SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Energizing Life in Our Communities

October 21, 2024

VIA ELECTRONIC FILING

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

Re: Jackson Hydroelectric Project, FERC No. 2157
Operation Compliance Monitoring Plan WY 2023-2024 Annual Report
License Article 407

Dear Acting Secretary Reese:

Enclosed is Public Utility District No. 1 of Snohomish County's Operation Compliance Monitoring Plan Annual Report for the Water Year July 2023 – June 2024 pursuant to License Article 407 for the Jackson Hydroelectric Project. No comments were received on the draft report provided on September 6, 2024, to the Aquatic Resource Committee for a 30-day review and comment period; consultation documentation is included in the report's appendices.

If you have any questions about the report, please contact Andrew McDonnell at (425) 783-1841.

Sincerely,

/s/ Keith Binkley

Keith M. Binkley
Natural Resources Manager

Enclosed: OCMP Annual Report

cc: ARC

Henry M. Jackson Hydroelectric Project
(FERC No. 2157)

Operation Compliance Monitoring Plan
(License Article 407)

Annual Report for Water Year
July 2023 – June 2024

Prepared By:

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Everett, WA

October 2024

FINAL – This document has been prepared by Snohomish PUD. The document may be cited as:

Public Utility District No. 1 of Snohomish County (Snohomish PUD). 2024. License Article 407: Operation Compliance Monitoring Plan Annual Report for Water Year July 2023 through June 2024, for the Henry M. Jackson Hydroelectric Project, FERC No. 2157. October 2024.

Table of Contents

Appendices

List of Figures

List of Tables

Acronyms and Abbreviations

A-LA	Aquatic License Article
ARC	Aquatic Resource Committee
cfs	cubic feet per second
FERC	Federal Energy Regulatory Commission
MW	megawatt
OCMP	Operation Compliance Monitoring Plan
PF Plan	Process Flow Plan
Project	Henry M. Jackson Hydroelectric Project, FERC No. 2157
RM	River Mile
SCADA	Supervisory Control and Data Acquisition
Snohomish PUD	Public Utility District No. 1 of Snohomish County
USGS	United States Geological Survey
WY	Water year

1. INTRODUCTION

Public Utility District No. 1 of Snohomish County (Snohomish PUD) received from the Federal Energy Regulatory Commission (FERC) a new license for the existing 111.8-megawatt (MW) Henry M. Jackson Hydroelectric Project (FERC No. 2157) (Project) on September 2, 2011. Snohomish PUD filed with the FERC the Operation Compliance Monitoring Plan (OCMP) in response to License Article 407. The FERC approved the OCMP on April 10, 2012. Per Section 9 of the OCMP, Snohomish PUD is to file an Annual Report by November 1 of each year, which documents the following for the previous water year (July through June):

> (a) the dates, duration, and quantities of the process flow released in accordance with the Process Flow Plan (PF Plan) required by Article 416;
>
> (b) Spada Lake Reservoir daily water surface elevations; and
>
> (c) if deviations from the targeted State 3 water surface elevations occurred, the reasons for the deviations and any proposals for corrective actions to avoid future occurrences, as appropriate.

This OCMP Annual Report covers activities for water year (WY) July 2023 – June 2024.

A copy of the draft report was provided to the National Marine Fisheries Service, U.S. Forest Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Tulalip Tribes, Snohomish County, City of Everett, City of Sultan, and American Whitewater (collectively known as the Aquatic Resource Committee or ARC) for a 30-day review and comment period on September 6, 2024; no comments were received.

Spada Lake Reservoir data in tabular format are included in Appendix 1. Deviation letters from State 3 are included in Appendix 2. Consultation documentation with the ARC regarding the draft report is included in Appendix 3.

2. PROCESS FLOWS

Snohomish PUD provided process flow events pursuant to the updated Process Flow Plan (PF Plan) on four occasions during the July 2023 – June 2024 timeframe to provide both biological and habitat benefits in each of the three reaches of the lower Sultan River (Figure 1). These included, in chronological order:

1) 1) a flushing of surficial fine sediment from the streambed and an upmigration flow for spawning salmonids in September 2023,
2) 2) a nighttime outmigration flow in April 2024,
3) 3) a sediment flushing flow (Reach 1) in April 2024, and
4) 4) a nighttime outmigration flow coupled with a sediment flushing flow in April 2024.

The process flow events for the July 2023 – June 2024 timeframe are summarized, by these reaches, in Table 1. Snohomish PUD followed each process flow event with License-required downramping; downramping is evident on the descending limb of the hydrograph associated

with each process flow event as shown in Figures 2 through 11. The full Process Flow Log (dating back to License issuance in September 2011) is posted to the web at: https://www.snopud.com/community-environment/environmental-commitment/stewardship/jackson-fish-program/fish-mgmt-plans/

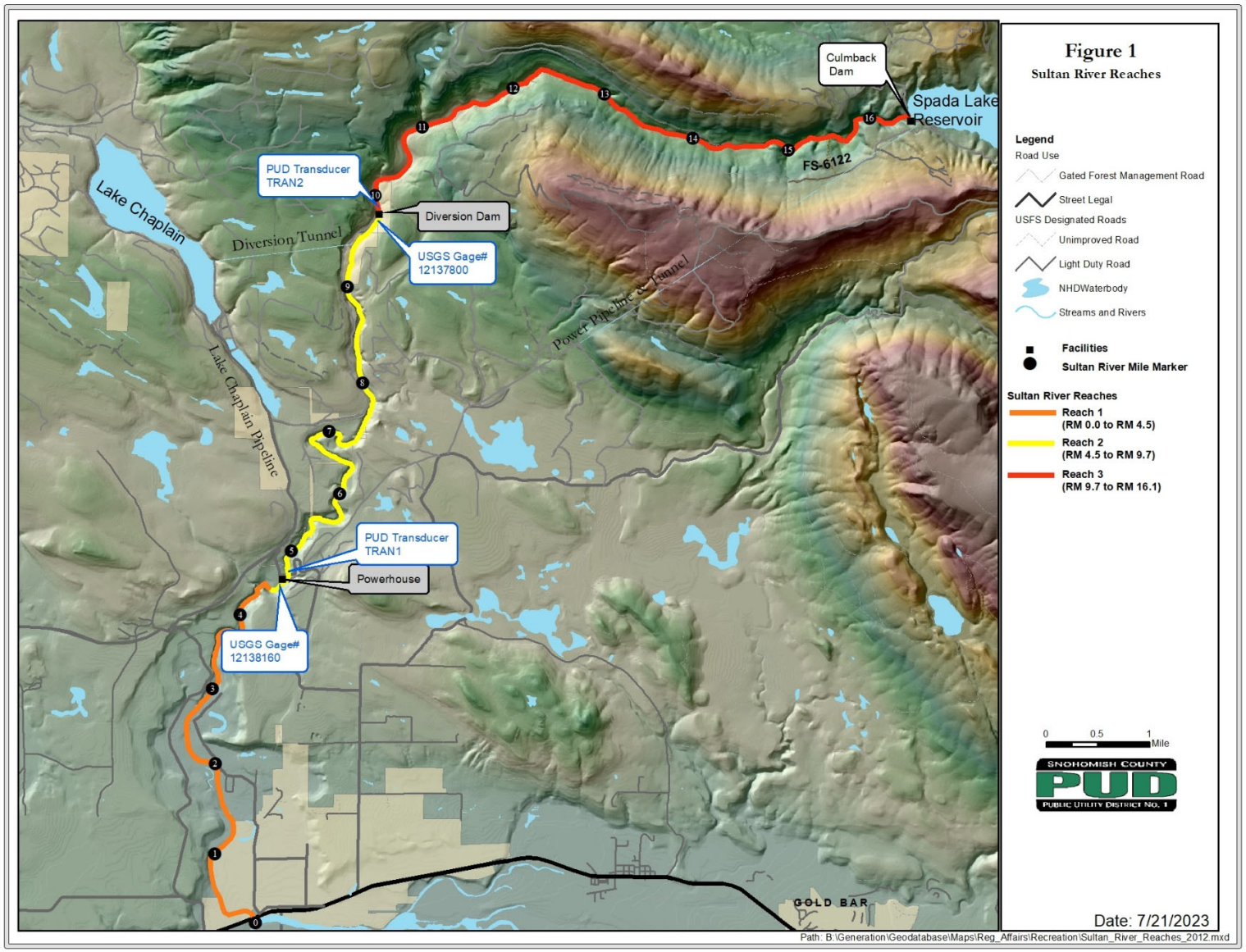

Figure 1. Sultan River reaches.

Table 1. Process Flow Log, July 2023 – June 2024.

