

State of Idaho
Department of Water Resources
Water Right License
Water Right No. 1-7128

Priority: October 23, 1996

Maximum Diversion Rate: 7,500.00 CFS

It is hereby certified that:

IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707-0070

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated October 23, 1996, and has submitted Proof of Beneficial Use on April 22, 2022. An examination confirms water is diverted from:

Source : SNAKE RIVER

Tributary: COLUMBIA RIVER

Beneficial Use

POWER

Period of Use

01/01 to 12/31

Rate of Diversion

7,500.00 CFS

Location of Point(s) of Diversion

SNAKE RIVER SW¼ SE¼, Sec. 30, Twp 07S, Rge 31E, B.M. POWER County

Place of Use: POWER

Twp	Rng	Sec	NE				NW				SW				SE			
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE
07S	31E	30															X	

Conditions of Approval

1. Power generation is at the American Falls Power Plant.
2. The right for the use of water acquired under this right shall be junior and subordinate to all other rights for the use of water within the State of Idaho that are initiated later in time than the priority of this right and shall not give rise to any claim against any future rights for the use of water within the State of Idaho initiated later in time than the priority of this right.
3. The term of this permit shall run concurrently with the license for the American Falls Hydroelectric Project No. 2736 issued by the Federal Energy Regulatory Commission (FERC), which expires on February 28, 2025. The term shall automatically extend to run concurrently with any annual renewals of the project's FERC license. Prior to the issuance of a subsequent or new FERC license for the project, the Director may review the permit or subsequent water right license and may issue an order canceling all or any part of the use, establishing a new term, or revising, adding or deleting conditions under which the water right may be exercised. The order shall take effect on the date the current term, as may be extended through annual renewals, expires. If the Director does not issue such an order, the term shall automatically extend to a length equal to the project's subsequent or new FERC license and any prior conditions on the permit or subsequent water right license shall remain in effect.
4. Use of water under this right may be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 01.

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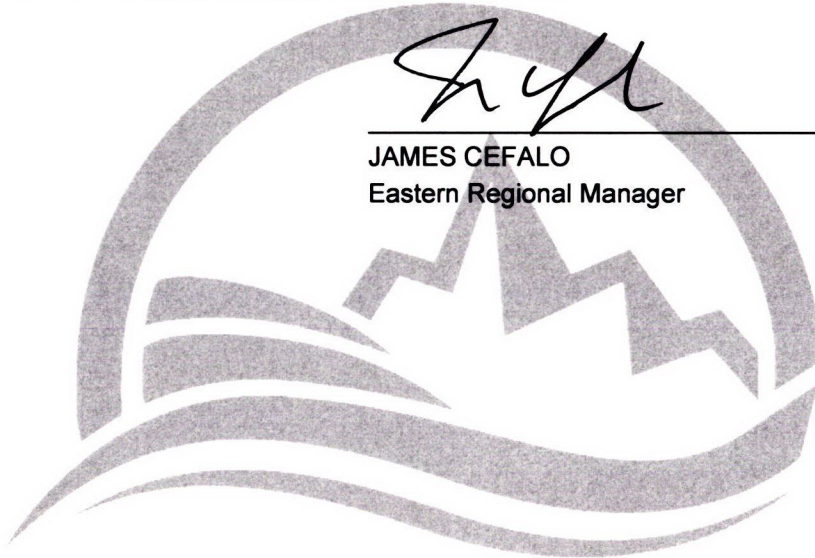
5. Use of water under this right shall be non-consumptive.
6. This right is subject to the provisions of Idaho Code §§ 42-205 through 42-210, restricting the sale, transfer, assignment, or mortgage of this right. Failure to comply with these provisions is cause for immediate cancellation of this right.
7. This right does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

This license is issued pursuant to the provisions of Idaho Code § 42-219. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed this 13th day of October, 2022.



JAMES CEFALO
Eastern Regional Manager



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State of Idaho
Department of Water Resources
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1-7128

31E



-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters
-  Point of Diversion

0 0.035 0.07 0.14 Miles

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IDAHO DEPARTMENT OF
WATER RESOURCES

Eastern Region • 900 N Skyline Drive, Suite A • Idaho Falls, ID 83402-1718

Phone: 208-525-7161 • Fax: 208-525-7177 • Email: easterninfo@idwr.idaho.gov • Web: idwr.idaho.gov

Governor Brad Little

Director Gary Spackman

October 13, 2022

IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707-0070

RE: License No. 1-7128

ISSUANCE OF LICENSE

Dear Water Right Holder:

The Department of Water Resources ("Department") has issued the enclosed Water Right License confirming that a water right has been established in accordance with your permit. Please be sure to thoroughly review all the conditions of approval listed on your license. The conditions may include ongoing requirements, such as maintenance of a measuring device or implementation of mitigation, as well as information about how your water use may be administered, such as regulation by a watermaster in a water district.

