-2024 20:59	277.62	0	0	0.043365479	0	0	0	0	0	0.021347046	0	0.033416748	0	0	0	0.028503418	0.030532837	0	0	0	0.023925781	
24-11-2024 21:59	277.62	0	0	0.044586182	0	0	0	0	0	0.022293091	0	0.0340271	0	0	0	0.028991699	0.031295776	0	0	0	0.02444458	
24-11-2024 22:59	277.64	0	0	0.040863037	0	0	0	0	0	0.020080566	0	0.030944824	0	0	0	0	0.026367188	0.029457092	0	0	0	0.023178101
24-11-2024 23:59	277.65	0	0	0.042205811	0	0	0	0	0	0.021011353	0	0.032348633	0	0	0	0	0.027740479	0.029052734	0	0	0	0.02299881
25-11-2024 00:59	277.65	0	0	0.038574219	0	0	0	0	0	0.019760132	0	0.029815674	0	0	0	0.024993896	0.027496338	0	0	0	0.021263123	
25-11-2024 01:59	277.66	0	0	0.039916992	0	0	0	0	0	0.01953125	0	0.030426025	0	0	0	0.025695801	0.028427124	0	0	0	0.022346497	
25-11-2024 02:59	277.67	0	0	0.041168213	0	0	0	0	0	0.020492554	0	0.031555176	0	0	0	0	0.027008057	0.028663635	0	0	0	0.023086548
25-11-2024 03:59	277.69	0	0	0.042419434	0	0	0	0	0	0.020797729	0	0.032318115	0	0	0	0	0.027282715	0.029678345	0	0	0	0.023582458
25-11-2024 04:59	277.68	0	0	0.043701172	0	0	0	0	0	0.021697998	0	0.033447266	0	0	0	0	0.028686523	0.030525208	0	0	0	0.023605347
25-11-2024 05:59	277.71	0	0	0.04006958	0	0	0	0	0	0.019760132	0	0.030426025	0	0	0	0	0.026123047	0.028312683	0	0	0	0.022224426
25-11-2024 06:59	277.64	0	0	0.040985107	0	0	0	0	0	0.020492554	0	0.031066895	0	0	0	0	0.026702881	0.028663635	0	0	0	0.022338867
25-11-2024 07:59	277.58	0.04018116	0	0.041870117	0	0	0	0	0	0.020980835	0	0.031799316	0	0	0	0	0.027374268	0.028869629	0	0	0	0.022766113
25-11-2024 08:59	277.49	0.040881395	0	0.042663574	0	0.036201775	0	0	0	0.021484375	0	0.032867432	0	0	0	0	0.027893066	0.030242922	0	0	0	0.023170471
25-11-2024 09:59	277.43	0.037528515	0	0.038848877	0.035217285	0.033480883	0	0	0	0	0.029815674	0	0	0	0	0.025543213	0.027519226	0	0	0	0.021614075	
25-11-2024 10:59	277.38	0.038668156	0	0.040252686	0.036315918	0.034635544	0	0	0	0	0	0.030944824	0	0	0	0	0.026184082	0.029037476	0	0	0	0.022018433
25-11-2024 11:59	277.34	0.039883614	0	0.041900635	0.037119727	0.035808086	0	0	0	0	0	0.032012939	0	0	0	0	0.027679443	0.029762268	0	0	0	0.022529602
25-11-2024 12:59	277.3	0.036711693	0	0.038604736	0.034667969	0.032978535	0	0	0	0	0	0.02935791	0	0	0	0	0.02532959	0.027732849	0	0	0	0.021408081
25-11-2024 13:59	277.26	0.038221359	0	0.040039063	0.035949707	0.034262657	0	0	0	0	0	0.030822754	0	0	0	0	0.025665283	0.027770996	0	0	0	0.021820068
25-11-2024 14:59	277.25	0.03938961	0	0.041320801	0.03729248	0.035434723	0	0	0	0	0	0.031860352	0	0	0	0	0.026977539	0.029220581	0	0	0	0.023094177
25-11-2024 15:59	277.27	0.040970802	0	0.042724609	0.038513184	0.036625862	0	0	0	0	0	0.032836914	0	0	0	0	0.028015137	0.030624393	0	0	0	0.0234375
25-11-2024 16:59	277.26	0.037445068	0	0.039154053	0.034973145	0.033555031	0	0	0	0	0	0.030761179	0	0	0	0	0.025115967	0.028396606	0	0	0	0.021003723
25-11-2024 17:59	277.26	0.038694382	0	0.040374756	0.036132813	0.034708977	0	0	0	0	0	0.030975342	0	0	0	0	0.026092529	0.028251648	0	0	0	0.021484375
25-11-2024 18:59	277.29	0.040193558	0	0.041778564	0.037231445	0.035809517	0	0	0	0	0	0.032226563	0	0	0	0	0.027526855	0.030075073	0	0	0	0.023002625
25-11-2024 19:59	277.3	0.036943436	0	0.038360596	0.034423828	0.032974243	0	0	0	0	0	0.029846191	0	0	0	0	0.024932861	0.027618408	0	0	0	0.021095276
25-11-2024 20:59	277.3	0.038232803	0	0.039581299	0.035888672	0.033996582	0	0	0	0	0	0.0306090131	0	0	0	0	0.026184082	0.029052734	0	0	0	0.02179718