Date[1]	Time[2]	Magnitude[3] (cfs)	Duration[4] (hrs)	Accretion[5] (cfs)	Notes[6]	Counts as PF Type[7]
9/24/2023	10:30 to 20:30	R3 – 670 (average), Range 409 to 856 cfs	10 hours greater than 400 cfs	Estimated at 10 cfs	Reference Figure 1	F, U
9/24-25/2023	12:00 to 01:00	R2 – 752 (average), Range 506 to 970 cfs	13 hours greater than 500 cfs	Estimated at 25 cfs	Reference Figure 2	F, U
9/24-25/2023	13:45 to 02:15	R1 – 1,289 (average), Range 1,220 to 1,340 cfs	12.75 hours greater than 1,200 cfs	Estimated at 25 cfs	Reference Figure 3 Reservoir elevation < 1,420’	F, U
4/3-4/2024	23:30-05:30	R3 – 267 (average), Range 241 to 271 cfs	6 hours greater than 200 cfs	Estimated at 30 cfs	Reference Figure 4	O
4/3-4/2024	21:30-05:30	R2 – 444 (average), Range 414 to 500 cfs	8 hours greater than 400 cfs	Estimated at 35 cfs	Reference Figure 5	O
4/3-4/2024	21:30-05:30	R1 – 911 (average), Range 858 to 958 cfs	8 hours greater than 800 cfs	Estimated at 35 cfs	Reference Figure 6	O
4/11/2024	05:30-11:30	R1 – 1,658 (average), Range 1,520 to 1,690 cfs	6 hours greater than 1,500 cfs	Estimated at 30 cfs	Reference Figure 7	F
4/28-29/2024	21:15-04:30	R1 – 861 (average), Range 823 to 926 cfs	7.25 hours greater than 800 cfs	Estimated at 80 cfs	Reference Figure 8	O
4/28-29/2024	10:45-05:45	R3 – 526 (average) 410 to 642 cfs	7 hours greater than 400 cfs	Estimated at 85 cfs	Reference Figure 9	F
4/28-29/2024	21:15-04:30	R3 – 467 (average) 446 to 498 cfs	7.25 hours greater than 200 cfs	Estimated at 85 cfs	Reference Figure 9	O
4/28-29/2024	12:15-09:15	R2 – 727 (average) 501 to	21 hours greater than	Estimated at 80 cfs	Reference Figure 10	F

[1] Start Date of Event (MM/DD/YYYY)
[2] Start Time-End Time
[3] Magnitude of the Event for Each Compliance Location (R1-Reach 1, R2-Reach 2, R3-Reach 3)
[4] Duration of Event
[5] Portion of Event Attributed to Accretion Flows
[6] Notes of Day’s Event, Sequencing with Other Flow Events/Maintenance, Released or Natural
[7] Channel Forming (CF), Channel Maintenance (CM), Flushing (F), Outmigration (O), Upmigration (U)

Date[1]	Time[2]	Magnitude[3] (cfs)	Duration[4] (hrs)	Accretion[5] (cfs)	Notes[6]	Counts as PF Type[7]
		904 cfs	500 cfs			
4/28-29/2024	21:15-04:30	R2 – 682 (average) 649 to 750 cfs	7.25 hours greater than 400	Estimated at 80 cfs	Reference Figure 10	O

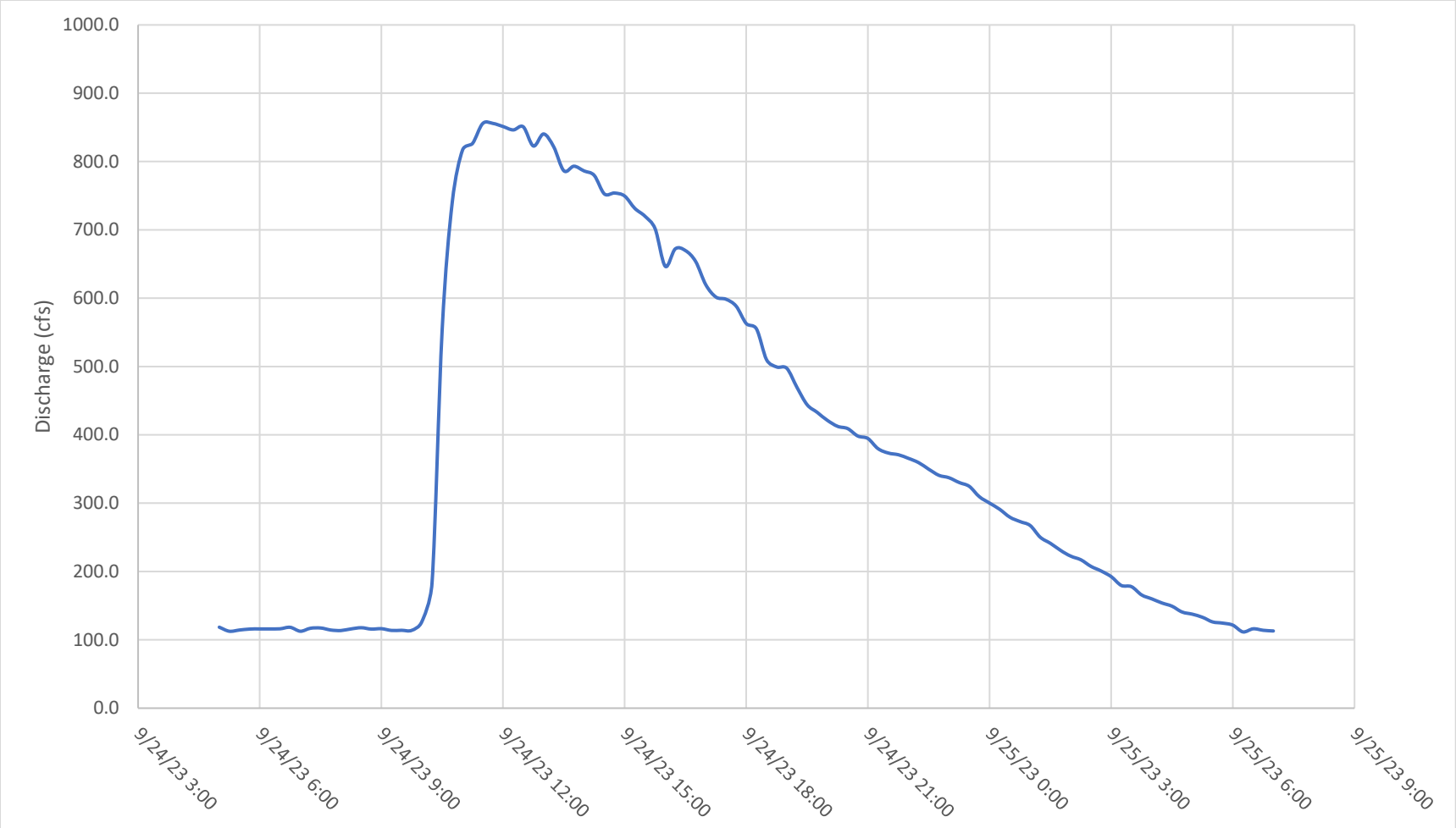

Figure 2. Sultan River immediately upstream of Diversion Dam – 09/24/2023.

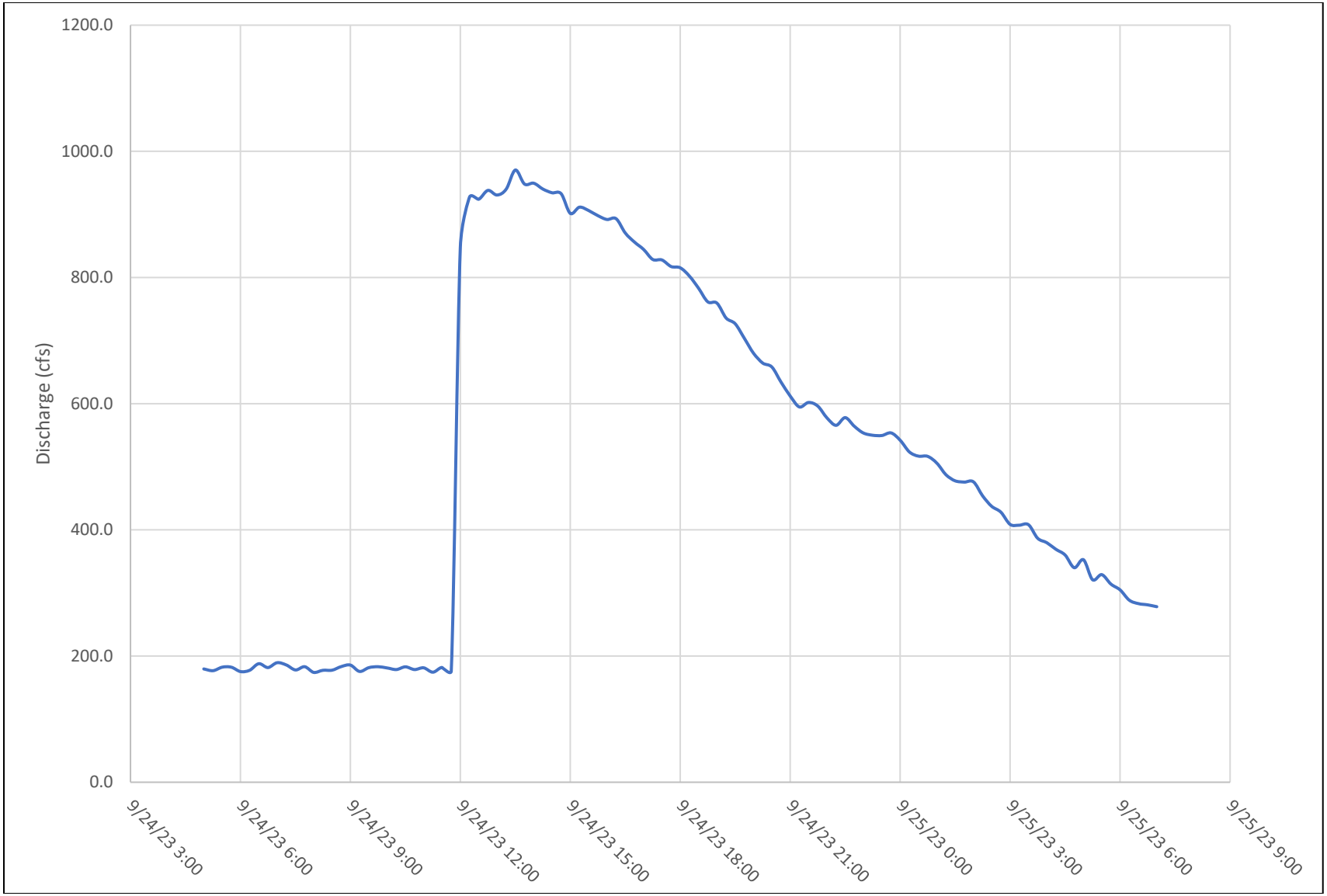

Figure 3. Sultan River immediately upstream of Powerhouse – 09/24-25/2023.

