

State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 21-07212

Priority: September 18, 1980

Maximum Diversion Rate: 960.00 CFS

It is hereby certified that FALL RIVER RURAL ELECTRIC COOPERATIVE INC
1150 N 3400 E

ASHTON ID 83420 has complied with the terms and conditions of the
permit, issued pursuant to Application for Permit dated September 18, 1980; and has submitted Proof of
Beneficial Use on April 06, 1994. An examination confirms water is diverted from:

SOURCE

HENRYS FORK

Tributary: SNAKE RIVER

and a water right has been established as follows:

BENEFICIAL USE

POWER

PERIOD OF USE

1/01 to 12/31

DIVERSION RATE

960.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

HENRYS FORK L2 (NW1/4SW1/4) Sec. 28, Twp 13N, Rge 43E, B.M.

FREMONT County

PLACE OF USE: POWER

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
13N 43E 28											X						

CONDITIONS OF APPROVAL

1. This water right authorizes the incidental generation of power using water released from Island Park Reservoir under existing water rights and operating procedures for irrigation, flood control, and other authorized purposes. This water right does not authorize the storage or release of water solely for power generation purposes.
2. The rights for the use of water confirmed in this license shall be junior and subordinate to all rights for the use of water other than hydropower, within the State of Idaho that are initiated later in time than the priority of this right and shall not give rise to any right or claim against any future rights for the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this right.
3. This right does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.

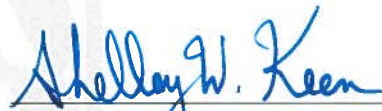
State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 21-07212

4. The term of this water right shall run concurrently with the Island Park Hydroelectric Project license #2973 issued by the Federal Energy Regulatory Commission (FERC), which expires on September 30, 2038. 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 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 water right license shall remain in effect.
5. The issuance of this right does not grant any right-of-way or easement across the land of another.
6. Use of water under this right will 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.1.
7. Use of water under this right shall be non-consumptive.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. 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 3rd day of February, 2015.


for GARY SPACKMAN
Director



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

February 4, 2015

FALL RIVER RURAL ELECTRIC COOPERATIVE INC
1150 N 3400 E
ASHTON ID 83420

RE: License No. 21-7212

Issuance of License

Dear Water Right Holder(s):

The Department of Water Resources 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 the conditions of approval and remarks listed on your license. Also enclosed is a copy of the approved application for amendment.

The license is a PRELIMINARY ORDER issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

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. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4951.

Sincerely,

Pamela Skaggs
Water Rights Supervisor

Enclosure(s)

cc: WATER DISTRICT #01

CERTIFICATE OF SERVICE

I hereby certify that on February 5, 2015, I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER (Approved License) to the person(s) listed below:

RE: WATER RIGHT NO. 21-7212

**FALL RIVER RURAL ELECTRIC COOPERATIVE INC
1150 N 3400 E
ASHTON ID 83420**

**WATER DISTRICT #01
LYLE SWANK
900 N SKYLINE DR STE A
IDAHO FALLS ID 83402-1718**



**Darla Block
Technical Records Specialist**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT

(For Licensing Purposes)

WATER RIGHT NO. 21-07212

RECEIVED

JAN 15 2015

**DEPARTMENT OF
WATER RESOURCES**

Date of Priority: September 18, 1980

Maximum Diversion Rate: 960.00 CFS

Comes now **FALL RIVER RURAL ELECTRIC COOPERATIVE INC**
1150 N 3400 E

ASHTON ID 83420 and represents to the Director of the Idaho Department of Water Resources that he is the owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No. 21-07212, and requests that the permit be changed as follows:

Source: HENRYS FORK

Tributary: SNAKE RIVER

BENEFICIAL USE

POWER

PERIOD OF USE

1/01 to 12/31

RATE OF DIVERSION

960.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

HENRYS FORK L2 (NW1/4SW1/4) Sec. 28, Twp 13N, Rge 43E, B.M.

FREMONT County

PLACE OF USE: POWER

Twp Rge Sec	NE				NW				SW				SE				Totals
13N 43E 28	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
											X						

Permit holder asserts that no one will be injured by such change and that such change will be made at permit holder's own risk. Signed this 9th day of JANUARY, 20 15.



