



Energizing Life in Our Communities

September 24, 2021

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
Operation Compliance Monitoring Plan Annual Report
License Article 407**

Dear Secretary Bose:

Enclosed is Public Utility District No. 1 of Snohomish County's Operation Compliance Monitoring Plan Annual Report for the Water Year July 2020 – June 2021 pursuant to License Article 407 for the Jackson Hydroelectric Project. No comments were received on the draft report provided 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 on the report, please feel free to contact me.

Sincerely,

Keith M. Binkley

Keith M. Binkley
Natural Resources Manager
KMBinkley@snopud.com
(425) 783-1769

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 2020 – June 2021**



Prepared By:



Everett, WA

September 2021

Final – This document has been prepared for the District. It has been peer-reviewed by the District for accuracy and formatting based on information known at the time of its preparation and with that understanding is considered complete by the District. The document may be cited as:

Public Utility District No. 1 of Snohomish County (District). 2011. License Article 407: Operation Compliance Monitoring Plan Annual Report for Water Year July 2020 through June 2021, for the Henry M. Jackson Hydroelectric Project, FERC No. 2157. September 2021.

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Acronyms and Abbreviations

A-LA	Aquatic License Article
ARC	Aquatic Resource Committee
cfs	cubic feet per second
District	Public Utility District No. 1 of Snohomish County
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
USGS	United States Geological Survey
WY	Water year

1. INTRODUCTION

Public Utility District No. 1 of Snohomish County (the District) 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. The District 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, the District 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 2020 – June 2021.

A copy of the draft report was provided to 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; no comments were received.

Spada Lake Reservoir data in tabular format are included in Appendix 1. Letters regarding the reservoir elevation deviation are included as Appendix 2. Consultation documentation with the ARC regarding the draft report is included in Appendix 3.

2. PROCESS FLOWS

The District provided process flow events pursuant to the Process Flow Plan (PF Plan) on three occasions during the July 2020 – June 2021 timeframe to serve multiple habitat benefits. These included, in chronological order: 1) a flushing of surficial fine sediment from the streambed and an upmigration flow for spawning salmonids in September 2020, 2) a nighttime outmigration flow in April 2021, and 3) a daytime juvenile outmigration and sediment flushing flow in May 2021. The three reaches of the Sultan River are depicted in Figure 1. The process flow events for the July 2020 – June 2021 timeframe are summarized, by these reaches, in Table 1. The District 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 10. The full Process Flow Log (dating back to license issuance in September 2011) is posted to the web at:

<http://www.snopud.com/PowerSupply/hydro/jhp/jhplicense/fishery.ashx?p=2069>.

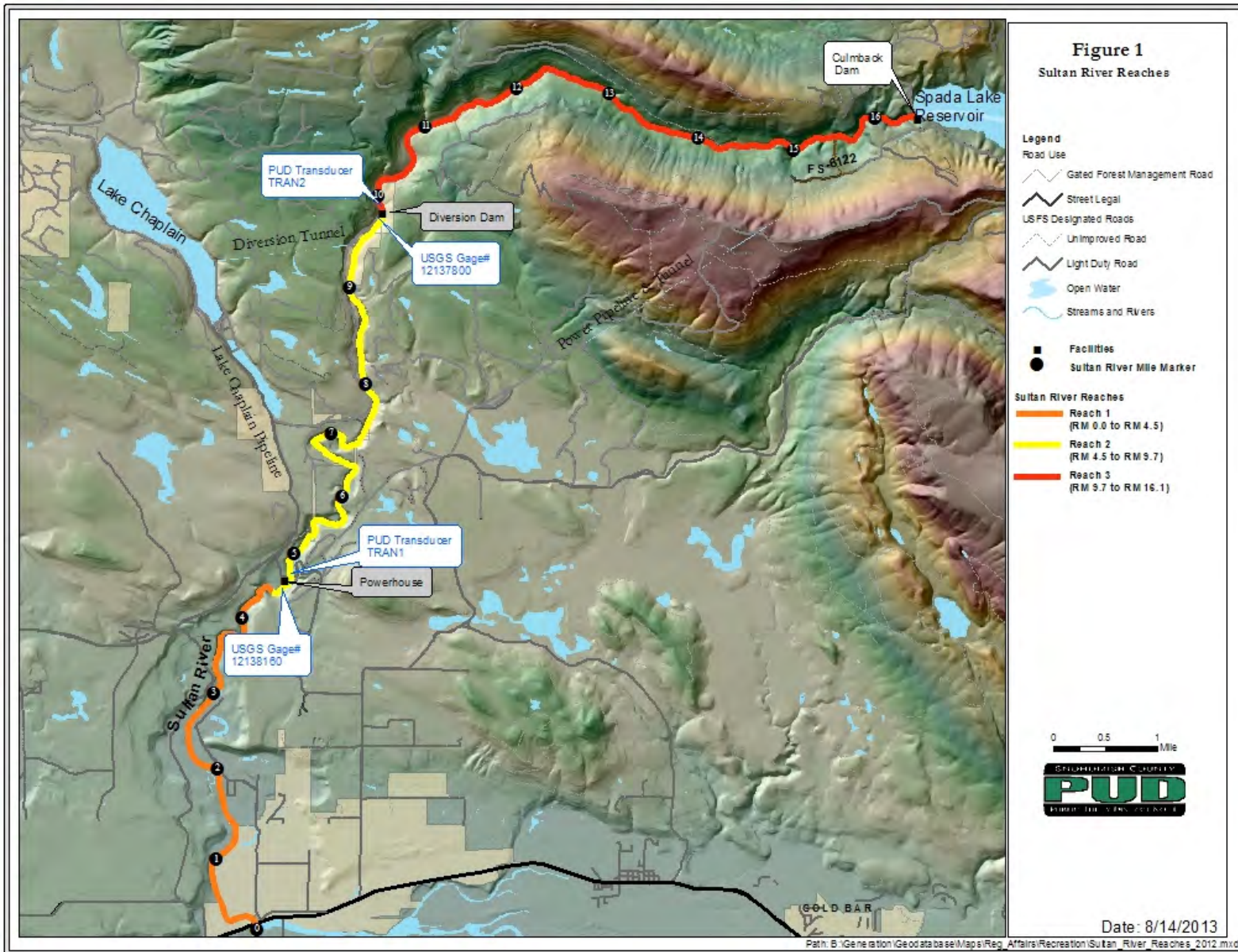


Figure 1. Sultan River reaches.

Table 1. Process Flow Log, July 2020 – June 2021.

Date ¹	Time ²	Magnitude ³ (cfs)	Duration ⁴ (hours)	Accretion ⁵ (cfs)	Notes ⁶	PF Type ⁷
9/11/2020	01:45 to 11:45	R3 – 599 (average). Range 408 - 647	10 hours greater than 400 cfs	Estimated at 10 cfs	Reference Figure 2	FL, U
9/11/2020	03:30 to 12:15	R2 – 671 (average). Range 506 - 706	8.75 hours greater than 500 cfs	Estimated at 10 cfs	Reference Figure 3	FL, U
9/11/2020	03:30 to 11:00	R1 – 1,273 (average), Range 1,200 – 1,310	7.5 hours greater than 1,200 cfs (Reservoir elevation < 1,420')	Estimated at 10 cfs	Reference Figure 4	FL, U
4/9-13/2021	21:00 to 05:15 (multiple nights)	R1 – 856 (average), Range 822 – 869	>6 hours >800 cfs	Estimated 40 cfs	Reference Figure 5	O
4/23/2021	21:15 to 05:00	R2 – 469 (average), Range 461 – 473	7.75 hours greater than 400 cfs	Estimated at 30 cfs	Reference Figure 6	O
4/23/2021	21:15 to 05:00	R3 – 316 (average), Range 283 – 321	7.75 hours greater than 200 cfs	Estimated at 40 cfs	Reference Figure 7	O
05/22/2021	11:15 to 19:45	R1 – 1,740 (average), Range 1,510 – 1,910	8.25 hours greater than 1,500 cfs	Estimated at 40 cfs	Reference Figure 8	FL, O
05/22/2021	10:15 to 17:45	R2 – 926 (average), Range 522 – 1,130	7.25 hours greater than 500 cfs	Estimated at 20 cfs	Reference Figure 9	FL, O
05/22/2021	08:45 to 16:00	R3 – 787 (average), Range 421 – 945	7.25 hours greater than 400 cfs	Estimated at 20 cfs	Reference Figure 10	FL, O