The license is a PRELIMINARY ORDER issued by the Department pursuant to Rule 730 of the Department's Rules of Procedure (IDAPA 37.01.01.730). It can and will become a final order without further action by the Department unless a party petitions for reconsideration, files exceptions, or requests a hearing as described in the enclosed information sheet.

Also, please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Water right forms are available from any office of the Department or on the Department's website at idwr.idaho.gov

If you have any questions concerning the enclosed information, please contact me at (208) 497-3784.

Sincerely,

James Cefalo
Eastern Regional Manager

Enclosure(s)

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CERTIFICATE OF SERVICE

I hereby certify that on October 13, 2022, I served a true and correct copy of Water Right License No. 1-7128 by U.S. Mail, postage prepaid, to the following:

IDAHO POWER COMPANY
PO BOX 70
BOISE ID 83707-0070

JOHN K SIMPSON
BARKER ROSHOLT & SIMPSON
1010 W JEFFERSON ST STE 102
PO BOX 2139
BOISE ID 83701-2139

WATER DISTRICT #01
900 N SKYLINE DR STE A
IDAHO FALLS ID 83402



Christina Henman
Administrative Asst. I

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 1-7128
Exam Date: 9/6/2022

1. Current Owner: Idaho Power Company
2. Accompanied by: David Blew
Phone No: (208) 388-5292
Address: dblew@idahopower.com
Relationship to permit Holder: Hydrologist

3. SOURCE:

Snake River

Method of Determination: Site visit

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
1-10532	SNAKE RIVER	POWER	DECREED
1-2017	SNAKE RIVER	POWER	DECREED
1-2032	SNAKE RIVER	POWER	DECREED
1-2046	SNAKE RIVER	POWER	DECREED
1-10382	SNAKE RIVER	POWER	DECREED
1-10383	SNAKE RIVER	POWER	DECREED
1-10531	SNAKE RIVER	POWER	DECREED

Comments: _____

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
1-10532	SNAKE RIVER	POWER	DECREED
1-2017	SNAKE RIVER	POWER	DECREED
1-2032	SNAKE RIVER	POWER	DECREED
1-2046	SNAKE RIVER	POWER	DECREED
1-10382	SNAKE RIVER	POWER	DECREED
1-10383	SNAKE RIVER	POWER	DECREED
1-10531	SNAKE RIVER	POWER	DECREED

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:** SWSE Sec. 30 T07S R31E

Method of Determination: Site visit and GPS

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
07S	31E	30															X		

Method of Determination: Site visit and GPS

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3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

☒ Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be

☒ 1:24,000 or greater.☒ Aerial Photo Attached (required for irrigation of 10+ acres).☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
American Falls Power ID No. 933795	N/A	N/A	N/A	N/A	N/A

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Installed Flow Meter	Differential Pressure	Rosemount	1151DP4S22B2	0987246 (Turbine 1) 1103526 (Turbine 2) 1040860 (Turbine 3)	N/A	

2. Measurements:

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method:

Flow measurements were taken prior to the field exam. A record of yearly measurements dating from 2003 to 2021, showing the maximum diversion rate of 16,500 CFS occurring multiple times during this time was provided by Idaho Power Company. The flow meters were observed during the field exam. This data is included in Attachment B. Flow meters are calibrated following a protocol included in Attachment A.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: N/A

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G. NARRATIVE/REMARKS/COMMENTS

Brian Normandeau and I performed a field examination for the licensing of water right number 1-7128 on September 6, 2022. We were accompanied by David Blew, Hydrologist for Idaho Power Company, and escorted by Jim McIntier, Generation Specialist for Idaho Power Company, American Falls Power Plant. We personally observed the penstock connector for one of the three penstocks, the turbine to generator shafts with turbines in operation, the flow meters for each turbine, and the outflows. We also observed where flow meter data is visible and recorded. Each flow meter is calibrated yearly. David Blew provided explanation and a calibration procedure (Attachment A) for these flow meters. The generators have the capacity to generate 36 Megawatts (MW) each, a total of 108 MW. Idaho Power Company stated in their Narrative for Statement of Completion (Attachment B) that an average of 105 MW is generated during periods where a consistent flow of 16,500 CFS occurs (page 4 Attachment B).

In the interest of protecting Critical Energy/Electric Infrastructure Information (CEII) and keeping to rules and regulations set by the Federal Energy Regulatory Commission and section 215A(d) of the Federal Power Act, no photos were taken of infrastructure inside and around the powerhouse and penstocks. Photos of the flow meters for each turbine included in this report were approved and provided by Idaho Power Company.

No flow measurement was taken during the field exam by IDWR staff. Current River flows, powerplant operations, and drought conditions made achieving a maximum flow through the turbines impossible during the field exam. The Department was provided with records supporting a diversion rate of 16,500 CFS occurring multiple times since 2003 (page 2 Attachment B).