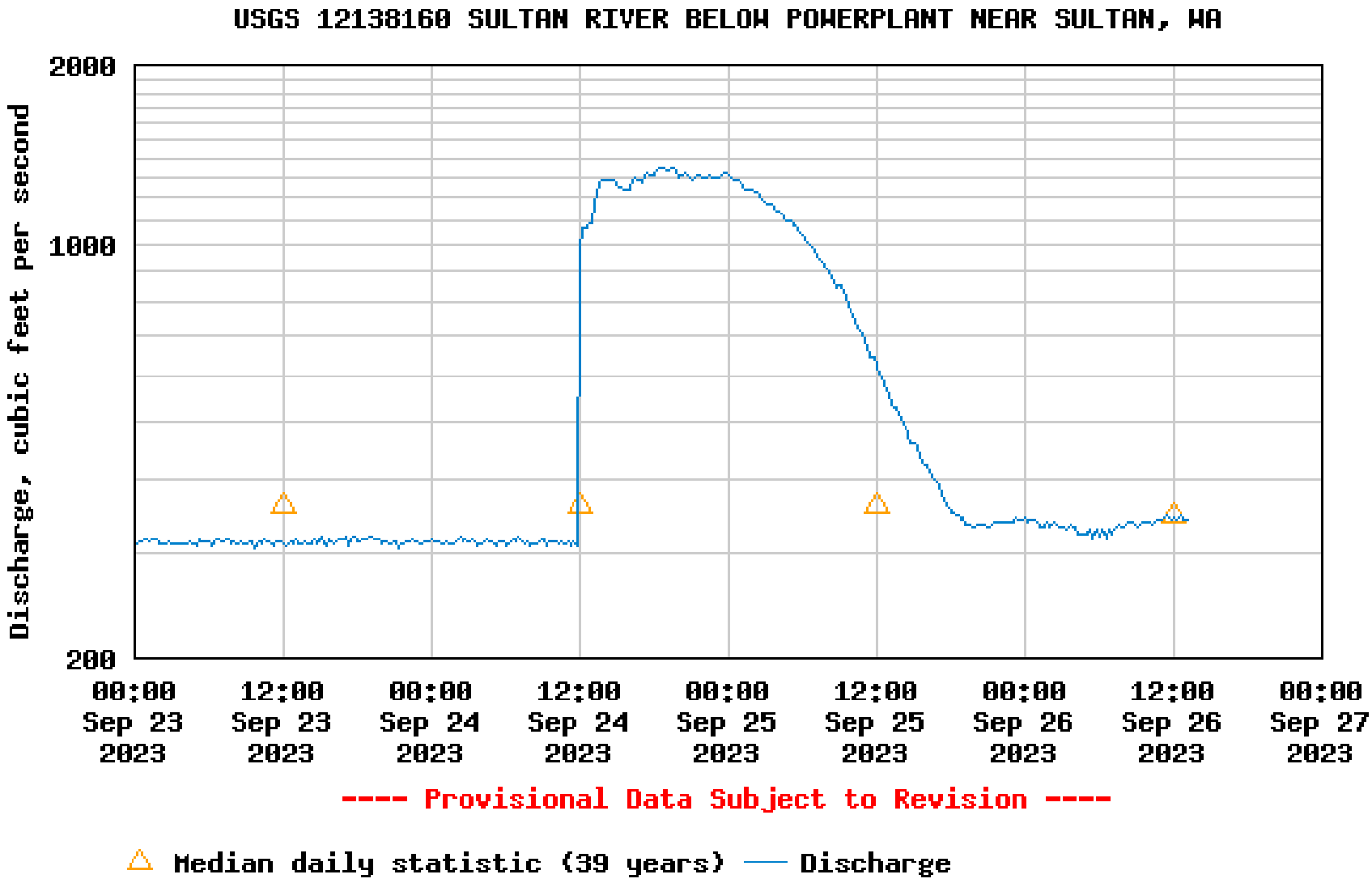

Figure 4. **Sultan River immediately downstream of Powerhouse – 09/24-25/2023.**

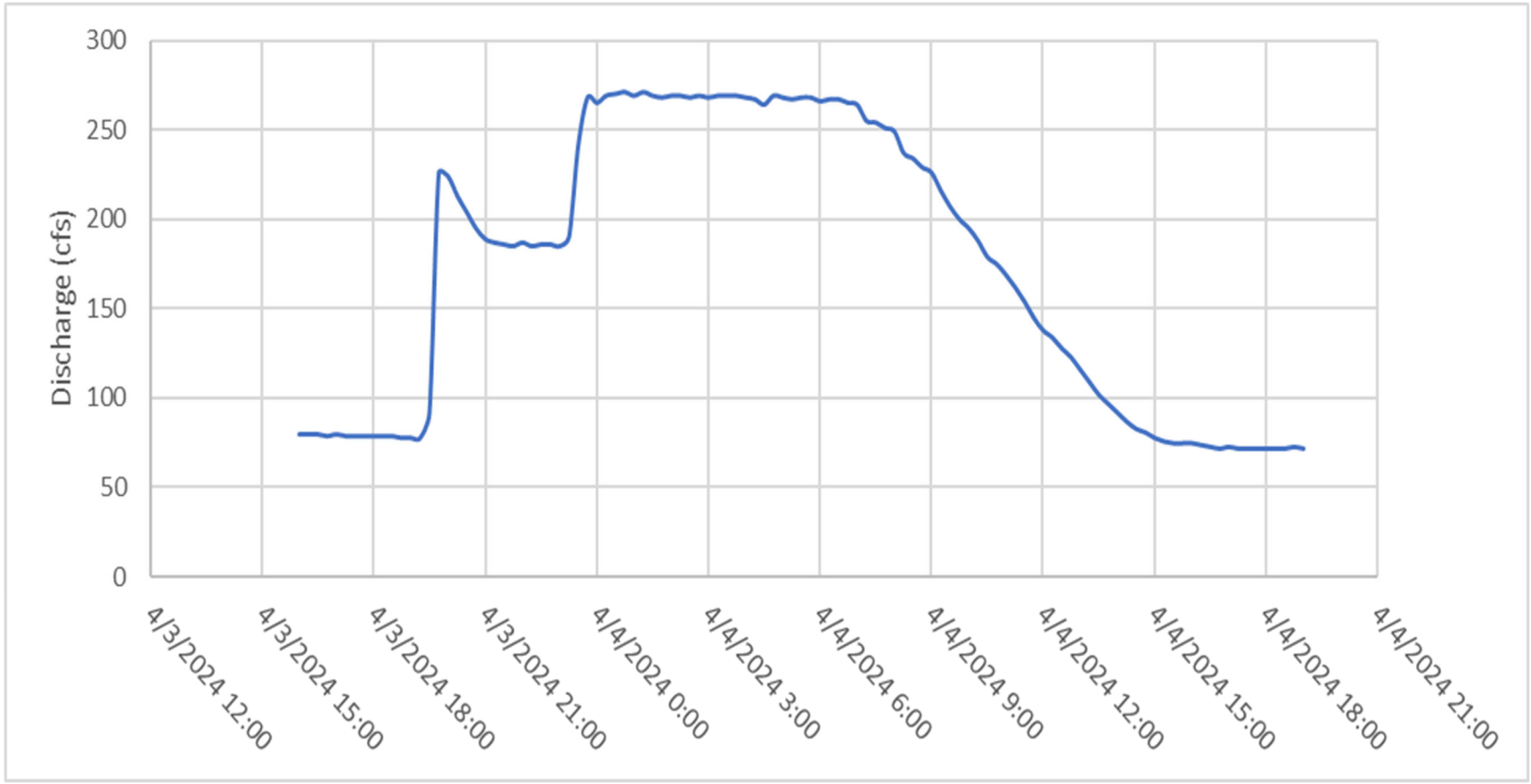

Figure 5. Sultan River immediately upstream of Diversion Dam – 04/03-04/2024.