¹ Start Date of Event (MM/DD/YYYY)² Start Time to End Time³ Magnitude of the Event for Each Compliance Location (R1-Reach 1, R2-Reach 2, R3-Reach 3)⁴ Duration of Event⁵ Portion of Event Attributed to Accretion Flows⁶ Notes of Day's Event, Sequencing with Other Flow Events/Maintenance⁷ Channel Forming (CF), Channel Maintenance (CM), Flushing (FL), Outmigration (O), Upmigration (U) as defined in the PF Plan

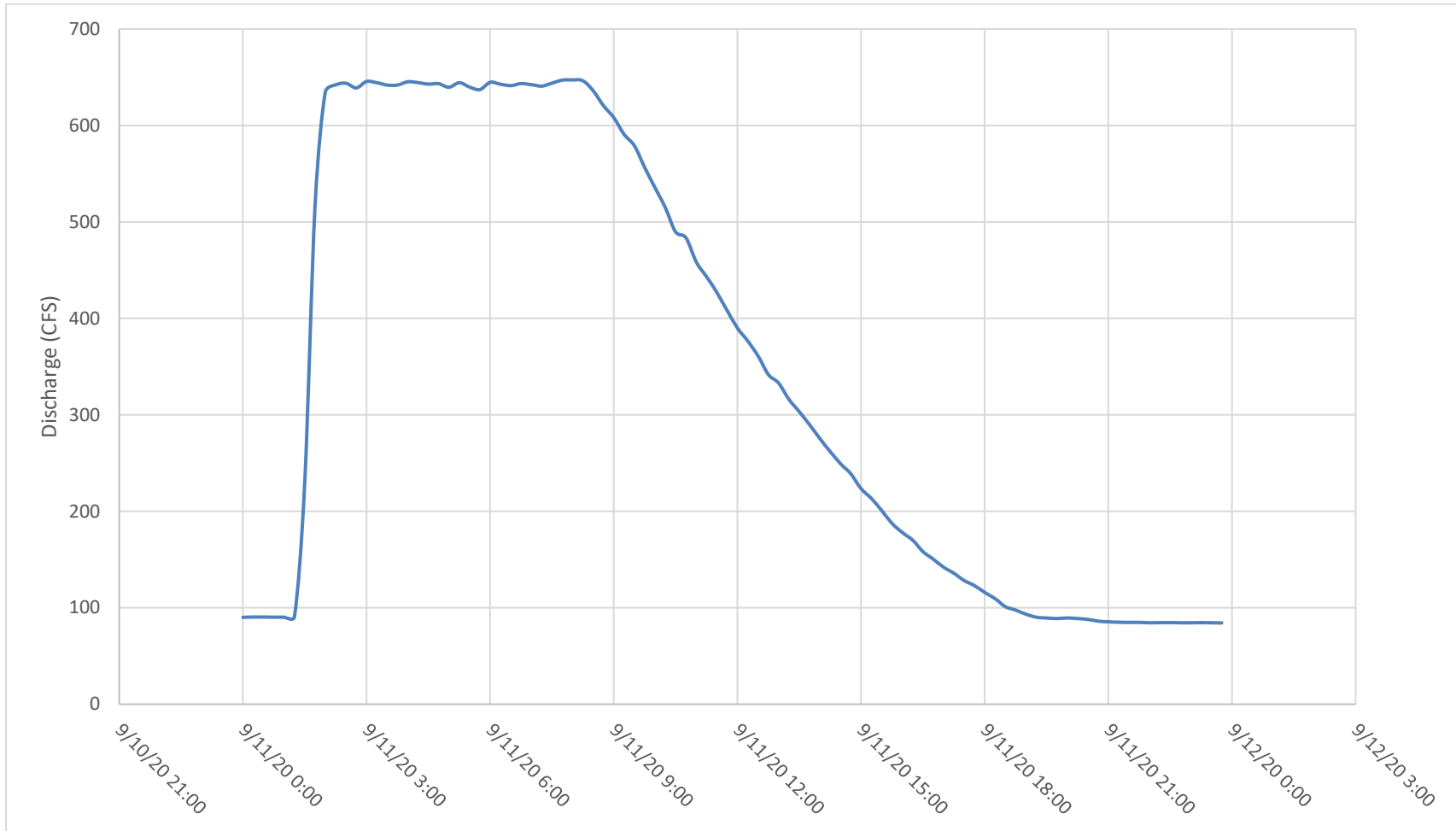


Figure 2. Sultan River immediately upstream of Diversion Dam – 09/11/2020.

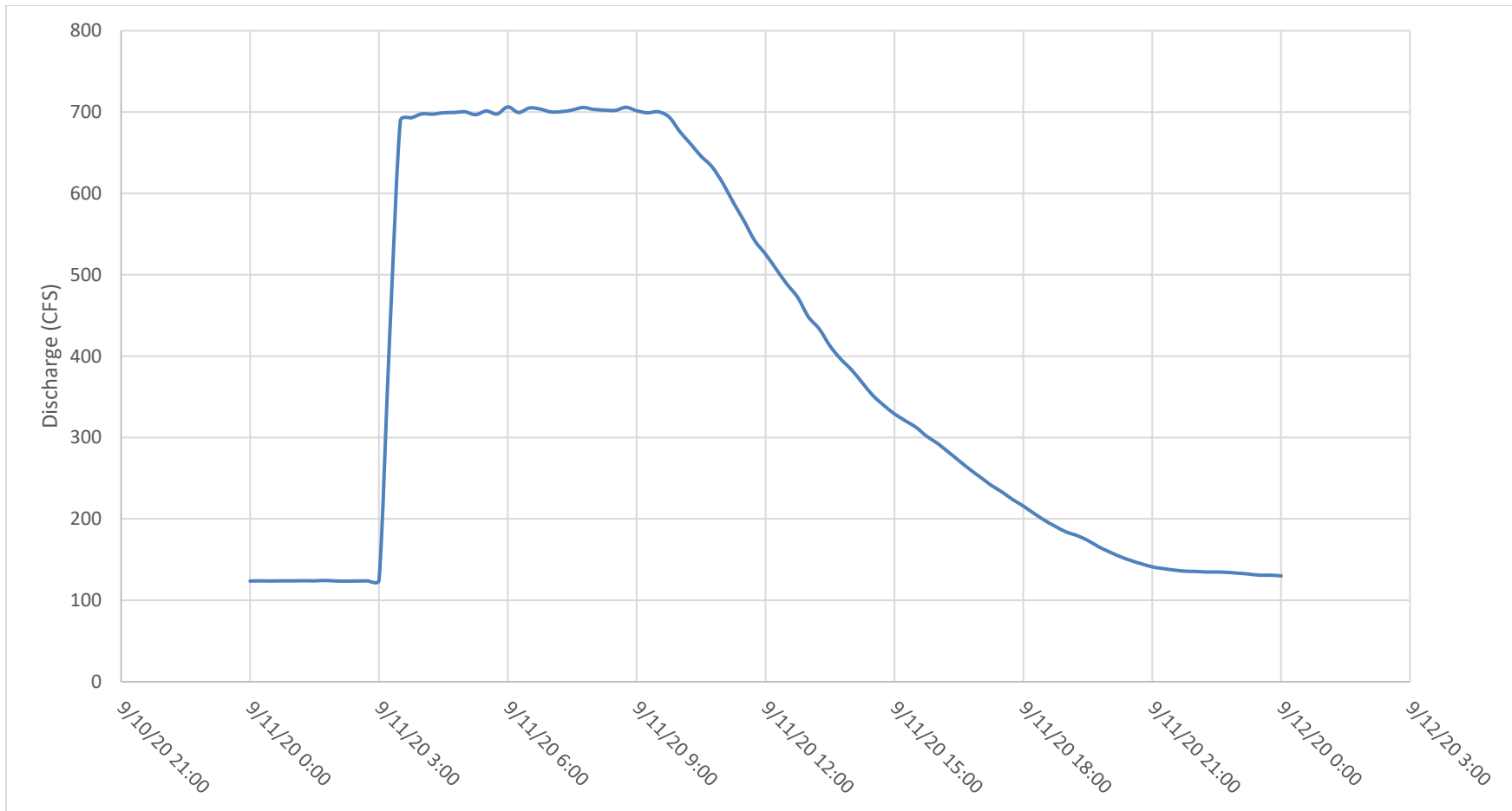


Figure 3. Sultan River immediately upstream of Powerhouse – 09/11/2020.