25-11-2024 21:59	277.29	0.039573669	0	0.041046143	0.037109375	0.035348892	0	0	0	0	0	0.031677246	0	0	0	0	0.027038574	0.029541016	0	0	0	0.022521973
25-11-2024 22:59	277.33	0.040733337	0	0.042175293	0.037780762	0.036142349	0	0	0	0	0	0.032867432	0	0	0	0	0.027923584	0.030441284	0	0	0	0.022956848
25-11-2024 23:59	277.32	0.037452698	0	0.043457031	0.039489746	0.03729248	0	0	0	0	0	0.029968262	0	0	0	0	0.025115967	0.030975342	0	0	0	0.023765564
26-11-2024 00:59	277.34	0.038631439	0	0.039886																		

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
27-11-2024 18:59	277.18	0.035545349	0.036010742	0.037139893	0.030883789	0.032333374	0.022521973	0	0.020492554	0.019775391	0.024607658	0.029388428	0.022596359	0.014359951	0	0.026519775	0	0	0	0	
27-11-2024 19:59	277.18	0.032485962	0.032836914	0.033966064	0.028015137	0.02961731	0.018127441	0	0.01982975	0.018112183	0.021259308	0.0262146	0.020771027	0.013418674	0	0.024444548	0	0	0	0	
27-11-2024 20:59	277.15	0.033454895	0.034118652	0.035064697	0.028930664	0.030570984	0.018432617	0	0.020207405	0.018692017	0.0219841	0.028045654	0.021051407	0.01350069	0	0.025177002	0	0	0	0	
27-11-2024 21:59	277.2	0.034332275	0.034667969	0.03604126	0.029541016	0.031524658	0.020141602	0	0.02067852	0.018997192	0.022222519	0.028564453	0.021160126	0.013878345	0	0.025848389	0	0	0	0	
27-11-2024 22:59	277.25	0.035202026	0.035888672	0.03704834	0.030700684	0.032341003	0.02142334	0	0.020935059	0.020050049	0.023762703	0.029144287	0.021256447	0.014618874	0	0.026824951	0	0	0	0	
27-11-2024 23:59	277.26	0.032081604	0.032775879	0.033905029	0.028137207	0.029670715	0.018676758	0	0.01899147	0.017807007	0.021481514	0.027099609	0.019224167	0.013994217	0	0.024597168	0	0	0	0	
28-11-2024 00:59	277.27	0.032920837	0.035058301	0.034790039	0.028076172	0.030404891	0.017944336	0	0.019851685	0.01789856	0.022222519	0.027099609	0.021434784	0.014739037	0	0.025115967	0	0	0	0	
28-11-2024 01:59	277.29	0.033424377	0.034301758	0.035552979	0.028930664	0.031150818	0.018493652	0	0.020872116	0.018890381	0.022304535	0.028381348	0.021186829	0.014448166	0	0.026092529	0	0	0	0	
28-11-2024 02:59	277.34	0.034133911	0.03503418	0.036468506	0.029907227	0.031959534	0.018859863	0	0.02117157	0.018753052	0.023260117	0.029052734	0.021980286	0.01480484	0	0.026550293	0	0	0	0	
28-11-2024 03:59	277.37	0.031181335	0.031738281	0.032989502	0.026855469	0.028961182	0.01751709	0	0.019302368	0.01701355	0.022060394	0.026275635	0.019554138	0.013977051	0	0.023742676	0	0	0	0	
28-11-2024 04:59	277.45	0.032417297	0.032653809	0.033843994	0.027709961	0.029846191	0.018371582	0	0.019762039	0.017944336	0.02189064	0.027557373	0.020050049	0.013485909	0	0.02456665	0	0	0	0	
28-11-2024 05:59	277.43	0.032814026	0.033325195	0.034606934	0.028442383	0.030632019	0.018554688	0	0.020475388	0.018203735	0.022926331	0.028137207	0.020994186	0.014199257	0	0.025115967	0	0	0	0	
28-11-2024 06:59	277.49	0.033828735	0.034301758	0.035400391	0.029174805	0.031326294	0.019287109	0	0.02089119	0.018920989	0.023347855	0.028930664	0.021041874	0.013568878	0	0.026153564	0	0	0	0	
28-11-2024 07:59	277.52	0.034378052	0.03503418	0.0362854	0.029663086	0.032066345	0.021179199	0	0.02110672	0.019271851	0.024045944	0.029418945	0.021652222	0.014758111	0	0.02645874	0	0	0	0	
28-11-2024 08:59	277.57	0.031425476	0.032287598	0.033325195	0.027709960	0.029426575	0.020812988	0	0.019805908	0.017837524	0.022012711	0.027374268	0.020698547	0.013445854	0	0.02532959	0	0	0	0	