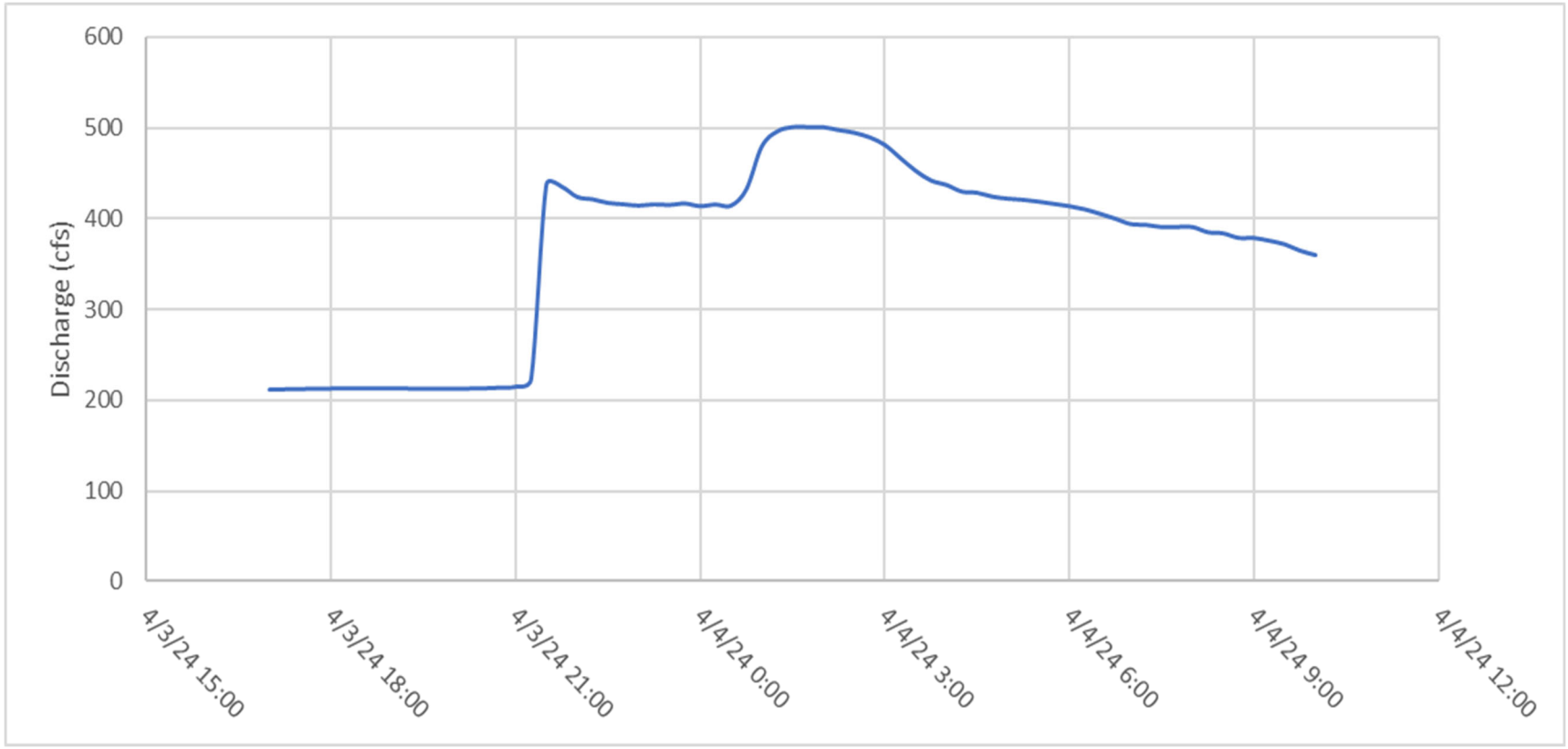

Figure 6. Sultan River immediately upstream of Powerhouse – 04/03-04/2024.