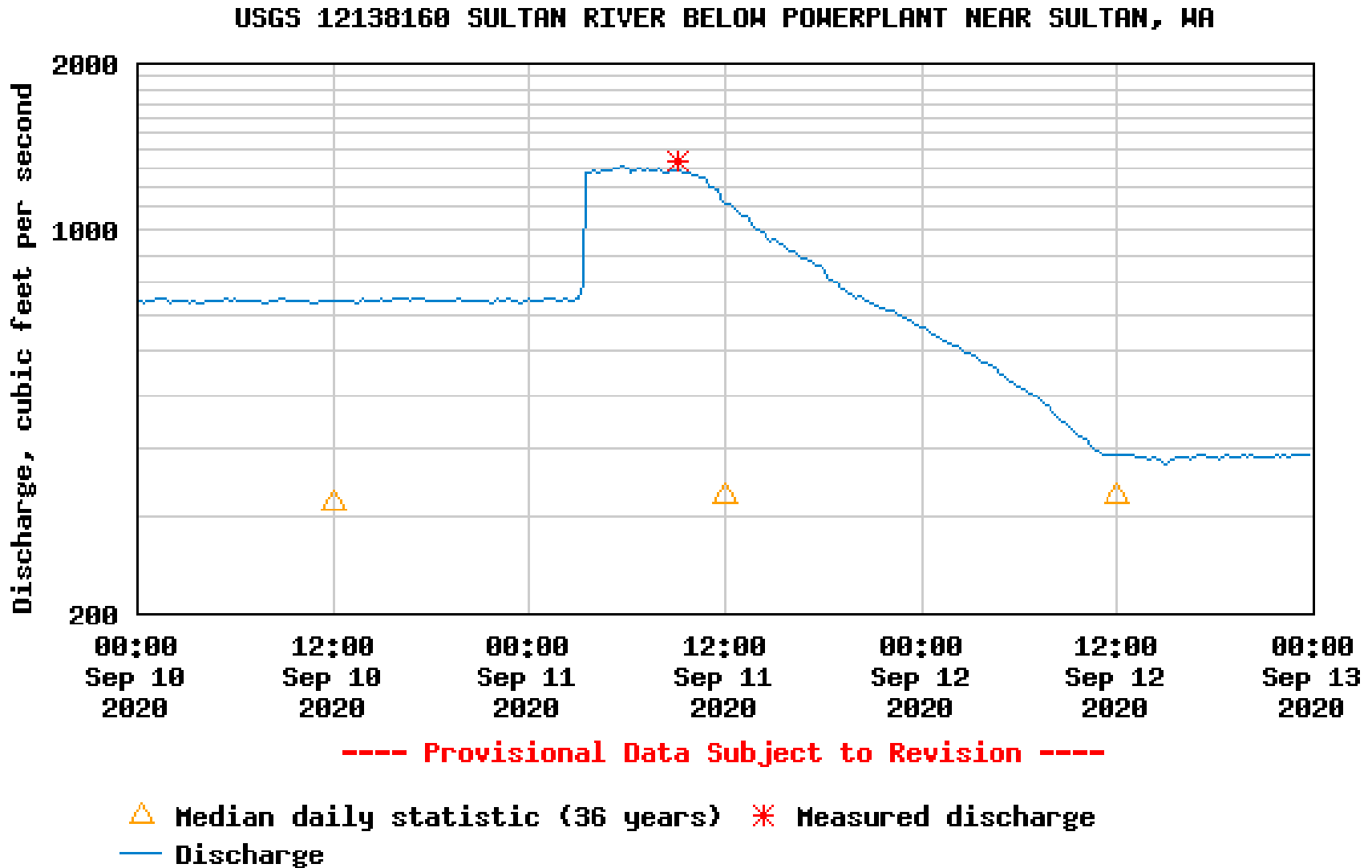


Figure 4. Sultan River immediately downstream of Powerhouse – 09/11/2020.

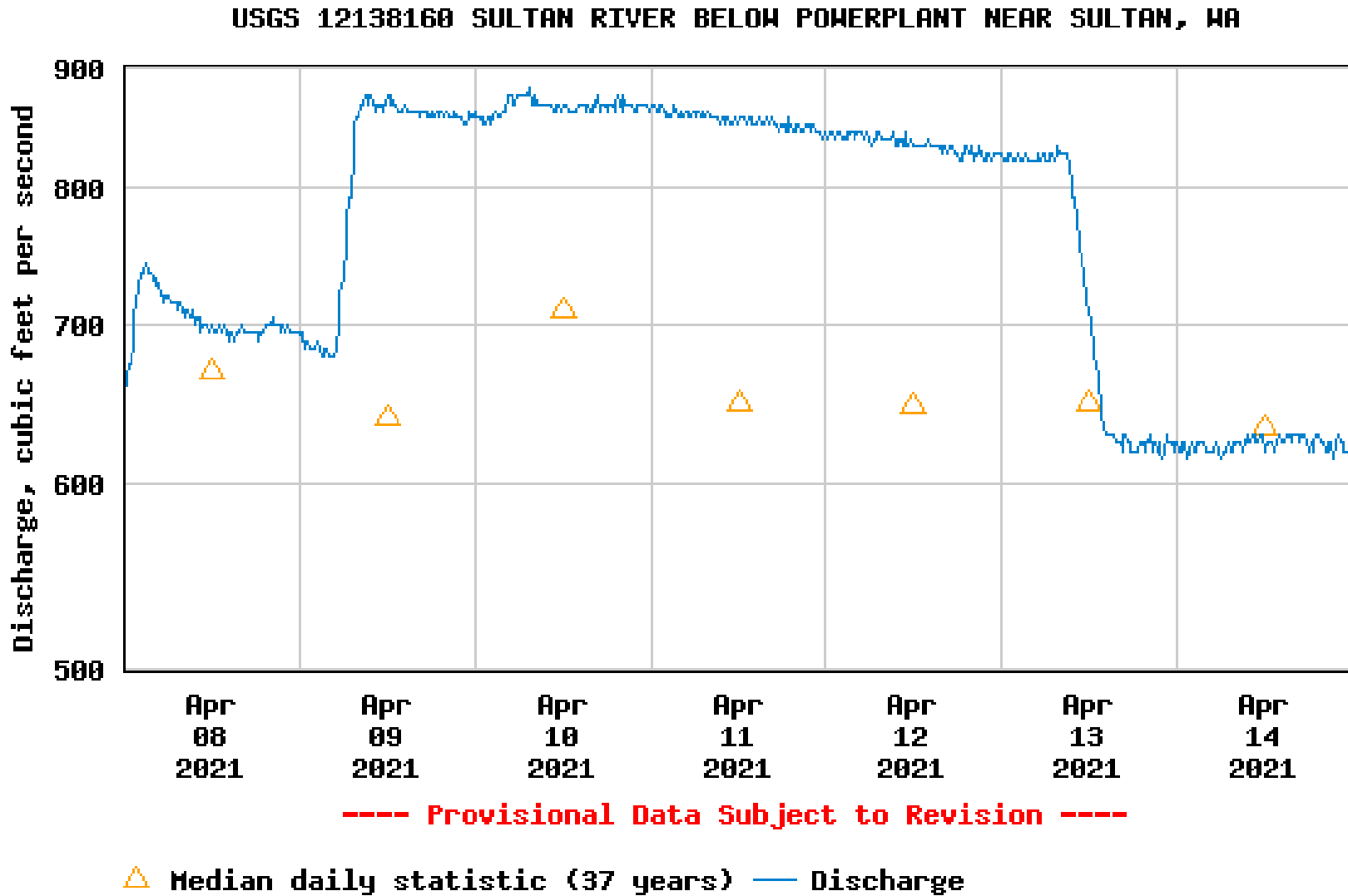


Figure 5. Sultan River immediately downstream of Powerhouse – 04/9-13/2021.