28-11-2024 09:59	277.6	0.028739929	0.02923584	0.030181885	0.024597168	0.02684021	0.018859863	0	0.017597198	0.0156555518	0.020242691	0.025054932	0.01824379	0.013105392	0	0.022521973	0	0	0	0	
28-11-2024 10:59	277.63	0.029067993	0.029846191	0.030883789	0.02532959	0.027565002	0.020019531	0	0.017917633	0.016204834	0.019880295	0.025299072	0.018829346	0.013020515	0	0.023345947	0	0	0	0	
28-11-2024 11:59	277.66	0.030181885	0.030700684	0.031494141	0.025817871	0.028205872	0.020385742	0	0.019109726	0.016784668	0.02072525	0.026367188	0.019067764	0.012964249	0	0.02355957	0	0	0	0	
28-11-2024 12:59	277.67	0.030555725	0.031799316	0.032958984	0.026428223	0.02943469	0.02166748	0	0.019691467	0.01751709	0.021846771	0.027526855	0.021024704	0.014183998	0	0.024810791	0	0	0	0	
28-11-2024 13:59	277.71	0.031150818	0.032409668	0.03326416	0.026367188	0.029922485	0.021911621	0	0.020183563	0.018280029	0.022636414	0.028167725	0.020591736	0.014266968	0	0.025177002	0	0	0	0	
28-11-2024 14:59	277.74	0.031455994	0.032958984	0.034057617	0.027770996	0.030548096	0.022521973	0	0.020835876	0.017791748	0.023099889	0.028961182	0.021038055	0.013975143	0	0.026428223	0	0	0	0	
28-11-2024 15:59	277.74	0.031402588	0.032714844	0.033782959	0.027709961	0.030357361	0.020371289	0	0.020702362	0.017822266	0.023300171	0.028991699	0.020969391	0.014453888	0	0.026245117	0	0	0	0	
28-11-2024 16:59	277.74	0.033493042	0.034301758	0.032498535	0.018432617	0.031982422	0.022338867	0	0.021760941	0.018768468	0.023971558	0.029632568	0.020963669	0.013978958	0	0.027287215	0	0	0	0	
28-11-2024 17:59	277.81	0.028564453	0.032756348	0.032084961	0.014831543	0.018455505	0.01763916	0	0.01735878	0.015289307	0.019397736	0.024688721	0.019025803	0.012199402	0	0.022613525	0	0	0	0	
28-11-2024 18:59	277.85	0.029640198	0.013122559	0.012451172	0.014770508	0.019035339	0.017822266	0	0.018819809	0.015655518	0.020858765	0.026031494	0.018737793	0.012933731	0	0.023468018	0	0	0	0	
28-11-2024 19:59	277.93	0.030334473	0.031671875	0.012634277	0.0154441895	0.019447327	0.016296387	0	0.018669128	0.015869141	0.021137238	0.0266772363	0.018627167	0.012781143	0	0.024139404	0				

DateandTime	ResLevel	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20
30-11-2024 19:59	277.93	0.033676147	0.034606934	0.035308838	0.028320313	0.030288696	0.022277832	0	0.018707275	0.018096924	0.021903992	0.026031494	0.018371582	0.013057709	0	0.023193359	0.025405884	0.023565292	0.015768051	0.020652771	0.018690109
30-11-2024 20:59	277.9	0.03465271	0.035644531	0.0362854	0.028808594	0.031036377	0.02331543	0	0.019241333	0.018341064	0.021469116	0.027038574	0.020309448	0.012802124	0	0.023529053	0.025436401	0.023990631	0.016239166	0.02154541	0.019601822
30-11-2024 21:59	277.94	0.03553772	0.036437988	0.037322998	0.029724121	0.031845093	0.024475098	0	0.01978302	0.018310547	0.022331238	0.027618408	0.020202637	0.012821198	0	0.024353027	0.026275635	0.024337769	0.016252518	0.022163391	0.01987648
30-11-2024 22:59	277.95	0.032531738	0.03338623	0.03427124	0.027404785	0.02923584	0.022460938	0	0.018440247	0.016967773	0.020996094	0.025756836	0.018974304	0.013011932	0	0.02230835	0.024383545	0.022655487	0.015245438	0.020576477	0.0182724
30-11-2024 23:59	277.91	-198.7396698	-761.9099121	-484.7463379	-743.2771606	-174.8578796	-644.4082031	-23.0817242	-71.3649597	-300.1170654	-79.43075562	-456.8143005	-71.6378555	-48.0287323	-20.7389183	-401.1348267	-182.3162384	-35.4933548	-24.41038322	-124.9642944	-28.46994209