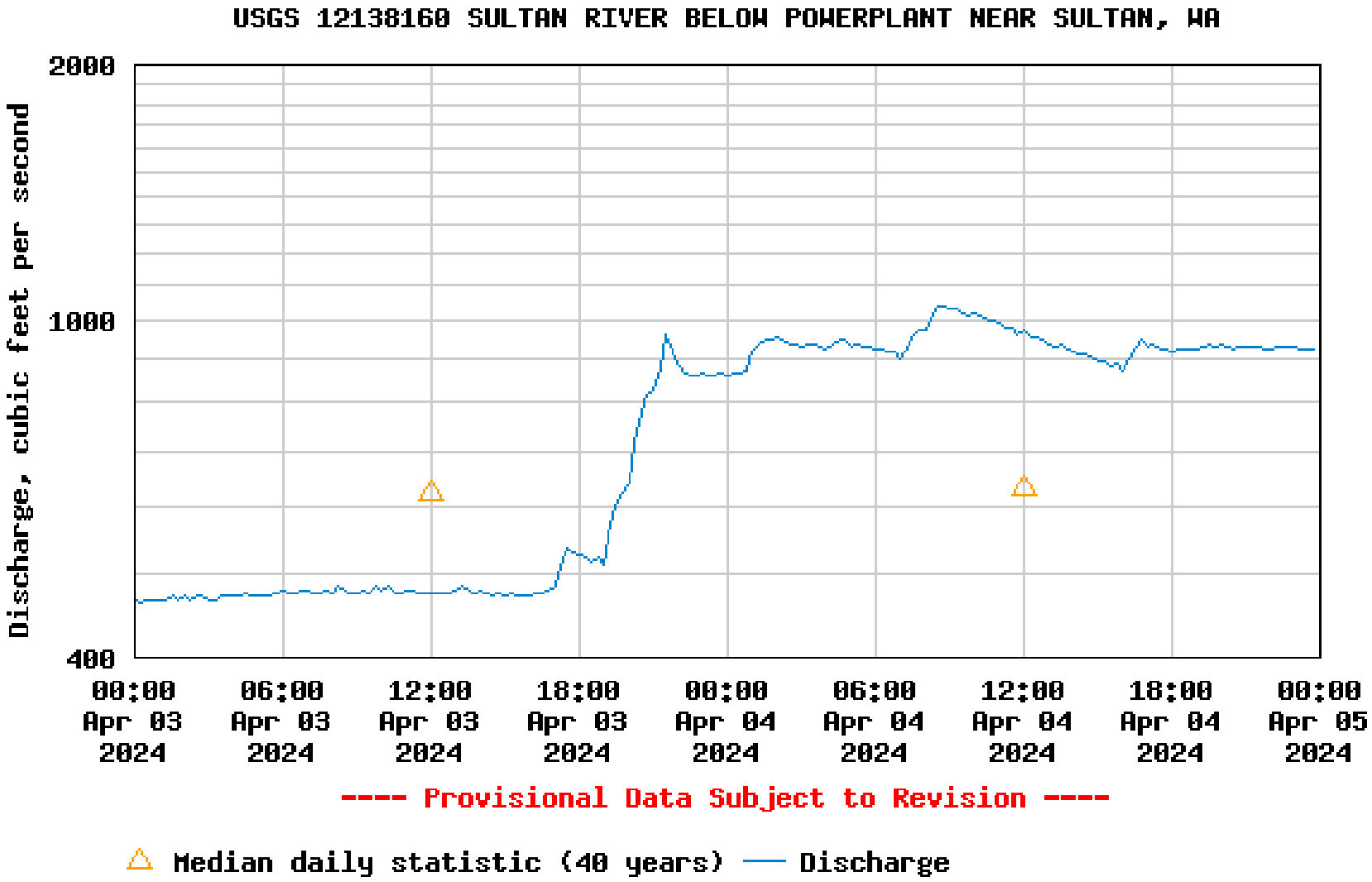

Figure 7. **Sultan River immediately downstream of Powerhouse – 04/03-04/2024.**

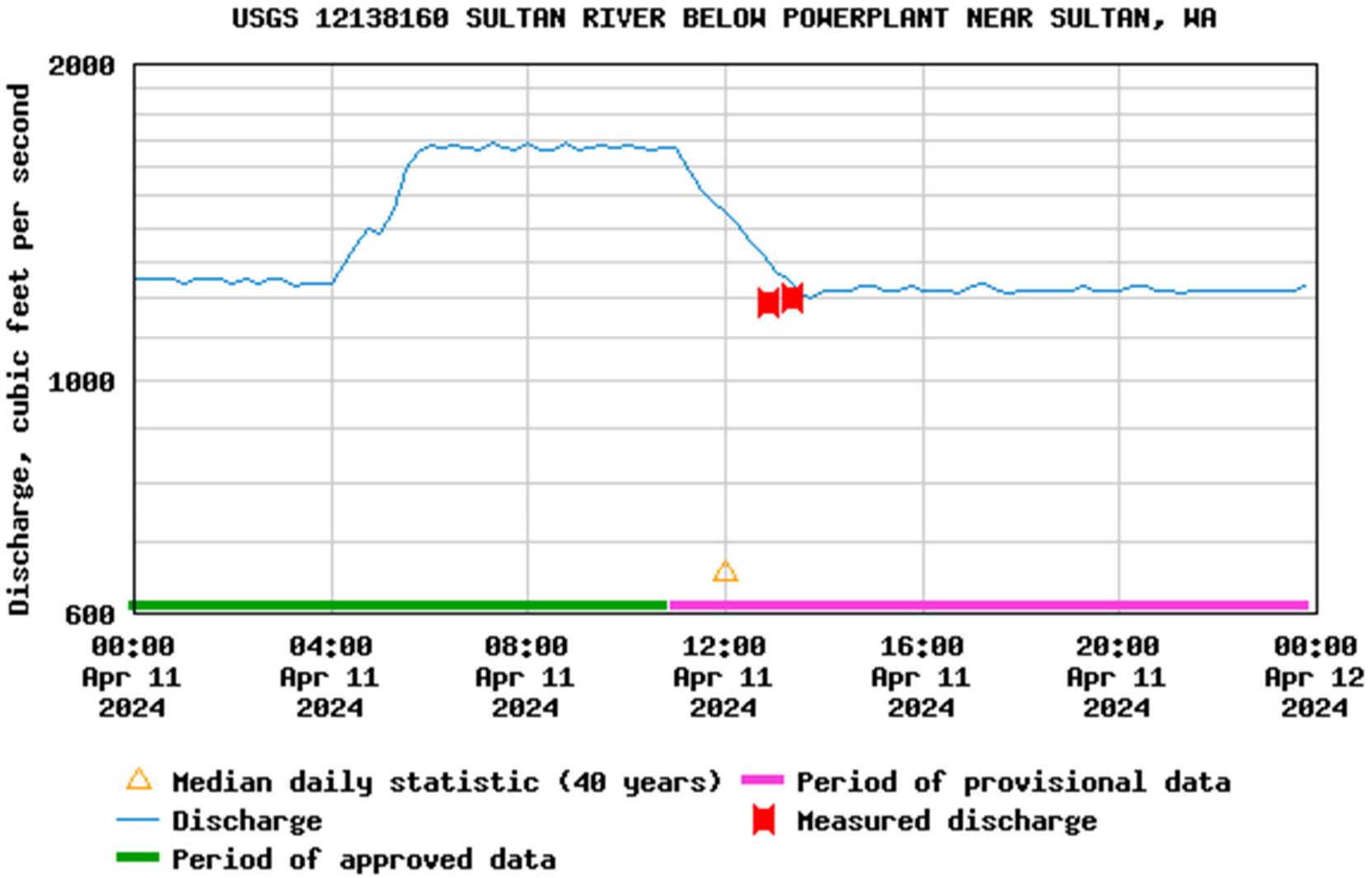

Figure 8. Sultan River immediately downstream of Powerhouse – 04/11/2024

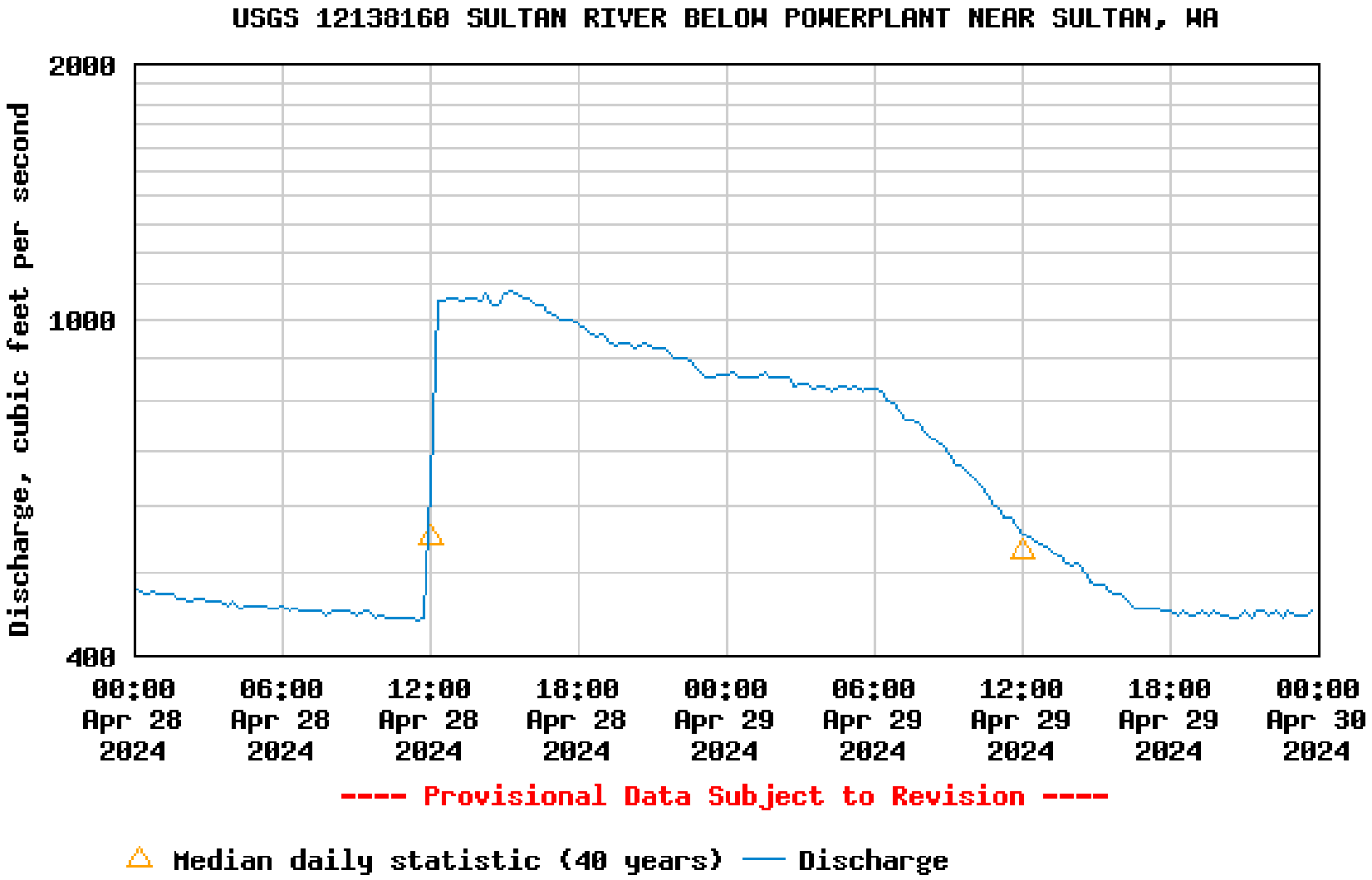

Figure 9. Sultan River immediately downstream of Powerhouse – 04/28-04/29/2024.

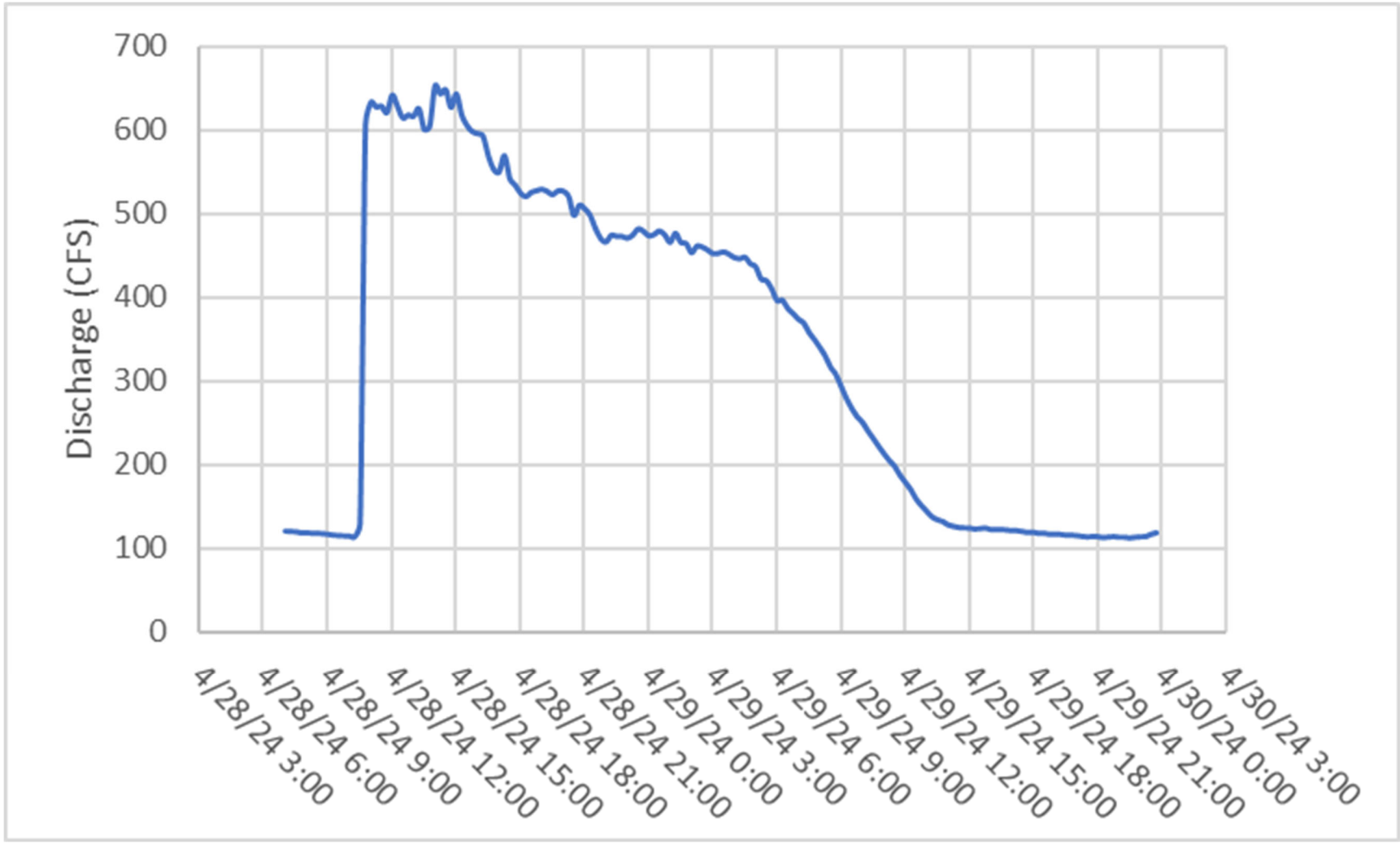

Figure 10. Sultan River immediately upstream of Diversion Dam – 04/28-04/29/2024.