(Signature)

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT
(For Licensing Purposes)
WATER RIGHT NO. 21-07212

FOR DEPARTMENT USE ONLY

Preliminary check by JLS Fee = 100⁰⁰ Received by dy # C099822 Date 1/15/2015

ACTION OF THE DEPARTMENT OF WATER RESOURCES

I, GARY SPACKMAN, of the Department of Water Resources hereby approve the above Application for Amendment for Permit No. 21-07212 with the following:

CONDITIONS OF APPROVAL

1. This water right authorizes the incidental generation of power using water released from Island Park Reservoir under existing water rights and operating procedures for irrigation, flood control, and other authorized purposes. This water right does not authorize the storage or release of water solely for power generation purposes.
2. The rights for the use of water confirmed in this license shall be junior and subordinate to all rights for the use of water other than hydropower, within the State of Idaho that are initiated later in time than the priority of this right and shall not give rise to any right or claim against any future rights for the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this right.
3. This right does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval that may be required.
4. The term of this water right shall run concurrently with the Island Park Hydroelectric Project license #2973 issued by the Federal Energy Regulatory Commission (FERC), which expires on September 30, 2038. 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 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 water right license shall remain in effect.
5. The issuance of this right does not grant any right-of-way or easement across the land of another.
6. Use of water under this right will 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.1.
7. Use of water under this right shall be non-consumptive.

Witness my hand this 3rd day of February, 2015.

for Shelley W. Keen
GARY SPACKMAN
Director

MEMORANDUM

Date: February 2, 2015
To: Water Right File 21-7212
From: medl
Re: data disc

During the time that I was reviewing this permit for licensing, I requested supplemental information from Dave Peterson, Manager of Engineering for Fall River Rural Electric Cooperative.

The contents of this disc are the blue highlighted files listed below.

They were sent to me via email and were not useful for determining any of the elements of the water right. The earliest email contains an Excel spreadsheet with data from 1997, the best year of electricity generation. That year was not within the development period of the permit.

The other files are images of nameplates from the generators and auxiliary equipment; not images of the turbine nameplate. No nameplates were found on the turbines.

The two un-highlighted files were printed out and used for licensing.

From	Subject	Received	Size	Categories
Date: Older				
Dave Peterson	RE: info request: FERC inspection report	Tue 12/16/2014 1:2...	2 MB	
Dave Peterson	RE: info request: FERC inspection report	Wed 12/10/2014 3:...	625 KB	
Dave Peterson	RE: 1997 Island Park Data	Mon 10/27/2014 3:...	34 KB	
Dave Peterson	RE: 1997 Island Park Data	Thu 10/23/2014 3:1...	3 MB	
Dave Peterson	RE: 1997 Island Park Data	Thu 10/23/2014 3:1...	5 MB	
Dave Peterson	RE: 1997 Island Park Data	Thu 10/23/2014 2:5...	4 MB	
Dave Peterson	FW: 1997 Island Park Data	Thu 10/23/2014 2:5...	6 MB	
Dave Peterson	RE: 1997 Island Park Data	Thu 10/23/2014 2:5...	2 MB	
Dave Peterson	Re: 1997 Island Park Data	Tue 10/21/2014 5:1...	32 KB	
Dave Peterson	RE: 1997 Island Park Data	Tue 10/21/2014 4:4...	4 MB	
Dave Peterson	RE: 1997 Island Park Data	Tue 10/21/2014 4:4...	5 MB	
Dave Peterson	FW: 1997 Island Park Data	Tue 10/21/2014 4:4...	5 MB	
Dave Peterson	RE: 1997 Island Park Data	Thu 10/16/2014 9:0...	46 KB	
Dave Peterson	1997 Island Park Data	Wed 10/15/2014 9:...	206 KB	

MEMORANDUM

Date: January 30, 2015
To: Water Right File 21-7212
From: medl
Re: licensing review

Applicant

The Federal Energy Regulatory Commission (FERC) has jurisdiction over this hydroelectric project. This project is known to FERC as the Island Park Hydroelectric Project and is identified as project number 2973. FERC issued a 50-year license on October 19, 1988, to Fall River Rural Electric Cooperative, Inc. to operate on irrigation releases from the existing Island Park Reservoir. The FERC license expires September 30, 2038.

Fall River Rural Electric Cooperative, Inc. is the permit holder and is responsible for operation of the hydroelectric powerplant. However, available Fremont County taxlot information shows that both the place-of-use and the point-of-diversion are on Bureau of Reclamation property.

The water right file contains an April 7, 1989 letter to FERC Division of Dam Safety and Inspections from the legal counsel for Fall River Rural Electric Cooperatives, Inc.. In his letter the attorney states: "Island Park Dam is owned by the United States and administered by the Bureau of Reclamation. The United States, through the Bureau, has executed a repayment contract with Fremont-Madison Irrigation district, under which the District is responsible for operation, maintenance, and certain other dam-related costs. Under the contract, the District controls the storage and release of water from the dam for irrigation purposes."

Source & POD

The source of water is the Henrys Fork of the Snake River impounded in Island Park Reservoir.

The POD is the intake to the siphon-penstock. I created the point-of-diversion shape based on engineering drawings for this project which are archived in the Dam Safety section at IDWR's State office. The developed POD is one of the two alternatives named on the application for permit and in the advertisement. The permit was issued on March 17, 1994, which was after the project had been constructed, and the permit intentionally authorized only one POD. (See the IDWR staff memo to file dated March 10, 1994.) The permit authorized the Alternative1 POD but the POD that was developed was the Alternative2 POD. An amendment of the permit will be needed before licensing.