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
POWER	1/01 to 12/31	7,500 CFS	N/A AF

Totals: 7,500 CFS N/A AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION Jared Adamson - Water Resource Agent

Field Examiner's Name [Signature] Date 9/22/2022

Reviewer James Cefalo Date 10/12/22

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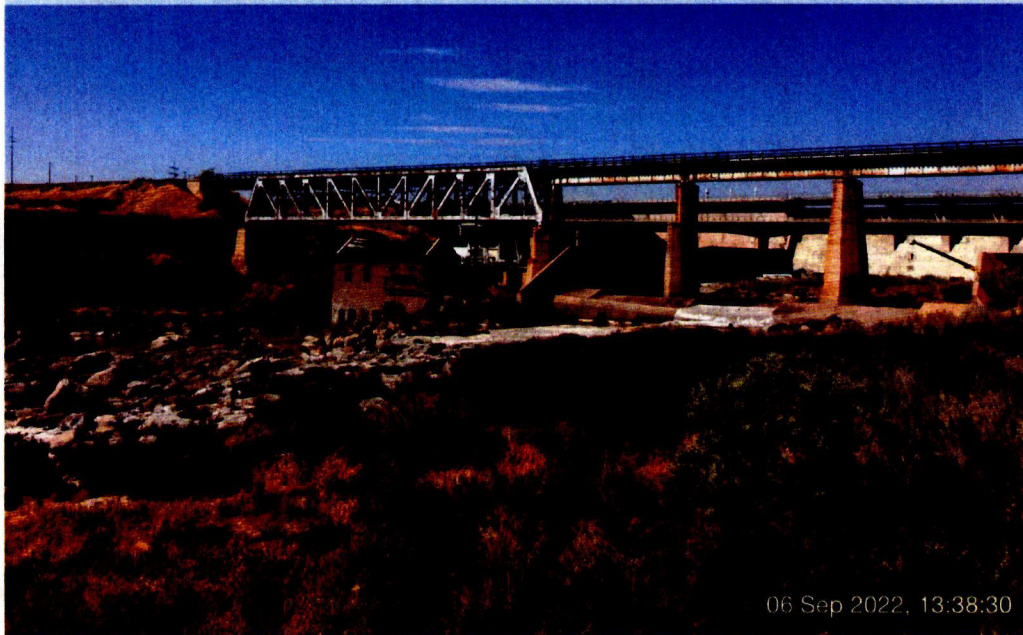
☉ 216°SW (T) ☉ 42°46.716', -112°52.682' ±16ft ▲ 4373ft



06 Sep 2022, 13:47:52

Overall diversion: The upstream side of the dam where the intake to the penstocks is located.

☉ 323°NW (T) ☉ 42°46.589', -112°52.439' ±32ft ▲ 4346ft



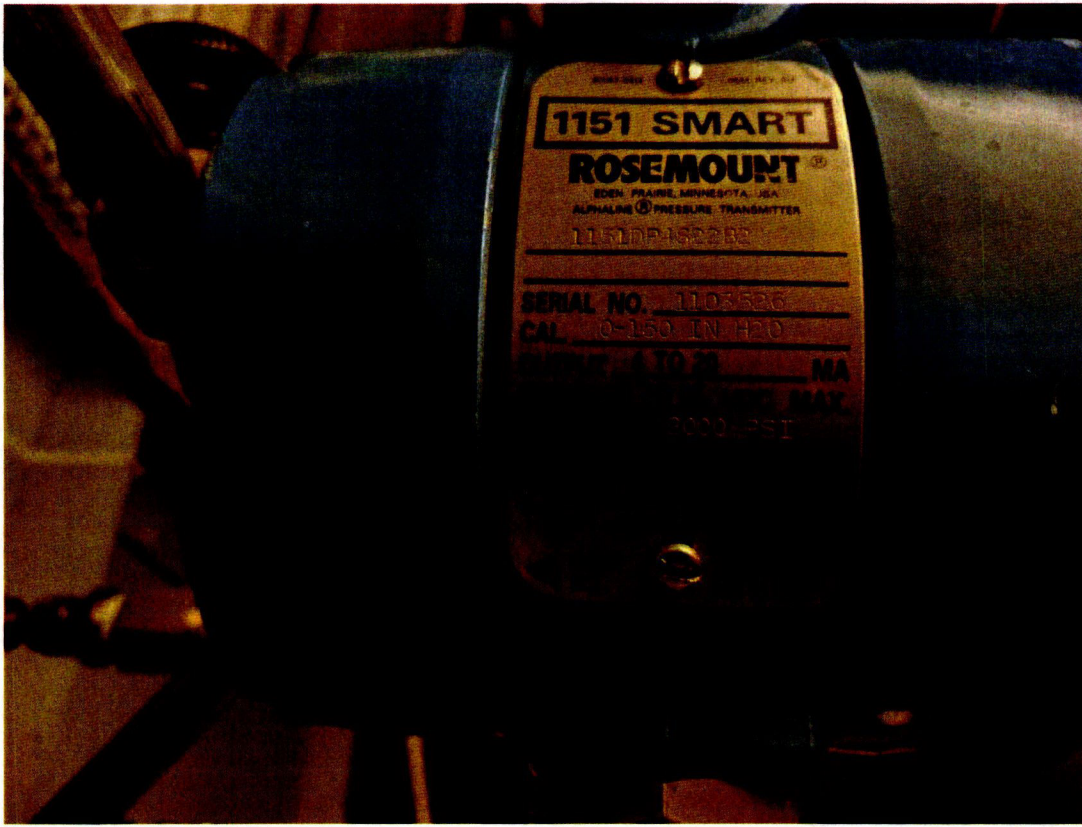
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Downstream of Dam: The outflows from the hydroelectric plant can be seen beyond the old powerhouse and spill way (center left).