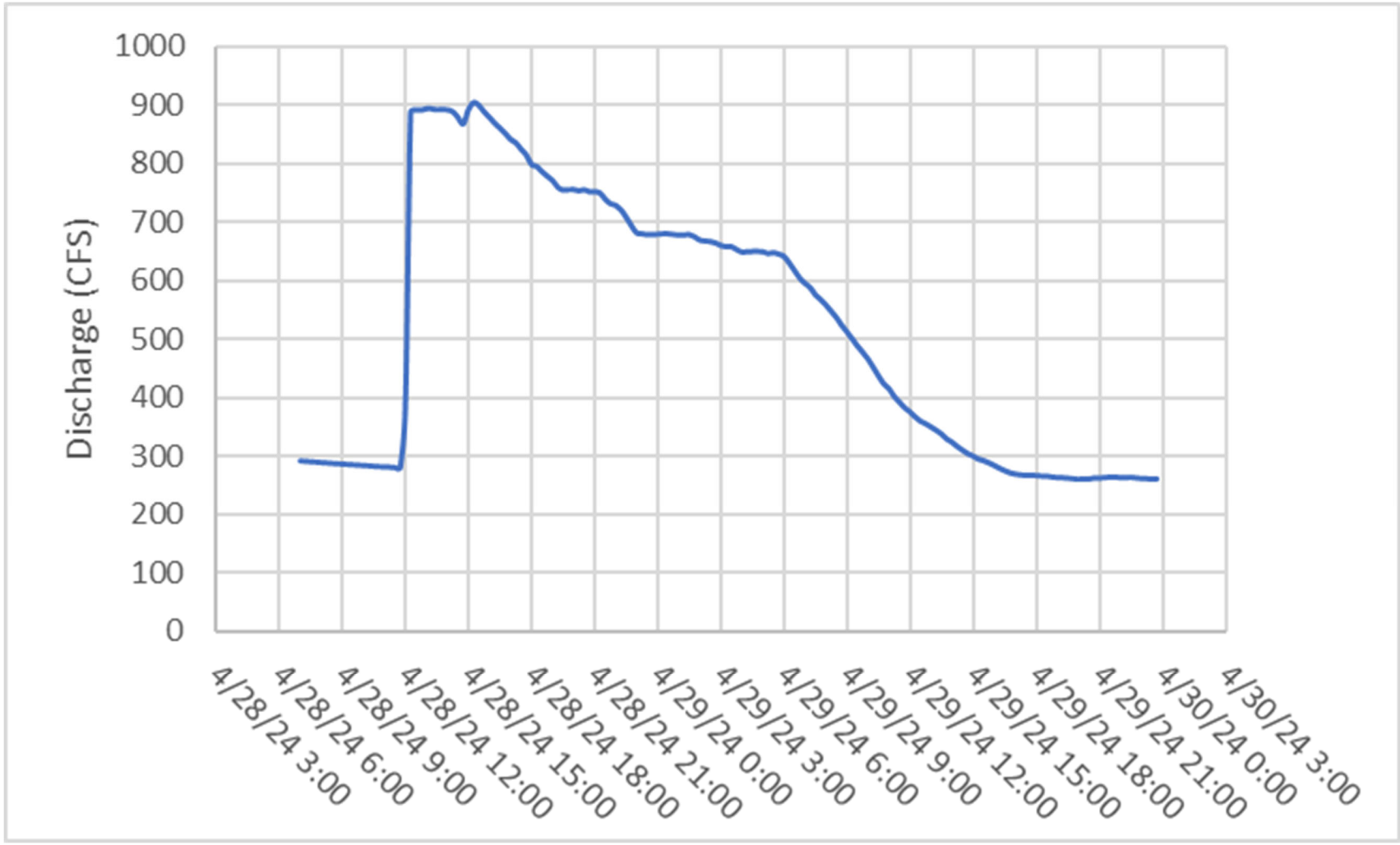

Figure 11. Sultan River immediately upstream of Powerhouse – 04/28-04/29/2024.

3. SPADA LAKE RESERVOIR WATER SURFACE ELEVATIONS

During this reporting period, Spada Lake Reservoir daily water surface elevations ranged between 1,393.7 and 1,449.3 feet msl, with the low on November 2, 2023, and the high on June 30, 2024. Figure 12 displays the daily water surface elevations of Spada Lake Reservoir, and Appendix 1 contains the data in tabular format.

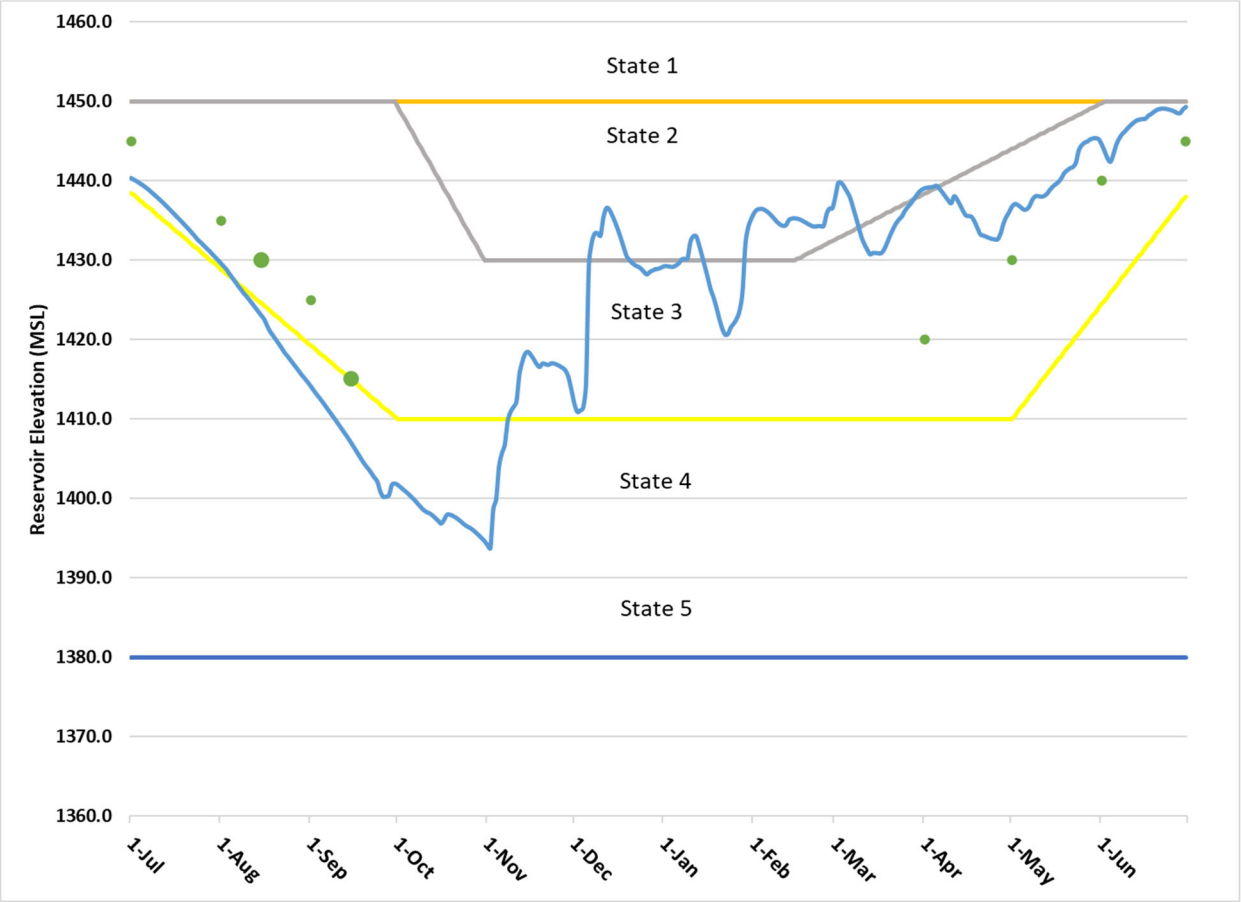

Figure 12. Water surface elevation, Spada Lake Reservoir, July 1, 2023 – June 30, 2024.

4. DEVIATIONS FROM STATE 3

License Article 406 requires:

> *When Spada Lake is in State 3, subject to meeting the City of Everett's water supply requirements and the other conditions of this license, the licensee shall maintain a minimum impoundment water surface elevation in Spada Lake above 1,430 feet mean sea level (msl), as measured at U.S. Geological Survey gage no. 12137300, Spada Lake near Startup, Washington, between July 1 and August 15... After the temperature conditioning structure is installed and operational, the licensee shall*

> *maintain a minimum impoundment water surface elevation in Spada Lake above 1,415 feet msl from August 16 through September 15.*[8]

In 2023, the water surface in Spada Lake Reservoir dropped below the Project's License Article 406 target elevations of 1,430 and 1,415 feet msl. Specifically, on July 31 the elevation dropped below 1,430 feet msl and continued to decline to an elevation of 1,423.0 feet msl on August 15. Additionally, on August 30, 2023, the elevation dropped below 1,415 feet msl and continued to decline to an elevation of 1,406.4 feet msl on September 15, 2023, the final day of this target elevation.[9] These deviations were the result of abnormally dry weather which severely limited inflows to Spada Lake Reservoir throughout the summer. In August, the total daily inflow to the reservoir averaged below 50 cfs, approximately 25% of the long-term mean. In its letter dated November 13, 2023, FERC stated that the deviation will not be considered a violation of Article 406. Appendix 2 contains documentation regarding this deviation.

[8] *Public Utility District No. 1 of Snohomish County,* 137 FERC ¶ 61,221 (2011), Order Denying Rehearing and Granting Clarification, issued December 15, 2011.

[9] Given fluctuations of the reservoir and corresponding oscillations around the target elevation, the Snohomish PUD rounds to the nearest mean daily elevation.

Appendix 1

Spada Lake Reservoir Daily Elevations Tabular Format

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
7/1	1440.3		8/1	1429.6		9/1	1414.1
7/2	1440.1		8/2	1429.2		9/2	1413.6
7/3	1439.9		8/3	1428.8		9/3	1413.1
7/4	1439.7		8/4	1428.2		9/4	1412.7
7/5	1439.4		8/5	1427.8		9/5	1412.2
7/6	1439.2		8/6	1427.3		9/6	1411.7
7/7	1438.9		8/7	1426.7		9/7	1411.2
7/8	1438.6		8/8	1426.3		9/8	1410.7
7/9	1438.2		8/9	1425.8		9/9	1410.1
7/10	1437.9		8/10	1425.4		9/10	1409.6
7/11	1437.6		8/11	1424.9		9/11	1409.1
7/12	1437.2		8/12	1424.4		9/12	1408.6
7/13	1436.9		8/13	1424.0		9/13	1408.1
7/14	1436.5		8/14	1423.5		9/14	1407.5
7/15	1436.1		8/15	1423.0		9/15	1407.0
7/16	1435.8		8/16	1422.5		9/16	1406.4
7/17	1435.4		8/17	1421.7		9/17	1405.8
7/18	1435.0		8/18	1421.0		9/18	1405.2
7/19	1434.6		8/19	1420.5		9/19	1404.6
7/20	1434.2		8/20	1420.0		9/20	1404.1
7/21	1433.9		8/21	1419.5		9/21	1403.7
7/22	1433.4		8/22	1418.9		9/22	1403.1
7/23	1433.0		8/23	1418.3		9/23	1402.6
7/24	1432.6		8/24	1417.9		9/24	1402.1
7/25	1432.2		8/25	1417.4		9/25	1400.9
7/26	1431.9		8/26	1417.0		9/26	1400.2
7/27	1431.5		8/27	1416.5		9/27	1400.2
7/28	1431.2		8/28	1416.0		9/28	1400.4
7/29	1430.8		8/29	1415.5		9/29	1401.7
7/30	1430.4		8/30	1415.1		9/30	1401.9
7/31	1430.0		8/31	1414.6			