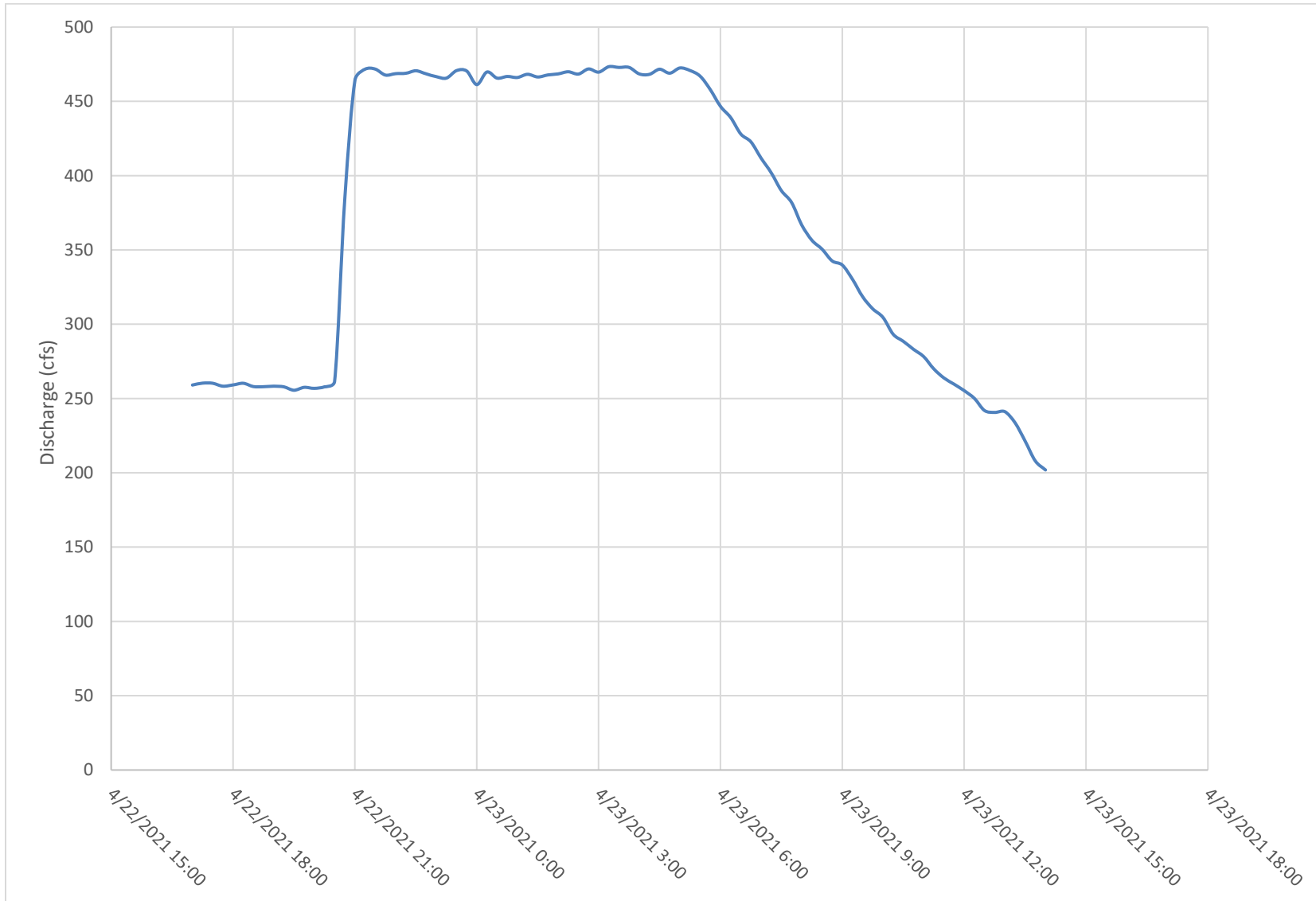


Figure 6. Sultan River immediately upstream of Powerhouse – 04/23/2021.

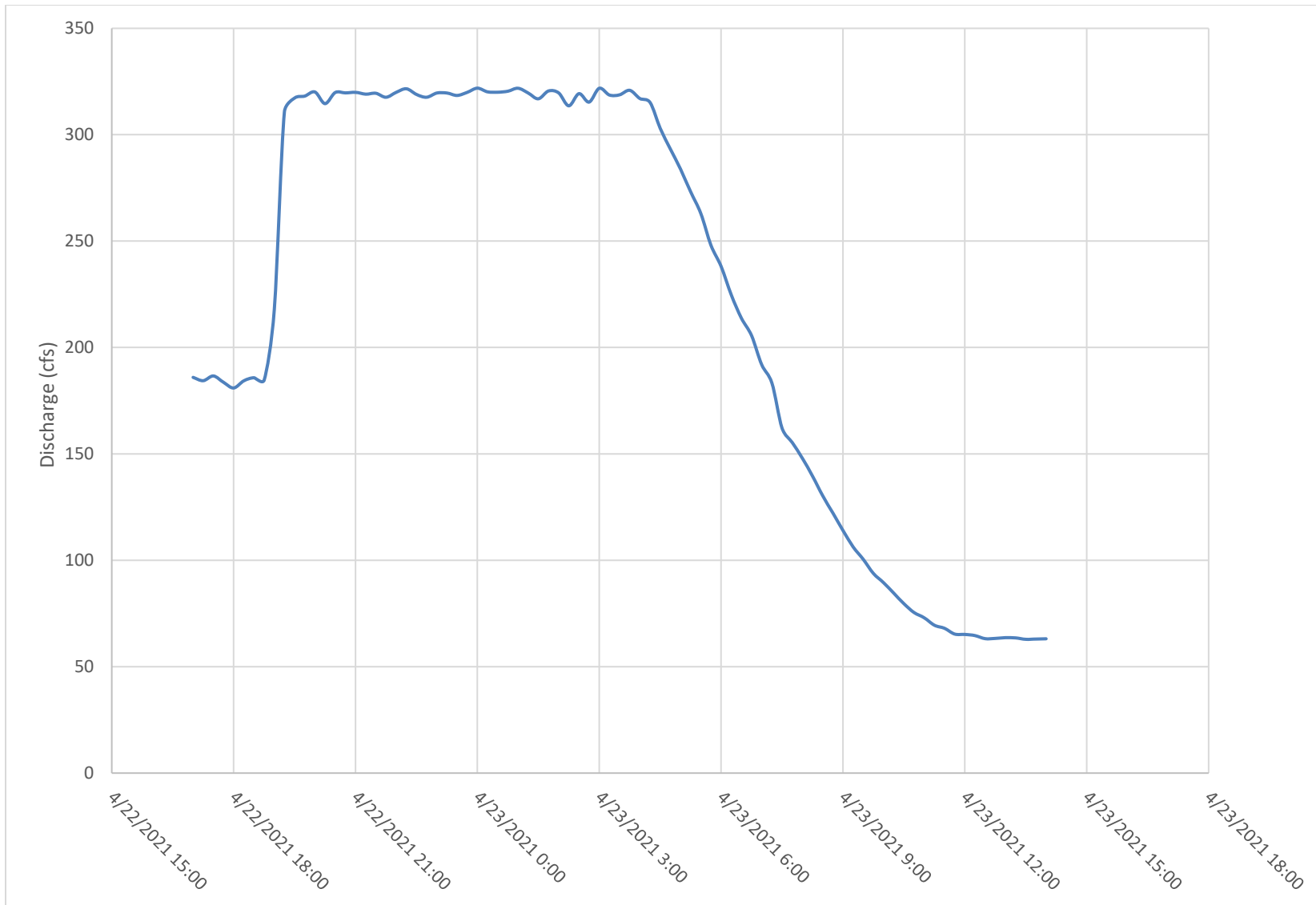


Figure 7. Sultan River immediately upstream of Diversion Dam – 04/23/2021.