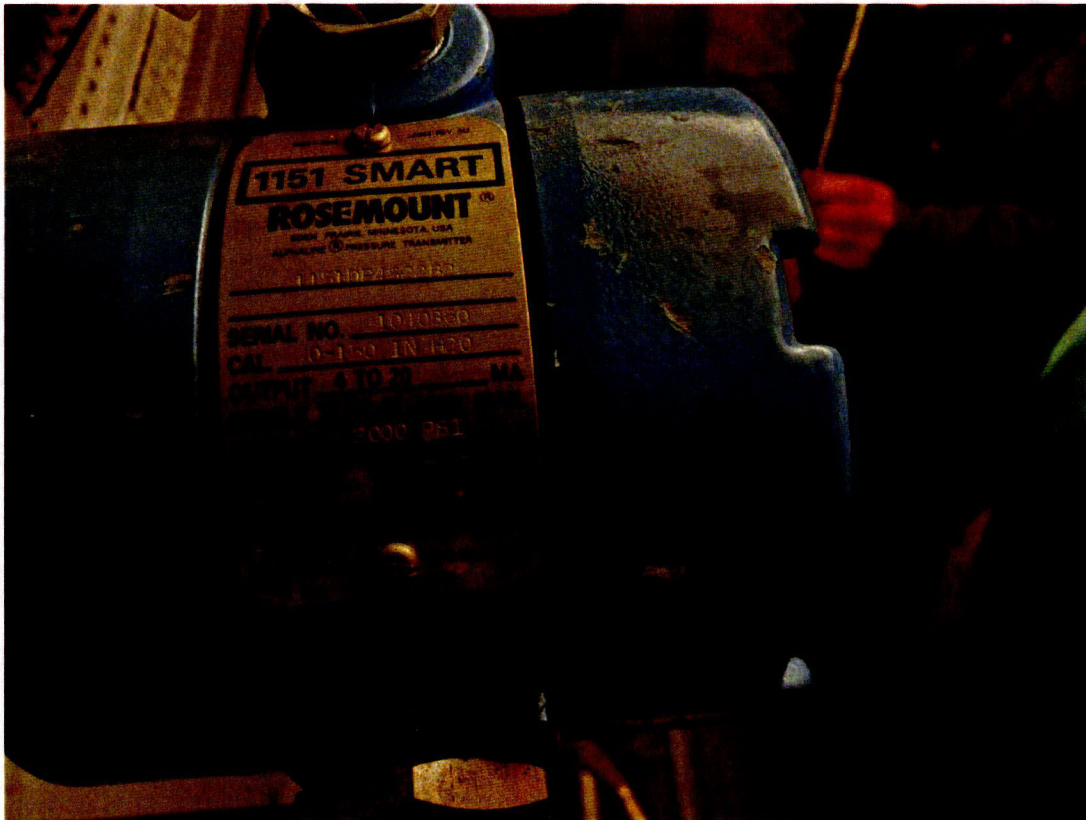


Turbine 1 Meter: Meter records flow rate for Turbine 1. Serial No. 0987246.