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
10/1	1401.7		11/1	1394.1		12/1	1410.9
10/2	1401.4		11/2	1393.7		12/2	1411.1
10/3	1401.1		11/3	1398.6		12/3	1411.4
10/4	1400.8		11/4	1399.9		12/4	1414.3
10/5	1400.5		11/5	1404.0		12/5	1429.4
10/6	1400.1		11/6	1405.7		12/6	1432.2
10/7	1399.7		11/7	1406.8		12/7	1433.3
10/8	1399.3		11/8	1409.8		12/8	1433.4
10/9	1398.9		11/9	1410.9		12/9	1433.1
10/10	1398.5		11/10	1411.5		12/10	1435.4
10/11	1398.3		11/11	1412.2		12/11	1436.5
10/12	1398.1		11/12	1415.6		12/12	1436.4
10/13	1397.9		11/13	1417.2		12/13	1435.7
10/14	1397.5		11/14	1418.2		12/14	1434.8
10/15	1397.2		11/15	1418.4		12/15	1433.8
10/16	1396.8		11/16	1418.0		12/16	1432.8
10/17	1397.3		11/17	1417.5		12/17	1431.6
10/18	1397.9		11/18	1416.9		12/18	1430.5
10/19	1397.9		11/19	1416.5		12/19	1430.0
10/20	1397.8		11/20	1417.0		12/20	1429.6
10/21	1397.6		11/21	1416.9		12/21	1429.3
10/22	1397.3		11/22	1416.8		12/22	1429.2
10/23	1397.0		11/23	1417.0		12/23	1428.9
10/24	1396.7		11/24	1417.0		12/24	1428.5
10/25	1396.5		11/25	1416.8		12/25	1428.2
10/26	1396.3		11/26	1416.6		12/26	1428.5
10/27	1396.0		11/27	1416.4		12/27	1428.7
10/28	1395.7		11/28	1416.0		12/28	1428.9
10/29	1395.4		11/29	1415.2		12/29	1428.9
10/30	1395.0		11/30	1413.6		12/30	1429.1
10/31	1394.6			1411.9		12/31	1429.2

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
1/1	1429.2		2/1	1436.3		3/1	1439.7
1/2	1429.2		2/2	1436.4		3/2	1439.3
1/3	1429.1		2/3	1436.4		3/3	1438.6
1/4	1429.3		2/4	1436.2		3/4	1437.9
1/5	1429.6		2/5	1435.9		3/5	1436.8
1/6	1430.1		2/6	1435.6		3/6	1435.5
1/7	1430.1		2/7	1435.2		3/7	1434.2
1/8	1430.2		2/8	1434.8		3/8	1432.9
1/9	1432.3		2/9	1434.5		3/9	1432.0
1/10	1433.0		2/10	1434.3		3/10	
1/11	1433.0		2/11	1434.4		3/11	1431.3
1/12	1431.9		2/12	1435.0		3/12	1430.7
1/13	1430.6		2/13	1435.2		3/13	1430.9
1/14	1429.2		2/14	1435.3		3/14	1430.9
1/15	1427.8		2/15	1435.2		3/15	1430.8
1/16	1426.3		2/16	1435.1		3/16	1430.9
1/17	1425.3		2/17	1434.9		3/17	1431.4
1/18	1424.0		2/18	1434.7		3/18	1432.3
1/19	1422.6		2/19	1434.5		3/19	1433.2
1/20	1421.4		2/20	1434.3		3/20	1433.9
1/21	1420.6		2/21	1434.2		3/21	1434.6
1/22	1420.7		2/22	1434.3		3/22	1435.1
1/23	1421.5		2/23	1434.3		3/23	1435.5
1/24	1422.0		2/24	1434.3		3/24	1436.2
1/25	1422.6		2/25	1435.8		3/25	1436.7
1/26	1423.7		2/26	1436.5		3/26	1437.1
1/27	1426.0		2/27	1436.5		3/27	1437.6
1/28	1432.0		2/28	1437.9		3/28	1438.1
1/29	1434.2		2/29	1439.7		3/29	1438.6
1/30	1435.2					3/30	1438.9
1/31	1435.9					3/31	1439.1

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
4/1	1439.1		5/1	1437.1		6/1	1443.6
4/2	1439.2		5/2	1436.9		6/2	1442.7
4/3	1439.2		5/3	1436.7		6/3	1442.4
4/4	1439.4		5/4	1436.4		6/4	1443.4
4/5	1439.0		5/5	1436.4		6/5	1444.6
4/6	1438.5		5/6	1436.8		6/6	1445.3
4/7	1438.0		5/7	1437.6		6/7	1445.9
4/8	1437.5		5/8	1438.0		6/8	1446.2
4/9	1437.1		5/9	1438.0		6/9	1446.6
4/10	1438.0		5/10	1438.0		6/10	1447.0
4/11	1437.6		5/11	1438.1		6/11	1447.3
4/12	1437.0		5/12	1438.3		6/12	1447.6
4/13	1436.2		5/13	1438.8		6/13	1447.7
4/14	1435.6		5/14	1439.2		6/14	1447.7
4/15	1435.5		5/15	1439.5		6/15	1447.8
4/16	1435.4		5/16	1439.8		6/16	1448.2
4/17	1434.9		5/17	1440.3		6/17	1448.4
4/18	1434.1		5/18	1440.9		6/18	1448.7
4/19	1433.3		5/19	1441.3		6/19	1448.9
4/20	1433.1		5/20	1441.6		6/20	1449.0
4/21	1432.9		5/21	1441.7		6/21	1449.1
4/22	1432.8		5/22	1442.2		6/22	1449.0
4/23	1432.7		5/23	1443.8		6/23	1449.0
4/24	1432.6		5/24	1444.4		6/24	1448.9
4/25	1432.6		5/25	1444.8		6/25	1448.7
4/26	1433.3		5/26	1444.9		6/26	1448.5
4/27	1434.6		5/27	1445.2		6/27	1448.5
4/28	1435.4		5/28	1445.3		6/28	1449.0
4/29	1436.0		5/29	1445.3		6/29	1449.3
4/30	1436.8		5/30	1445.2		6/30	1449.4
			5/31	1444.5			

Appendix 2

Documentation Regarding Spada Lake Reservoir Deviation

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Energizing Life in Our Communities

September 23, 2023

VIA ELECTRONIC FILING

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Re: Jackson Hydroelectric Project, FERC No. 2157
License Article 406 – Reservoir Elevation Targets

Dear Secretary Bose:

This letter is to notify the Commission regarding a deviation that occurred at the Public Utility District No. 1 of Snohomish County's (Snohomish PUD) Jackson Hydroelectric Project (Project) related to the target Spada Lake Reservoir (Reservoir) elevation of 1,415 feet msl (defined for the period of August 16 through September 15) under License Article 406: Spada Lake Water Management. Specifically, on August 30, 2023, the Reservoir dropped below 1,415 feet msl and continued to decline to an elevation of 1,406.4 feet msl at the end of the day on September 15, 2023. Inflows to the Reservoir during the entire 30-day period were at or near record lows.

In light of observed dissipation of snowpack and forecasted low inflows and to maintain adherence with the summer elevation targets, Project operations were proactively adjusted on May 18, 2023, reducing Reservoir outflows while maintaining minimum instream flow levels in the Sultan River, downstream of the Reservoir. After that adjustment, the Project operated near minimum instream flow levels for 97.5 percent of the days leading up to September 15, 2023. Despite these actions, the Reservoir elevation target was missed. The reduction in the Reservoir elevation level did not result in adverse environmental impacts, nor did it impact the usability of the boat ramp at the South Fork Recreation Site. The information in this letter will be reported in the Operational Compliance Monitoring Report pursuant to License Article 407, as required by License Article 406.

If you have any questions regarding this letter, please do not hesitate to contact Keith Binkley, Manager of Natural Resources, at (425)783-1769 or KMBinkley@snopud.com.

Sincerely,

Bradley R. Spangler
Senior Manager, Generation
BRSpangler@snopud.com
(425) 783-8151

cc: Aquatic Resources Committee

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2157-264, and 2157-265--
Henry M. Jackson Hydroelectric Project
PUD No. 1 of Snohomish County Washington

November 13, 2023

VIA Electronic Mail

Mr. Jason Zyskowski
PUD No. 1 of Snohomish County
JAZyskowski@snopud.com

Subject: Down-ramping Rate and Reservoir Level Deviations – Water Quality Certification Condition 5.2 and Article 406

Dear Mr. Zyskowski:

This is in response to your reports submitted on September 20 and October 2, 2023, concerning down-ramping rate and reservoir elevation deviations at the Henry M. Jackson Hydroelectric Project No. 2157. You submitted the filings pursuant to the requirements of Ordering paragraph (D) of the license,[1] and the Washington Department of Ecology's Water Quality Certificate (WQC) condition 5.2, set forth as Appendix A of the license and Article 406. For the reasons discussed below, we determined that the deviations are not violations of your license.

License Requirements

Ordering paragraph (D) of the license incorporates conditions of the WQC, set forth as Appendix A of the license. WQC condition 5.2 requires you to implement and comply with down-ramping rate requirements and schedules as described in condition A-LA 5 of the Settlement Agreement dated October 9, 2009. Condition A-LA 5 requires you in part, to operate the project from January 1 to May 31, at a maximum down-

[1] *Public Utility District No. 1 of Snohomish County, Washington*, 136 FERC ¶ 62,188 (2011).

ramping rate of two-inches per hour during the day when the flow is between 600 and 300 cubic feet per second (cfs), and from September 16 to October 31, at a maximum down-ramping rate of no more than 2-inches per hour during the day and 1 inch per hour during the night when the flow is between 750 and 1,500 cfs. You must track down-ramping rates on a 15-minute basis as monitored at the U.S. Geological Survey (USGS) Gage No. 12138160. You must limit the down-ramping rate to no more than 0.5 feet per hour, or 1.5 inches per hour, and no four consecutive 15-minute down-ramping rates, in total, will exceed the hourly rates shown in the schedule. If project operations result in exceedance of the required down-ramping rate, you must notify the Aquatic Resource Committee (ARC),[2] and the Commission no later after 10 business days of the incident.