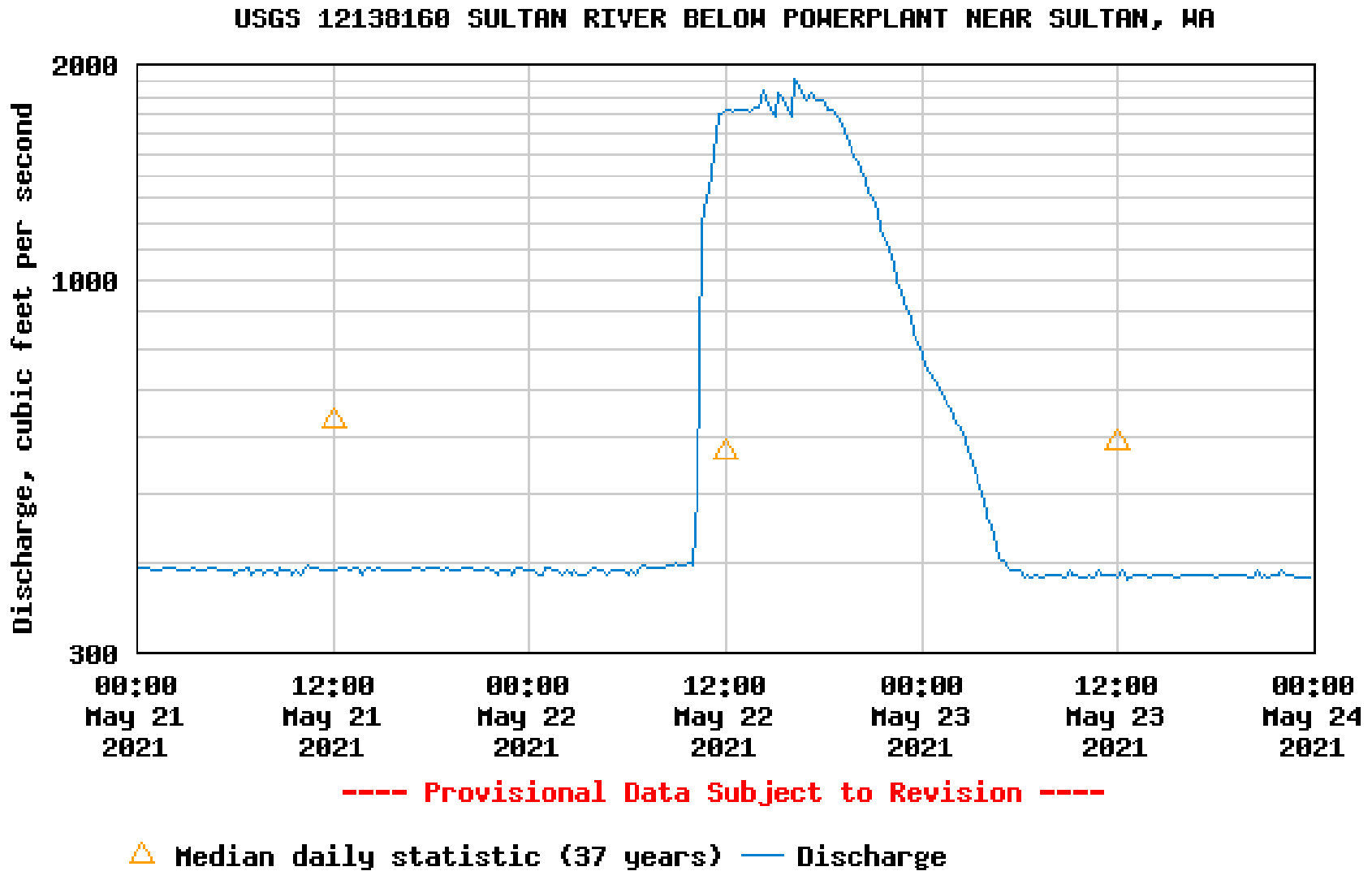


Figure 8. Sultan River immediately downstream of Powerhouse – 05/22/2021.

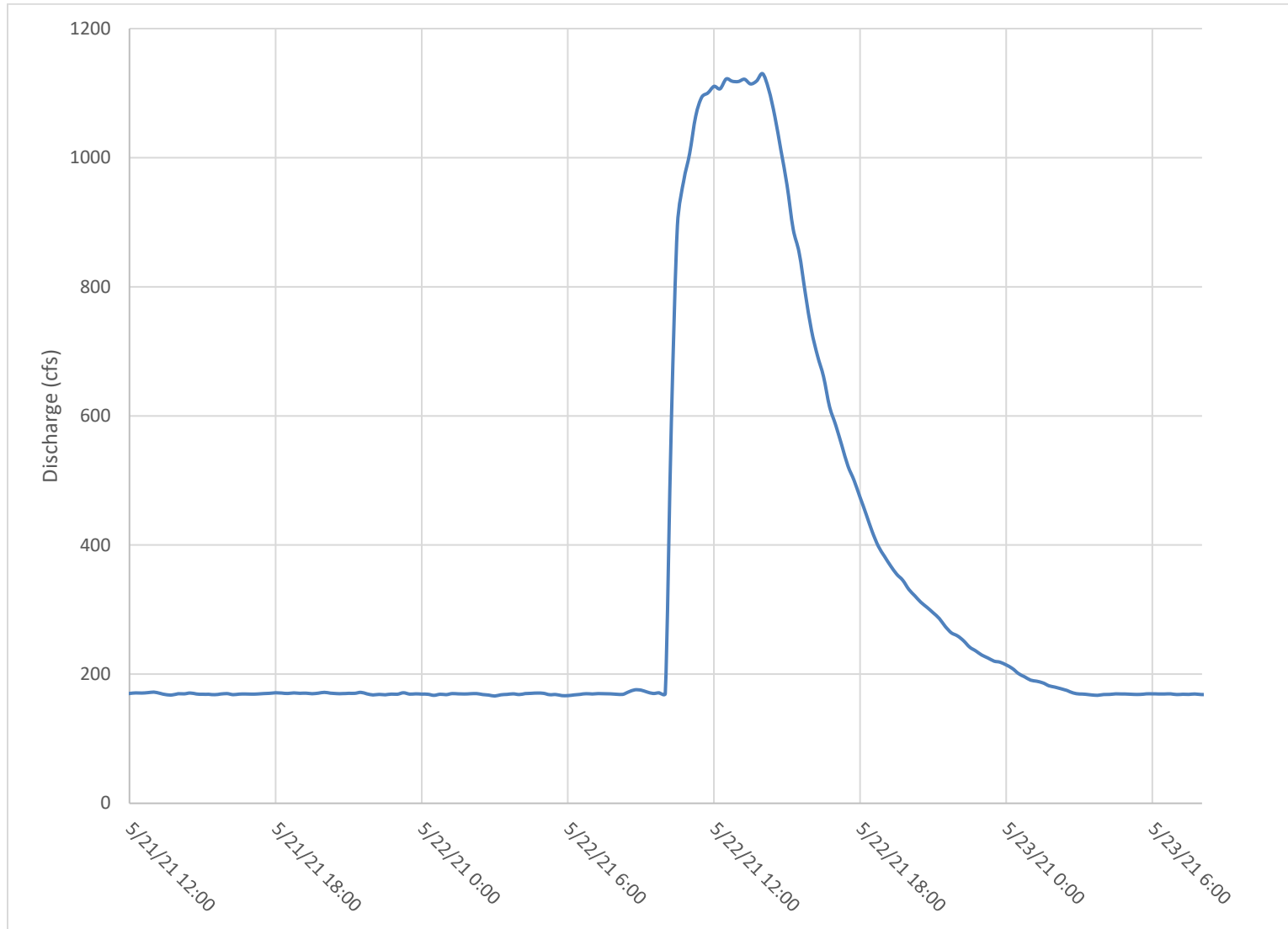


Figure 9. Sultan River immediately upstream of Powerhouse – 05/22/2021.