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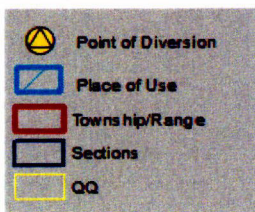
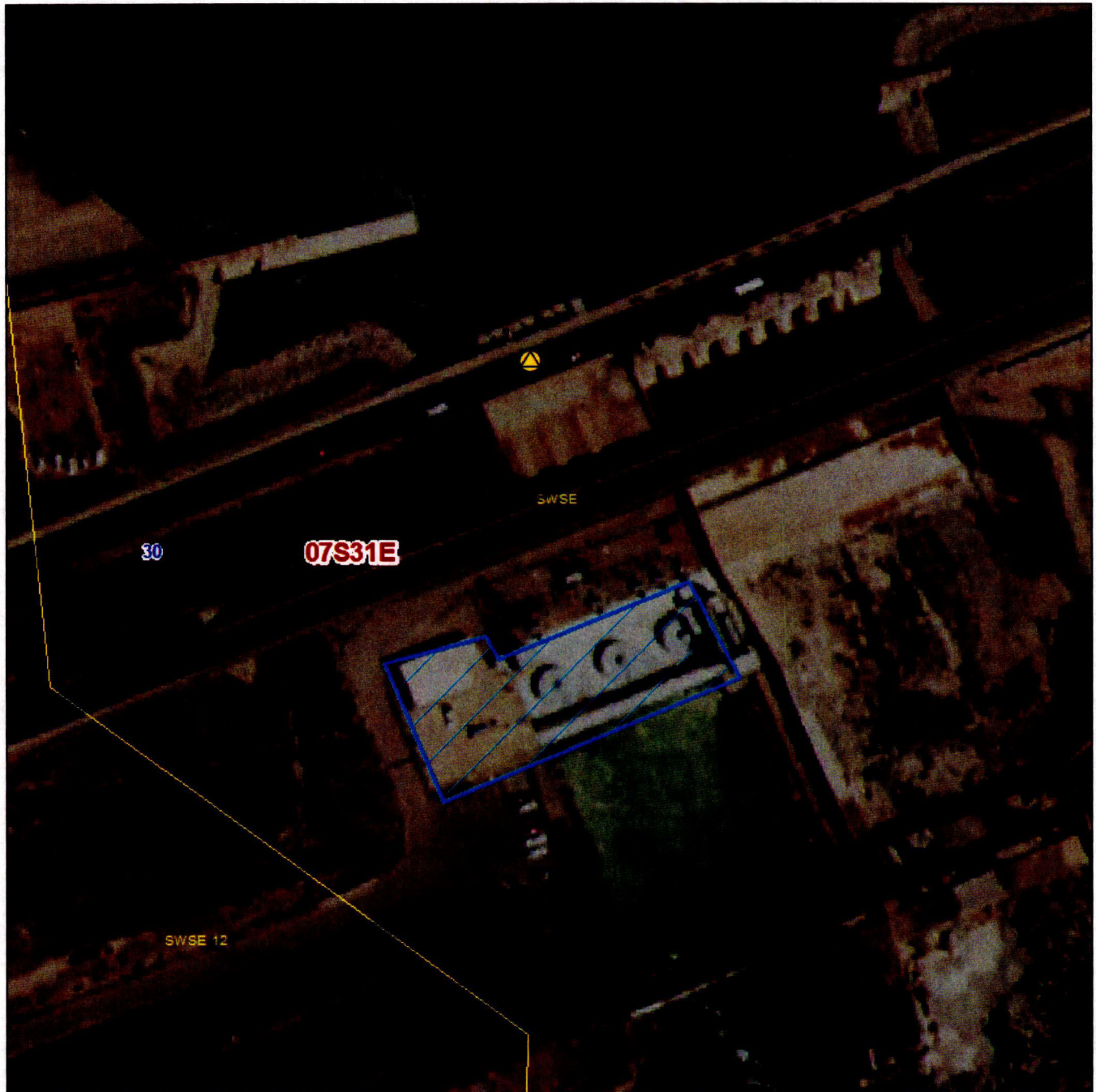
Turbine 2 Meter:
Meter records flow
rate for Turbine 2.
Serial No. 1103526.



Turbine 3 Meter:
Meter records flow
rate for Turbine 3.
Serial No. 1040860.

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Idaho Power Company WR No. 1-7128



0 75 150 300 Feet



J.ADAMSON_IDWR_9/7/2022

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Adamson, Jared

From: Blew, David <DBlew@Idahopower.com>
Sent: Thursday, September 22, 2022 8:22 AM
To: Adamson, Jared
Subject: !-7128 Meter Calibration
Attachments: IPC Rosemount DP Calibration Procedure.docx

RECEIVED

SEP 22 2022

**Department of Water Resources
Eastern Region**

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Jared,

I was not successful in running down a calibration report for American Falls. I did talk with one of the techs who calibrates those Rosemount units and he provided me a short step by step process they use. The calibration procedure is essentially a check that the meter is providing the appropriate milliamps at the appropriate pressures. Those meters essentially measure the pressure differential across the scroll case and then they apply a Winter Kennedy methodology to calculate the flow. This is the methodology that is currently used at many of our plants. I know I have seen those Rosemount meters in several of our plants.

Let me know if there is anything else I can help with.

Thanks

David Blew

HYDROLOGIST II

Idaho Power | Operations Hydrology

Office 208-388-5292 | [Mobile 208-954-9830](tel:208-954-9830)

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Rosemount Winter-Kennedy Type Flow Calibration Procedure

1. Valve off flow transmitter and vent the low-pressure side to atmosphere
2. Hook up high-pressure side to the calibrator
3. Using the Hart programmer check the DP zero and span values
4. With no pressure, check the zero DP value and record in the zero as found.
5. Pressure up the high side to the span value recorded using the pump and record in the span as found
6. If the as found readings are off, then perform calibration zero and span, then record values in the as left
7. Next check the actual milliamp output with a multimeter. With the Hart programmer go into the loop test and force a 4ma, then a 20ma value then record in the as found column.
8. Perform loop test calibration if needed and record values in the as left column.