Article 406 of the license requires you to operate the Henry M. Jackson Project consistent with the Spade Lake Reservoir rule curves as required in the Appendix A, condition 5.2 (A-LA 14). The rule curves divide Spade Lake water elevations into five states that dictate water management and shift throughout the water year (July 1 through June 30). You must maintain a minimum target water surface elevation in Spada Lake Reservoir at or above 1,415.0 feet mean sea level (msl) from August 16 through September 15. You must modify the minimum target water surface elevations resulting from system emergencies, operating emergencies beyond your control, and for short periods of time upon mutual agreement with the ARC. If the impoundment water surface elevation is modified, you must notify the ARC and the Commission within two business days after each incident. In addition, you must document the incident in the annual operational compliance monitoring report filed with the Commission pursuant to Article 407 and describe the incident that resulted in the modification of the water surface elevation.

Deviations

September 20, 2023, filing

In the filing, you report that on August 30, 2023, the impoundment water surface elevation at Spada Lake Reservoir dropped below the required minimum target elevation of 1,415.0 feet msl (for the period of August 16 through September 15) and continued to

[2] The Aquatic Resource Committee consists of representatives of: the National Marine Fisheries Service, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Washington Department of Fish and Wildlife, the Washington Department of Ecology, the Tulalip Tribes, the Snohomish County, the City of Everett, the City of Sultan, and the American Whitewater.

decline to an elevation of 1,406.4 feet msl, at the end of the day on September 15, 2023. You explain that on May 18, 2023, your operator reduced the reservoir outflows while maintaining minimum instream flow levels in the Sultan River to maintain the summer elevation targets in anticipation of snowpack and forecasted low inflows. After the adjustment, the project operated near minimum stream flow levels for 97.5% of the days before September 15, 2023. Despite these actions, you did not meet the required target reservoir level. However, you report that it did not result in any adverse environmental impacts, nor did it impact the usability of the boat ramp at the South Fork recreation site. You filed the report concurrently with the ARC. You did not receive any comments regarding the incident. Furthermore, you indicate that the incident would be documented in the annual operational compliance monitoring report pursuant to Article 407, as required by Article 406 of your license.

October 2, 2023, filing

In the filing, you report that on September 25, 2023, between 5:30 and 6:30 AM, you recorded a reduction in down-ramping rate of 1.08 inches as measured at the USGS Gage No. 12138160, located on the Sultan River below the powerhouse near Sultan, Washington. Then, between 6:45 and 7:45 AM, another reduction in down-ramping rate of 1.2 inches was recorded. These reductions exceeded the required down-ramping rate of 1 inch per hour during the night when the flow is between 750 and 1,500 cfs.[3] You explain that these events occurred because of a combination of factors including a delayed closure of a newly installed valve at Culmback Dam, the Pelton generation down-ramping schedule following a multi-objective release, and high precipitation event in the Sultan River.

You explain that on Sunday, September 24, 2023, you developed a down-ramping schedule for release points at the base of Culmback Dam and at the Jackson Powerhouse. You also installed a new 48-inch valve that went in commission in early September 2023. The new valve replaced the old valve that was originally installed in 1960. The release schedule had the valve opening to 100% to achieve the desired flow volume necessary to meet the license requirements for upstream migration, channel flushing, and whitewater recreation. At approximately 9:00 AM, you scheduled a down-ramp of the new 48-inch

[3] The license specifies that down-ramps during the night may occur between one hour after sunset to one hour before sunrise. On September 25, 2023, sunrise was 06:56 AM, therefore the 1-inch nighttime rate would apply until crossing over 08:00 AM, at which point the daytime rate of 2 inches per hour would apply on flows between 700 and 1,500 cfs.

valve, but the valve became stuck open due to over-torque, and you lost remote operability. You dispatched some operators to Culmback Dam that successfully troubleshoot the issue. However, the release was extended by nearly 2 hours compared to the duration of the scheduled release.

Additionally, on September 24 and 25, 2023, the Culmback Dam weather station recorded 0.81 inches of precipitation between 10:05 PM and 07:05 AM, with the bulk of that precipitation recorded between 10:05 PM and 05:05 AM. Hydrologic conditions were anticipated to return to pre-release levels by 03:30 AM on September 25, 2023, followed by a scheduled down-ramping of the generating units further downstream at the compliance location upstream of the powerhouse. The combination of a delayed opening of the 48-inch valve combined with precipitation resulted in an extended down-ramp of the river downstream of Culmback Dam. You developed the down-ramping schedule for the generating units at the Jackson Powerhouse, in case of the river upstream of the powerhouse would have returned to pre-release levels and therefore no longer be down-ramping during the early morning hours of September 25, 2023. However, the river continued to down-ramp during the morning of September 25, 2023, because both the river upstream of the powerhouse and the generating units were down-ramping. Therefore, the combined flow reduction downstream of the powerhouse exceeded the required 1inch per hour night-time ramping rate limit between 05:30 AM and 07:45 AM.

In addition, you explain that down-ramping rates are required for the protection of juvenile fish stranding in the reconnected side channels. You conducted a spawning ground survey on September 22, 2023, (prior to the incident) and observed small juvenile fish. You conclude that due to the small magnitude of the down-ramping rate exceedance (0.8 inches) and short duration of the incident, the potential impact on the aquatic resources was negligible. You filed notification to the ARC concurrently with your report. You did not receive any response from the notifications.

You state that to prevent recurrence of similar incidents you would implement the following measures: 1) investigate code modifications to the plant computer control system that incorporate the upstream river down-ramping rate. You would reduce or pause down-ramps to the plant generators if the river upstream of the powerhouse is ramping down at a high rate; 2) develop additional system display screens to assist the plant operators in monitoring the upstream river and downstream river down-ramping rates; and 3) schedule generator down-ramping rates at a slower rate during the 1 inch per hour night time rate period to provide margins for error and to accommodate natural river down-ramps.

Conclusion

After reviewing the information provided, we determined that the reservoir level deviation reported in the September 20, 2023 filing was due to flow adjustments to maintain the summer target levels, which resulted in a reduction of the required minimum water level. However, access to recreational fishing and boat ramps were not impacted due to the incident. The down-ramping rate deviations reported in the October 2, 2023 filing was because of a conjugation of factors including a delayed closure of a newly installed valve, down-ramping schedule and multi-objective release, and high precipitation event in the Sultan River. Therefore, these deviations will not be considered violations of your license. Your efforts to modify codes to the plant computer control system, develop additional displays screens, and schedule generator down-ramping rates at a slower rate during the nighttime would prevent similar down-ramping rate deviations from reoccurring. You notified the ARC as required by the license and did not receive any response regarding the incidents. Additionally, there were no reported adverse environmental effects due to the incidents. Your filings fulfill the reporting requirements of your license.

Thank you for your continued cooperation relative to project operation. If you have any questions concerning this letter, please contact Anumzziatta Purchiaroni at (202) 502-6191 or anumzziatta.purchiaroni@ferc.gov.

Sincerely,

Kelly Houff
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance

cc: VIA Electronic Mail

Mr. Bradley R. Spangler
Senior Manager, Generation
PUD No. 1 of Snohomish County
BRSpangler@snopud.com

Appendix 3

Consultation Documentation Regarding Draft Report

From:	Presler, Dawn
To:	Anna Thelen (AThelen@everettwa.gov); Anne Savery; Brock Applegate; Elizabeth Babcock; Jeff Garnett; Mike Rustay; Nate Morgan; Richard Vacirca; Scott Bohling; Tom O"Keefe
Cc:	Legare, Kyle; Andrew McDonnell; Keith Binkley
Subject:	Jackson Hydro (FERC No. 2157) - draft OCMP for your 30-d review by Oct 7
Date:	Friday, September 6, 2024 9:36:00 AM
Attachments:	image001.png JHP OCMP DRAFT Annual Report WY 23-24.pdf

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Dear ARC Members,

Attached is a draft of the Jackson Hydro Project's Operation Compliance Monitoring Plan Annual Report for WY2023-2024, for your 30-day review. Please email comments, if any, back to me and Kyle by Monday October 7. If you have questions on in the meanwhile, please contact Kyle. Thanks.

Cheers,

Dawn Presler, MSIM MSSM *(she/her)*
Lead – Environmental & Licensing Compliance
Natural Resources, Generation | Snohomish PUD

O: 425-783-1709 | **C:** 425-725-0745
2320 California Street, Everett WA 98201
www.snopud.com

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served via e-mail a copy of the foregoing filing upon each person of the Jackson Hydroelectric Project's Aquatic Resource Committee. Dated at Everett, WA, this October 21, 2024.

/s/ Dawn J. Presler

Dawn J. Presler
Lead – License & Environmental Compliance
Public Utility District No. 1 of Snohomish County
2320 California Street
PO Box 1107
Everett, WA 98206-1107
Telephone: (425) 783-1709
Cell: (425) 725-0745

From:	Presler, Dawn
To:	Anne Savery; Anna Thelen (AThelen@everettwa.gov); Brock Applegate; Elizabeth Babcock; Jeff Garnett; Mike Rustay; Nate Morgan; Richard Vacirca; Scott Bohling; Tom O"Keefe
Cc:	Andrew McDonnell; Keith Binkley; Legare, Kyle
Subject:	Jackson Hydro (FERC No. 2157) - cc: OCMP Annual Report WY23-24 for e-filing with FERC
Date:	Monday, October 21, 2024 6:15:00 PM
Attachments:	image001.png 20241021 to FERC 2024 OCMP Annual Report WY 23-24.pdf

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Dear ARC,

Attached is your cc: of the Jackson Project's Operation Compliance Monitoring Plan Annual Report for Water Year 2023-2024 that I will be e-filing with FERC shortly. Please let us know if you have any questions on this filing. Thanks.

Hope you have a great week.

Cheers,

Dawn Presler, MSIM MSSM *(she/her)*
Lead – Environmental & Licensing Compliance
Natural Resources, Generation | Snohomish PUD

O: 425-783-1709 | **C:** 425-725-0745
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