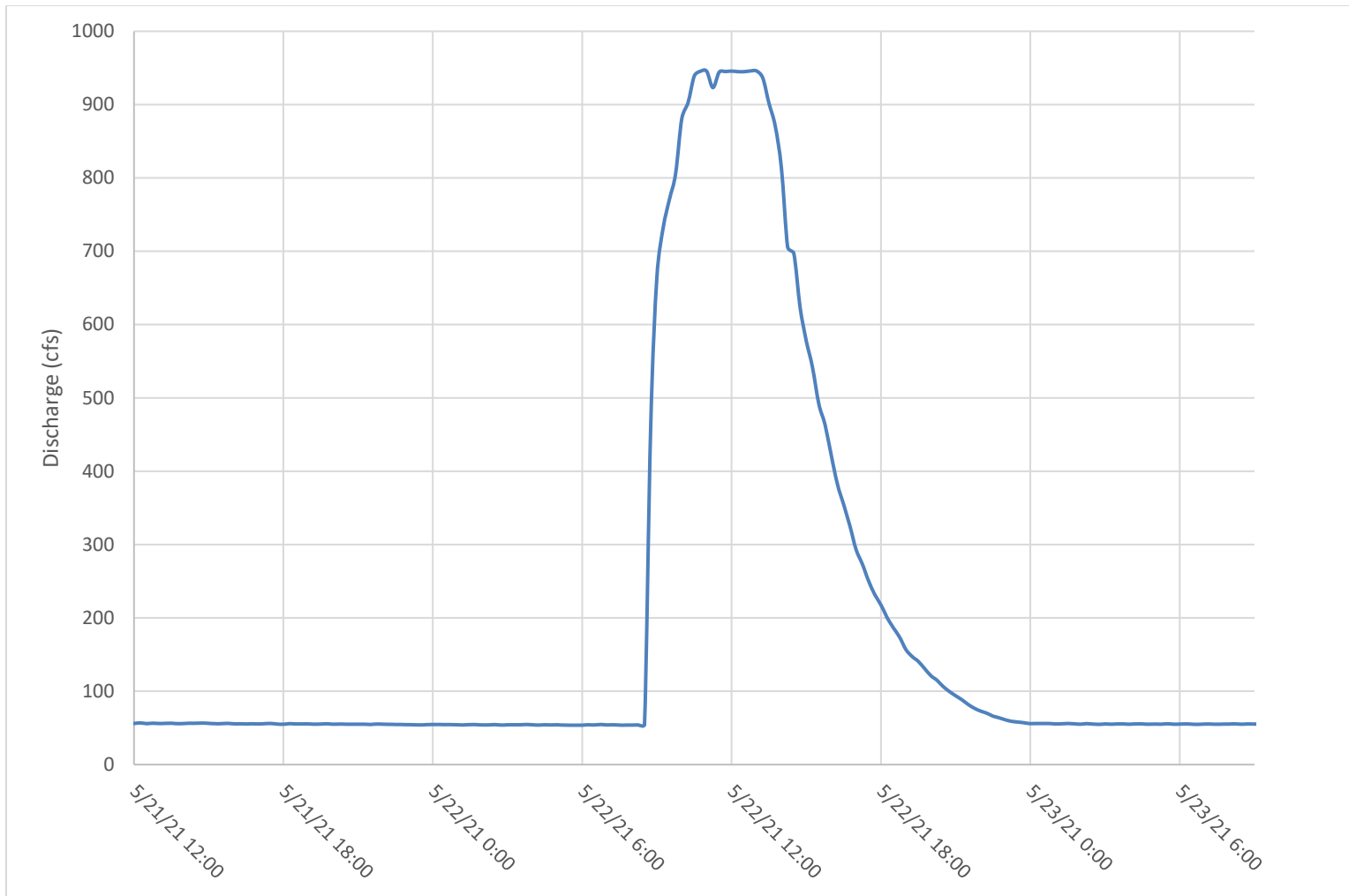


Figure 10. Sultan River immediately upstream of Diversion Dam – 05/22/2021.

3. SPADA LAKE RESERVOIR WATER SURFACE ELEVATIONS

During this reporting period, Spada Lake Reservoir daily water surface elevations ranged between 1,404.5 and 1,448.8 feet msl, with the low on April 15, 2021, and the high on July 4, 2020. Figure 11 displays the daily water surface elevations of Spada Lake Reservoir, and Appendix 1 contains the data in tabular format.

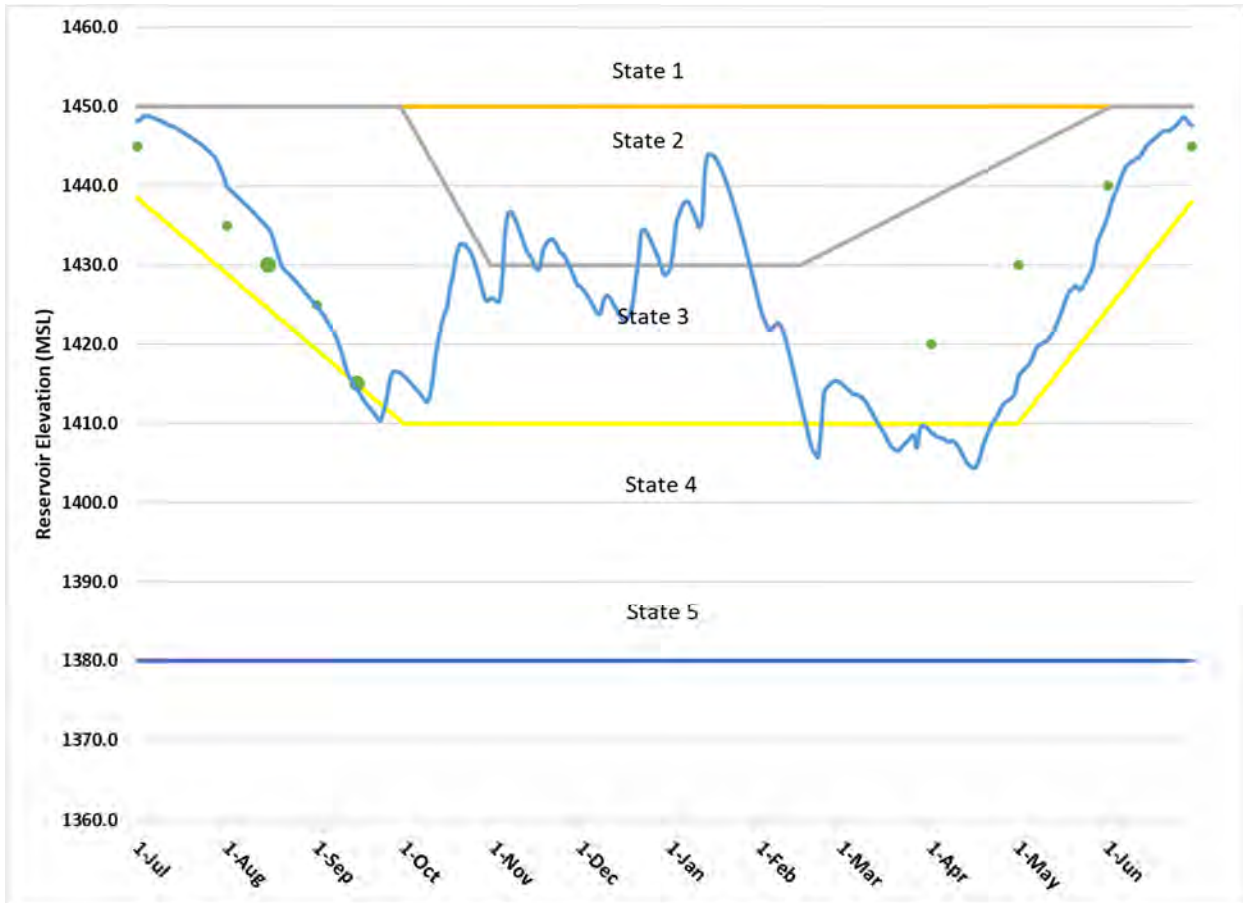


Figure 11. Daily water surface elevation, Spada Lake Reservoir, July 1, 2020 – June 30, 2021.

4. DEVIATIONS FROM STATE 3

License Article 406 requires:

When Spada Lake is in State 3, subject to meeting the (1) City of Everett’s water supply requirements and other conditions of this license, ...[a]fter 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

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

In 2020, the water surface in Spada Lake Reservoir dropped below the Project's License Article 406 target elevation of 1,415 feet msl. Specifically, on September 14, 2020, the Spada Lake Reservoir dropped below 1,415 feet msl mid-day and continued to decline to an elevation of 1,414.6 feet msl at the end of the day. FERC was notified of this deviation and in its response letter dated November 5, 2020, stated that the deviation will not be considered a violation of Article 406. Appendix 2 contains documentation regarding this deviation.

Appendix 1

Spada Lake Reservoir Daily Elevations Tabular Format

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
7/1	1448.2		8/1	1439.9		9/1	1424.8
7/2	1448.3		8/2	1439.6		9/2	1424.3
7/3	1448.6		8/3	1439.2		9/3	1423.9
7/4	1448.8		8/4	1438.9		9/4	1423.3
7/5	1448.8		8/5	1438.5		9/5	1422.7
7/6	1448.7		8/6	1438.1		9/6	1422.1
7/7	1448.5		8/7	1437.8		9/7	1421.4
7/8	1448.4		8/8	1437.5		9/8	1420.7
7/9	1448.2		8/9	1437.1		9/9	1419.6
7/10	1448.1		8/10	1436.7		9/10	1418.5
7/11	1447.9		8/11	1436.3		9/11	1417.1
7/12	1447.6		8/12	1436.0		9/12	1416.1
7/13	1447.5		8/13	1435.6		9/13	1415.5
7/14	1447.4		8/14	1435.2		9/14	1414.6
7/15	1447.2		8/15	1434.8		9/15	1414.4
7/16	1446.9		8/16	1434.3		9/16	1413.8
7/17	1446.7		8/17	1433.3		9/17	1413.1
7/18	1446.5		8/18	1432.1		9/18	1412.6
7/19	1446.3		8/19	1430.9		9/19	1412.2
7/20	1446.0		8/20	1429.9		9/20	1411.7
7/21	1445.8		8/21	1429.4		9/21	1411.2
7/22	1445.5		8/22	1429.0		9/22	1410.7
7/23	1445.2		8/23	1428.7		9/23	1410.4
7/24	1444.9		8/24	1428.3		9/24	1411.5
7/25	1444.6		8/25	1427.9		9/25	1412.9
7/26	1444.3		8/26	1427.5		9/26	1415.1
7/27	1444.0		8/27	1427.0		9/27	1416.3
7/28	1443.6		8/28	1426.6		9/28	1416.6
7/29	1442.8		8/29	1426.1		9/29	1416.6
7/30	1442.0		8/30	1425.7		9/30	1416.4
7/31	1441.1		8/31	1425.2			