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SEP 22 2022

**Department of Water Resources
Eastern Region**

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Idaho Power
Water Right 1-7128
Statement of Completion

Idaho Power is filing this Statement of Completion for water right 1-7128 seeking a proof of beneficial use for 7,500 cfs for a total plant diversion of 16,500 cfs. The data included with this document provides evidence that Idaho Power has put that amount of water to beneficial use under water right 1-7128.

Background Information

Idaho Power owns and operates the American Falls hydropower plant located at American Falls Reservoir. The earth filled dam at American Falls reservoir is owned and operated by the United States Bureau of Reclamation (USBR). The Idaho Power facility contains three turbines with a combined normal output of approximately 92 MW and a recorded maximum of 108.85 MW.

Flow tests at the American Falls hydropower plant were conducted in the mid-1990s to determine the maximum rate of water that could pass through the turbines. The tests were conducted as part of Idaho Power's effort to determine the company's water rights through the Snake River basin adjudication. Those tests showed a maximum turbine capacity of 16,850 cfs. Based on historic data, the company determined it had seven water rights that when combined provided a total rate of 9,000 cfs. In a 1996 filing with the Idaho Department of Water Resources (IDWR), the company made application for water right 1-7128 for 7,850 cfs (Table 1). This right, when combined with the existing rights would give a total maximum diversion rate of 16,850 cfs. The processing of that application was delayed due to a series of legal matters. IDWR permitted water right 1-7128 on May 6, 2021 and the proof of beneficial use is due on June 1, 2022.

Table 1: Water rights for the American Falls hydropower plant.

Basin	Sequence	Basis	Priority Date	Season of Use	Div. Rate (cfs)
1	2017	Decreed	1908-09-03	04/01 - 10/31	1,400
1	2032	Decreed	1919-03-08	04/01 - 10/31	236
1	2046	Decreed	1926-10-15	01/01 - 12/31	2,000
1	10382	Decreed	1901-07-15	04/01 - 10/31	253
1	10383	Decreed	1901-08-01	04/01 - 10/31	611
1	10531	Decreed	1926-04-13	11/01 - 03/31 04/01 - 10/31	6,000 3,500
1	10532	Decreed	1936-05-08	01/01 - 12/31	1,000
1	7128	Permitted	1996-10-23	01/01 - 12/31	7,850

Water Measurement

All units have measuring devices that quantify water flowing through each turbine. The model and serial numbers for measuring devices for each unit can be found in Table 2. Flow rate is not measured via penstock pipe flow due to the inaccessibility for installing such meters. The meters for all turbines measure the pressure differential across the scroll case and flow is calculated using the Winter-Kennedy methodology. Flows are measured and recorded in 15-minute time-steps. Data is also periodically compared to the USGS gage station 13077000, Snake River at Neeley ID, located approximately one mile downstream of the facility.

Turbine Meter Information			
Turbine	Manufacturerer	Model Number	Serial Number
#1	Rosemount	1151DP4S22B2	0987246
#2	Rosemount	1151DP4S22B2	1103526
#3	Rosemount	1151DP4S22B2	1040860

Table 2: Meter information for the American Falls Hydropower Plant.

Flow Information

Data for calendar years 2003 through 2021 were examined to determine monthly maximum flows to gain a recent history of diversion data at the facility (Table 3). Data in Table 3 is based on hourly average flows and not 15-minute data. The data set includes 19 years of data that represent the current configuration of the turbines at the facility. Out of 19 years, five years had at least one month that reached a maximum diversion rate of 16,500 cfs and an additional six years had at least one month that exceeded 16,330 cfs. Flows at or above 16,500 cfs generally occur May, June and July and occur in response to water demand and flood control release.

Table 3: Monthly maximum flows at the American Falls Hydropower plant from 2003 to 2021.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Max
2003				6,369	11,514	14,708	15,170	13,677	9,000	3,480	0	0	15,170
2004	0	2,531	3,498	9,267	11,179	12,308	11,462	10,633	8,996	3,613	0	198	12,308
2005	0	1,527	5,186	5,782	7,934	14,568	14,882	12,895	10,565	4,636	0	1,403	14,882
2006	0	3,750	5,252	16,500	16,500	16,008	16,088	14,751	9,795	3,619	2	3,016	16,500
2007	3,132	4,053	2,895	8,785	11,889	14,780	16,386	12,861	3,199	1,330	0	0	16,386
2008	2,318	1,615	2,298	8,443	12,240	16,500	16,500	14,273	11,292	4,822	15	0	16,500
2009	35	0	7,107	16,500	16,480	16,382	16,500	13,219	12,251	7,045	1,754	2,902	16,500
2010	2,973	5,691	4,595	6,655	12,925	14,354	15,429	13,241	11,754	6,909	0	2,794	15,429
2011	6,430	6,481	6,659	16,500	16,498	16,500	16,392	16,396	15,990	15,072	10,237	9,352	16,500
2012	5,687	6,145	11,617	14,299	14,240	16,500	16,498	14,313	10,026	6,332	29	0	16,500
2013	0	0	3,212	12,241	14,285	13,001	13,971	13,655	9,580	4,203	2	2,477	14,285
2014	2,508	3,627	5,487	8,725	11,945	16,908	16,831	13,053	9,272	3,602	8	2,766	16,908
2015	2,665	3,513	5,558	9,434	12,927	15,220	14,193	11,878	11,011	6,392	29	8,038	15,220
2016	3,676	1,945	2	8,651	12,364	16,478	14,719	12,880	11,557	5,208	6,517	5,109	16,478
2017	1,236	3,186	16,440	16,462	16,464	15,536	15,343	15,289	10,846	5,387	2,997	7,909	16,464
2018	11,528	9,933	12,217	16,461	16,203	16,177	15,930	16,464	10,180	6,933	10	8	16,464
2019	5,481	5,882	10,182	16,436	16,796	16,431	15,148	13,848	11,240	5,401	96	2,620	16,436
2020	8,202	8,228	7,891	16,241	16,338	16,187	16,289	14,872	11,726	6,753	3,758	4,509	16,338
2021	65	3,801	3,012	9,651	16,386	16,048	15,157	16,023					16,386
Monthly Max	11,528	9,933	16,440	16,500	16,500	16,500	16,500	16,464	15,990	15,072	10,237	9,352	16,500