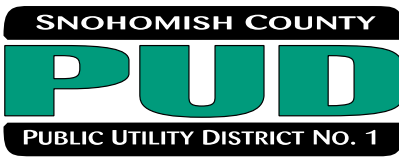
Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
10/1	1416.1		11/1	1425.7		12/1	1427.3
10/2	1415.7		11/2	1425.5		12/2	1426.9
10/3	1415.3		11/3	1425.4		12/3	1426.4
10/4	1414.9		11/4	1428.2		12/4	1425.8
10/5	1414.5		11/5	1434.1		12/5	1425.2
10/6	1414.1		11/6	1436.4		12/6	1424.5
10/7	1413.6		11/7	1436.7		12/7	1423.8
10/8	1413.2		11/8	1436.2		12/8	1424.0
10/9	1412.7		11/9	1435.3		12/9	1425.6
10/10	1413.6		11/10	1434.3		12/10	1426.1
10/11	1415.4		11/11	1433.3		12/11	1425.9
10/12	1418.5		11/12	1432.2		12/12	1425.4
10/13	1420.6		11/13	1431.5		12/13	1424.7
10/14	1422.4		11/14	1430.9		12/14	1424.0
10/15	1423.8		11/15	1430.1		12/15	1423.5
10/16	1424.7		11/16	1429.5		12/16	1423.0
10/17	1427.1		11/17	1429.6		12/17	1423.3
10/18	1428.7		11/18	1431.8		12/18	1423.7
10/19	1430.9		11/19	1432.5		12/19	1425.1
10/20	1432.3		11/20	1433.1		12/20	1427.9
10/21	1432.7		11/21	1433.3		12/21	1430.6
10/22	1432.7		11/22	1433.0		12/22	1434.2
10/23	1432.2		11/23	1432.3		12/23	1434.5
10/24	1431.7		11/24	1431.6		12/24	1434.0
10/25	1430.9		11/25	1431.4		12/25	1433.3
10/26	1429.8		11/26	1430.8		12/26	1432.5
10/27	1428.5		11/27	1430.0		12/27	1431.7
10/28	1427.2		11/28	1429.2		12/28	1430.7
10/29	1425.8		11/29	1428.3		12/29	1429.6
10/30	1425.5		11/30	1427.5		12/30	1428.7
10/31	1425.9					12/31	1429.0

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
1/1	1429.7		2/1	1424.6		3/1	1415.1
1/2	1431.9		2/2	1423.5		3/2	1414.8
1/3	1435.3		2/3	1422.6		3/3	1414.4
1/4	1436.4		2/4	1421.8		3/4	1414.1
1/5	1437.3		2/5	1422.0		3/5	1413.8
1/6	1437.9		2/6	1422.3		3/6	1413.7
1/7	1438.0		2/7	1422.7		3/7	1413.6
1/8	1437.4		2/8	1422.4		3/8	1413.3
1/9	1436.6		2/9	1421.6		3/9	1413.0
1/10	1435.7		2/10	1420.3		3/10	1412.4
1/11	1434.7		2/11	1418.9		3/11	1411.8
1/12	1435.8		2/12	1417.4		3/12	1411.1
1/13	1442.2		2/13	1415.9		3/13	1410.4
1/14	1443.9		2/14	1414.2		3/14	1409.8
1/15	1443.9		2/15	1412.6		3/15	1409.3
1/16	1443.7		2/16	1411.1		3/16	1408.6
1/17	1443.2		2/17	1409.6		3/17	1407.9
1/18	1442.6		2/18	1408.0		3/18	1407.2
1/19	1441.7		2/19	1406.8		3/19	1406.9
1/20	1440.8		2/20	1406.2		3/20	1406.6
1/21	1439.7		2/21	1405.8		3/21	1406.7
1/22	1438.6		2/22	1409.4		3/22	1407.2
1/23	1437.4		2/23	1413.8		3/23	1407.5
1/24	1436.2		2/24	1414.6		3/24	1407.9
1/25	1434.9		2/25	1414.9		3/25	1408.3
1/26	1433.5		2/26	1415.3		3/26	1408.6
1/27	1432.1		2/27	1415.4		3/27	1407.0
1/28	1430.7		2/28	1415.3		3/28	1409.2
1/29	1429.2					3/29	1409.7
1/30	1427.7					3/30	1409.7
1/31	1426.1					3/31	1409.3

Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)		Date	Reservoir Elevation (feet)
4/1	1408.9		5/1	1415.9		6/1	1436.3
4/2	1408.6		5/2	1416.5		6/2	1437.7
4/3	1408.4		5/3	1416.8		6/3	1438.8
4/4	1408.2		5/4	1417.2		6/4	1439.5
4/5	1408.2		5/5	1417.7		6/5	1440.6
4/6	1407.9		5/6	1418.4		6/6	1441.5
4/7	1407.7		5/7	1419.4		6/7	1442.3
4/8	1407.9		5/8	1419.9		6/8	1442.7
4/9	1407.7		5/9	1420.1		6/9	1443.0
4/10	1407.2		5/10	1420.3		6/10	1443.2
4/11	1406.7		5/11	1420.5		6/11	1443.5
4/12	1406.0		5/12	1421.0		6/12	1443.7
4/13	1405.3		5/13	1421.5		6/13	1444.3
4/14	1404.8		5/14	1422.3		6/14	1444.9
4/15	1404.5		5/15	1423.2		6/15	1445.3
4/16	1404.5		5/16	1424.2		6/16	1445.6
4/17	1405.0		5/17	1425.2		6/17	1445.9
4/18	1406.1		5/18	1426.3		6/18	1446.3
4/19	1407.4		5/19	1426.8		6/19	1446.6
4/20	1408.4		5/20	1427.1		6/20	1446.9
4/21	1409.2		5/21	1427.4		6/21	1446.9
4/22	1410.1		5/22	1426.9		6/22	1446.9
4/23	1410.6		5/23	1427.2		6/23	1447.1
4/24	1411.2		5/24	1427.8		6/24	1447.4
4/25	1411.9		5/25	1428.5		6/25	1447.8
4/26	1412.5		5/26	1429.1		6/26	1448.3
4/27	1412.8		5/27	1430.3		6/27	1448.6
4/28	1413.1		5/28	1432.5		6/28	1448.4
4/29	1413.4		5/29	1433.6		6/29	1447.8
4/30	1414.1		5/30	1434.4		6/30	1447.6
			5/31	1435.3			

Appendix 2

Documentation Regarding Spada Lake Reservoir Deviation



Energizing Life in Our Communities

September 21, 2020

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 on September 15, 2020**

Dear Secretary Bose:

This letter is to notify the Commission of a deviation that occurred at the Public Utility District No. 1 of Snohomish County's (the District) Jackson Hydroelectric Project (Project) related to the target elevation of 1,415 feet msl (defined for the period of August 16 to September 15, 2020) under License Article 406: Spada Lake Water Management. Specifically, on September 14, 2020, the Spada Lake Reservoir dropped below 1,415 feet msl mid-day and continued to decline to an elevation of 1,414.6 feet msl at the end of the day. The reduction in reservoir elevation level did not create any adverse environmental impacts, nor did it impact the usability of the boat ramp at the South Fork Recreation Site. The Aquatic Resource Committee was notified today of this reservoir elevation event. 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,

/s/ Jason A. Zyskowski

Jason A. Zyskowski
Assistant General Manager of Facilities, Generation, Power, Rates and Transmission
Management
JAZyskowski@snopud.com
(425) 783-4332

cc: ARC

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2157-251, -252, -253-- Washington
Henry M. Jackson Hydroelectric Project
PUD No. 1 of Snohomish County

November 5, 2020

VIA FERC Service

Mr. Bradley Spangler
PUD No. 1 of Snohomish County
2320 California Street
P.O. Box 1107
Everett, WA 98206-1107

Subject: Downramping Rate Deviations and Reservoir Level Deviation – Water Quality Certification Condition 5.2 and Article 406

Dear Mr. Spangler:

This is in response to your reports submitted on June 5, September 17 and 21, 2020, concerning downramping rate 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, as set forth in 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,

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

attached as Appendix A of the license. Condition 5.2 of the WQC requires you to implement and comply with downramping 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 downramping rate of two-inches per hour during the day when the flow is between 600 and 300 cubic feet per second (cfs), and from June 1 to September 15, at a maximum downramping rate of no more than 2 -inches per hour when the flow is less than 1,500 cfs. You must track downramping rates on a 15-minute basis as monitored at the U.S. Geological Survey (USGS) Gage No. 12137800. You must limit the downramping rate to no more than 0.5 feet per hour, or 1.5 inches per hour, and no four consecutive 15-minute downramping rates, in total, will exceed the hourly rates shown in the schedule. If project operations result in exceedance of the required downramping 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.

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.

Deviations

June 5, 2020 filing

In the filing, you report that on May 26, 2020, between 6:30 and 7:30 am, you recorded a reduction in downramping rate of 2.64 inches as measured at the USGS Gage No. 12138000, located on the Sultan River below the powerhouse near Sultan, Washington. This reduction exceeded the required 2 inches per hour when the flow range is between 600 to 300 cfs during January 1 to May 31. The deviation was due to a faulty surge protection fuse on the communication device.³ You explain that at 4:30 am an alarm alerted your operator of a faulty problem and the on-call operator went immediately to the powerhouse. At 6:30 am, a faulty surge protection caused the plant to go offline. Your operator manually opened the bypass valves to bring the system to the downramping rate requirements. Your filing includes an electronic correspondence dated June 5, 2020, in which you notified the incident to the ARC, as required by your license. You did not receive any comments regarding the incident.

In addition, you explain that downramping rates are required for the protection of juvenile fish stranding in the reconnected side channels. You did not conduct any surveys for stranding fish because during the month of May because juvenile fish are small and less vulnerable to stranding from flow reductions during this time of the year. You state that due to the small magnitude of the downramping rate exceedance (0.64 inches) and short duration (15 minutes) of the incident, the potential impact on the aquatic resources was negligible. However, you have replaced the fuse on the communications link and checked all terminations in this critical system to prevent recurrence of similar incidents.

September 17, 2020 filing

In the filing, you report that on September 8, 2020, between 11:00 and 11:15 am, you recorded a reduction in downramping rate of 3.84 inches as measured at the USGS Gage No. 12138000. This reduction exceeded the required 2 inches per hour when the flow is less than 1,500 cfs during June 1 to September 15. The deviation was due to a damaged turbine nozzle that resulted in the necessary closing of the Turbine Shutoff Valve (TSV) to prevent further damage to the turbine and generator equipment. You explain that in the morning of September 8th, Unit 2 was on-line and generating, and Unit

³ The communication device alerts the plant to a tunnel over velocity. A fail-safe system would detect a pipeline break.

1 was offline. At approximately 10:16 am, you placed Unit 1 on-line as scheduled. However, at approximately 10:23 am, an alarm alerted your operator that the nozzle # 2 on Unit 1 was stuck and not responding to the commands of the governor Programmable Logic Controller (PLC). In addition, other alarms alerted your operator that the water flow through the nozzles was unstable resulting in unbalanced torque on the turbine. The PLC opened the nozzle on the opposite side of the stuck nozzle to balance the torque in the turbine. This action resulted in a reduction in water flow through the remaining nozzles. At 10:43 am, the plant engineer attempted to ramp down the generator and turbine to take Unit 1 offline and assess the situation. As Unit 1 ramped down in power, the water flowing against the turbine became unbalanced again. Although the four properly function nozzles closed completely and flow deflectors engaged, the stuck nozzle and the one opposite to it remained 100% open. The full flow from two nozzles against the deflectors resulted in backwards torque on the turbine, causing the turbine to rotate in an inverse incorrect direction. This condition could damage the bearings. Therefore, your operator closed Unit 1 TSV to stop all water flow through the turbine. The rapid closing of the TSV resulted in a reduction of flow in the river at the powerhouse.

In addition, you explain that during the month of September, juvenile fish, mainly steelhead trout, are present and in a size vulnerable to stranding during downramping events. However, due to the short duration of the incident (15 minutes) it is unlikely that juvenile fish were stranded. In reference to adult fish, Chinook salmon begin spawning in September with peak spawning between September 15 and October 15. Therefore, you conducted a survey downstream of the powerplant on September 3, 2020 and did not find any acting spawning to document. You filed notification to the ARC concurrently with your report. In addition, to prevent recurrence of similar incidents you have repaired the failed nozzle, inspected/tested the remaining nozzles and have revised the operating plan to include procedures in the event of malfunction nozzles occurs in the future.

September 21, 2020 filing

In the filing, you report that on September 15, 2020, the impoundment water surface elevation at Spada Lake dropped below the required minimum target elevation of 1,415.0 feet msl and continued to decline to an elevation of 1,414.6 feet msl, at the end of the day. This reduction of water level may have been a result of dry weather conditions at this time of the year. However, you report that it did not create any adverse environmental impacts, nor did it impact the usability of the boat ramp at the South Fork recreation site. Your filing includes an electronic correspondence dated September 21, 2020, in which you notified the incident to the ARC, as required by your license. You did not receive any comments regarding the incident. Furthermore, you indicate that the incident will be documented in the annual operational compliance monitoring report as

required by Article 407 of your license.

Conclusion

After reviewing the information provided, we determined that the downramping rate deviations that occurred on May 26, 2020 and September 8, 2020, at the Henry M. Jackson Project were due to a faulty fuse and stuck nozzle, respectively that you have already replaced. The reservoir level deviation occurred on September 15, 2020 was due to weather conditions that resulted in a reduction of the required water level. However, access to recreational fishing and boat ramps were not impacted due to the incident. Therefore, these deviations will not be considered violations of your license. 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

Ms. Dawn Presler
Sr. Environmental Coordinator
PUD No. 1 of Snohomish County
DJPresler@snopud.com

Appendix 3

Consultation Documentation Regarding Draft Report

Presler, Dawn

From: Presler, Dawn
Sent: Monday, August 9, 2021 3:26 PM
To: Anne Savery; Brock Applegate; Janet Curran; Jeff Garnett; Jen Ford; Jim Pacheco; Mike Rustay; Nate Morgan; Tom O'Keefe; 'Jennifer Bailey'
Cc: Andrew McDonnell; Keith Binkley; snasr@everettwa.gov
Subject: JHP (FERC No. 2157) - draft Operation Compliance Monitoring Plan annual report
Attachments: 202110 OCMP Annual Report WY 20-21 DRAFT for 30d consult.pdf

Dear ARC Members:

Attached is the Operation Compliance Monitoring Plan (OCMP) draft annual report for WY20-21 (July 1, 2020 – June 30, 2021) for 30-day review and comment period. Please submit comments, if any, back to me by September 8, 2021. Emails regarding having no comments or concurring with the report are appreciated too! Thanks.

Cheers,

Dawn Presler

Sr. Environmental Coordinator
Generation – Natural Resources
Snohomish County PUD No. 1
Everett, WA

(425) 783-1709 (work)

CERTIFICATE OF SERVICE

I hereby certify that I have served via e-mail on this day, a copy of the foregoing filing upon each person on the Project's Aquatic Resource Committee in accordance with ordering paragraph K of the Project license issued by the Federal Energy Regulatory Commission on September 2, 2011.

Dated at Everett, Washington, September 24, 2021.



Dawn Presler, Sr. Environmental Coordinator
Public Utility District No. 1 of Snohomish County
PO Box 1107
Everett, WA 98206-1107
Phone: (425) 783-1709
E-mail: DJPresler@snopud.com

Presler, Dawn

From: Presler, Dawn
Sent: Friday, September 24, 2021 8:53 AM
To: Anne Savery; Brock Applegate; Janet Curran; Jeff Garnett; Jen Ford; Jennifer Bailey; Jim Pacheco; Mike Rustay; Nate Morgan; Tom O'Keefe
Cc: Keith Binkley; Andrew McDonnell
Subject: JHP (FERC No. 2157) - cc Operation Compliance Monitoring Plan - WY20-21 Annual Report
Attachments: 202109 OCOMP Annual Report WY 20-21.pdf

Dear ARC,

Attached is your cc of the e-filing I will be making with the FERC this morning regarding the Jackson Project's Operation Compliance Monitoring Plan - WY20-21 Annual Report. Let me know if you have questions regarding the attached.

Cheers,

Dawn Presler

Sr. Environmental Coordinator
Generation – Natural Resources
Snohomish County PUD No. 1
Everett, WA

(425) 783-1709 (work)