cfs
16,500
15,000
13,500
12,000
10,500
9,000
7,500
6,000
4,500
3,000
1,500
0

cfs 0 1,500 3,000 4,500 6,000 7,500 9,000 10,500 12,000 13,500 15,000 16,500

A detailed analysis is provided for March – May of 2017 (Figure 1) showing 15-minute time step data for turbine flow, generation, and flow data from the USGS Gage 13077000. The graph demonstrates good agreement between turbine flow and the USGS gage when flows are less than 16,500 cfs. The 15-minute data for the USGS gage and the calculated turbine flow were analyzed to determine the overall difference between the two measurements. The analysis was limited to those periods when flow was relatively steady at both the gage and through the turbines. This analysis shows the average difference between the USGS gage and turbine flow at the plant is approximately 4% when flows are less than 16,500 cfs for March – May of 2017. There are differences between flow measurements when flows are changing however, when flows are steady the overall difference between the Snake River at Neeley and calculated turbine flow is small.

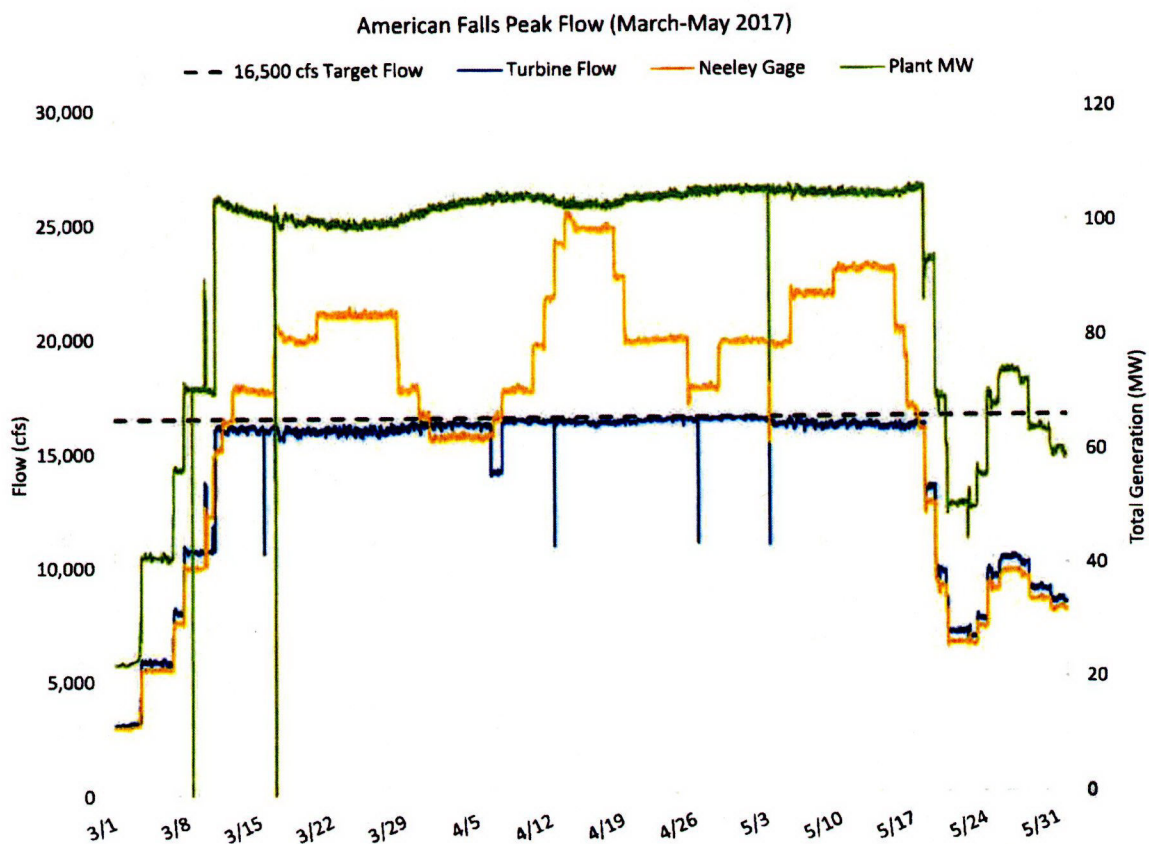


Figure 1: Turbine flow, USGS Gage 13077000 flow and generation at the American Falls Hydropower plant for March through May of 2017.

Figure 2 shows a data set for a 2-week period at the end of April 2017 to the first week of May 2017. The data is from a period when American Falls Reservoir was near maximum reservoir elevation and total outflows, as measured at the USGS Neeley gage were not excessive and impacting tailrace water elevations. These conditions facilitate maximum diversions and generation at the plant. Through this two-week period turbine flows are at or near 16,500 cfs and generation output averaged 105 MW.

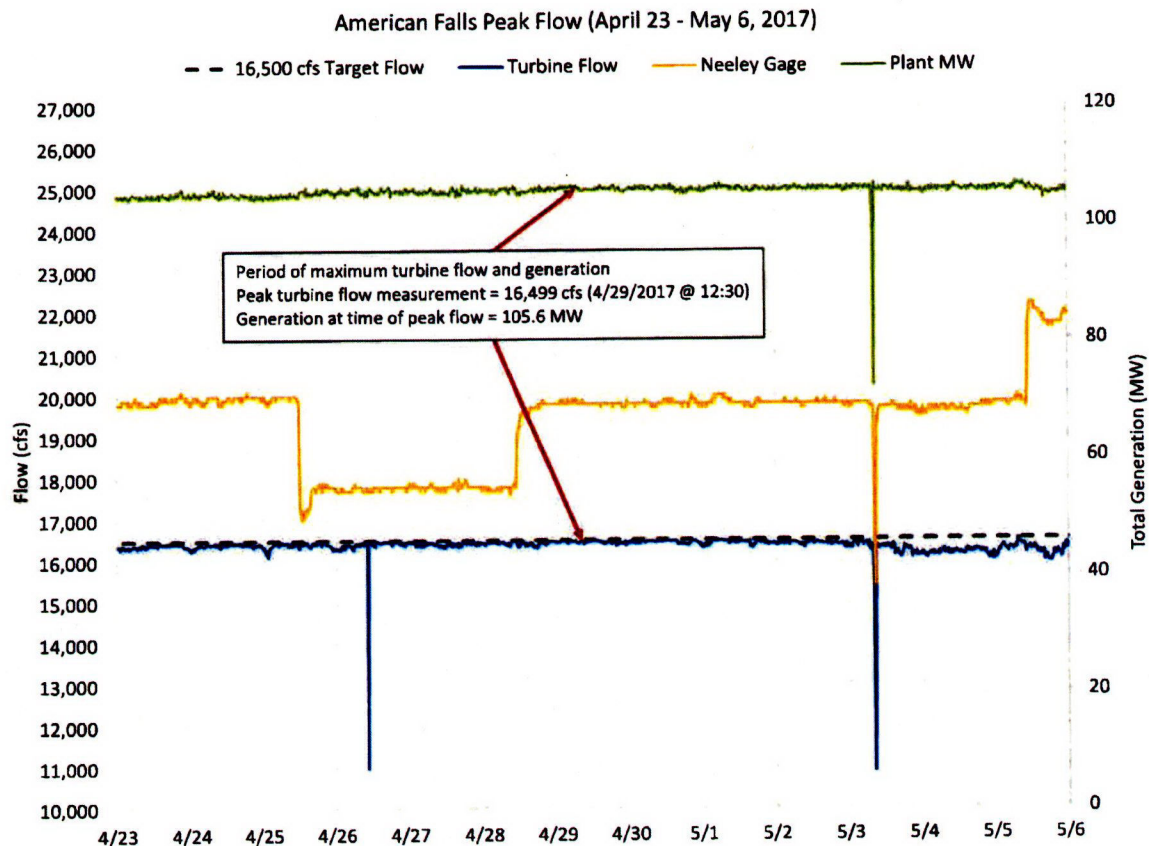


Figure 2: Turbine flow, USGS Gage 13077000 flow and generation at the American Falls Hydropower plant for April 23, 2017, through May 6, 2017.

Conclusions

The data clearly shows maximum flows at or near 16,500 cfs consistently over a nearly 20-year period. The fifteen-minute data of calculated turbine flows shows a reasonably good agreement with the USGS gage 13077000. This data provides support that Idaho Power has put 7,500 cfs of water right permit 1-7128 to appropriate beneficial uses in recent history.

The full data sets for 15-minute flow data at the American Falls Hydropower Plant are available upon request.