There are no other water rights for power use diverting from this same POD. The Island Park Dam and Reservoir are features of the USBR's Minidoka Project. Power plant operations are dependent on irrigation releases from storage or irrigation flows through the dam.

The Fremont-Madison Irrigation District holds ten decreed water rights for irrigation use which have priorities pre-dating the construction of the dam and reservoir. Inflows to serve those natural flow rights must be passed through the reservoir on demand.

Water Use

Proof of beneficial use statement was submitted April 6, 1994. On January 1, 1995, an IDWR examiner confirmed beneficial use from a remote location rather than through a dedicated site visit. His recommendations are based on the proposed hydraulic capacity of the two turbines and photos of the powerhouse exterior, which were taken in 1993 during commissioning and testing. Although one of the photos shows turbine discharge, water can flow through a turbine without generating any electricity. The

examiner did not provide any generation data to support his findings of beneficial use.

I requested and received additional information from Mr. Dave Peterson, (Manager of Engineering, Fall River Rural Electric Cooperative). The data he provided confirms that power was generated during the development period of the permit.

The turbine specification sheet, also provided by Mr. Peterson, shows that each of the two turbines are capable of utilizing 480 cfs to produce 2678 kW at 72 feet of head. At design conditions, the total powerhouse capacity is approximately 960 cfs, and 5356 kW. The FERC license for this project authorizes a maximum of 4800 kW. Generation records provided by Fall River Rural Electric Cooperative, Inc. show that even in 1997 (a very good water year) generation fell short of the authorized maximum.

However, based on calculations using February and March 1997 generation, streamflow and forebay elevation data, I believe that the turbines discharged above the permitted rate. Reaction turbines can be expected operate at 105% of their rated capacity for a short time. For these two vertical Francis turbines 105% would be 1008 cfs.

The dam has a hydraulic height of 75 feet measured from the streambed elevation at the dam centerline (6228.0) to the maximum controllable water surface elevation (6303.3). According to the March 2005 and December 2010 Comprehensive Facility Reviews for Island Park dam (available courtesy IDWR's Dam Safety archive), the minimum flow required for each turbine/generator is 180 cfs and power generation ceases when the reservoir level drops below elevation 6282.0 feet.

The 1994 generation records are monthly average kWh, so it's not obvious that the permitted maximum flowrate, 960 cfs, was actually used by the turbines during the development period. However, USGS streamflow data for 1994 indicate that sufficient water to maximize the turbine discharge was available.

Stream Flow measurement

USGS station #13042500 (Henrys Fork nr Island Park ID) is maintained by the Idaho Falls Office of the USGS in cooperation with the USBR. The station is located approximately 0.2 mile downstream from Island Park Dam. Flow information derived from this station represents the total flow of the river not just the flow through the turbines. Without companion generation records, and exclusion of any spill, the data from this station is not sufficient to confirm beneficial use.

Storage

Island Park Dam and Reservoir was constructed as a part of the Upper Snake River Storage Project in 1939. No storage for power use is authorized by this permit. Storage may be authorized for irrigation and domestic uses through rights 21-2156 (old #R-59) and 21-2157 (old #R-686) or AJ rec 21-10560. As of this date, the rights have not been decreed in the SRBA.

Island Park Dam impounds a reservoir which contains 135,000 AF, the combined volume of the storage rights. Island Park Reservoir is a multipurpose facility but it is operated primarily for irrigation storage. Recreation, flood control, and power uses are secondary.

Island Park Dam is National Inventory of Dam # ID00272.

Both the USBR and IDWR classify the Island Park Dam as high hazard. IDWR's Dam Safety has certified Island Park Dam to impound water to an elevation of 6303.0 ft. Unless revoked, the current impoundment certificate expires December 31, 2016.

The certificate elevation includes a 1-foot high inflatable bladder which was added to the primary spillway after this permit was issued. The bladder allows controlled storage of water to 6303.0 feet for power generation. Otherwise that water would pass over the spillway. A water right for power storage may be required.

Season of Use

The permit authorized year-round use and the 1994 generation data provided by Mr. Peterson shows that power was generated during the non-irrigation season.

Island Park Dam and Reservoir is a multipurpose project within a multipurpose reservoir system. It provides flood control, irrigation water, recreation and fish and wildlife water. It is not possible to optimize the regulation of each of these separate uses. Flood control conflicts with refill regardless of the intended use for the stored water. So, flood control use directly conflicts with all of the other system uses to some degree. The hydroelectric facility is operated year-round in cooperation with the USBR for flood control storage and releases and with Fremont-Madison Irrigation District for irrigation releases.

Place of Use

The powerhouse is owned by the Fall River Rural Electric Cooperative Inc., of Ashton, Idaho. It was constructed in 1994 on USBR property near the east abutment of the existing Island Park Dam. I created the place-of-use shape based on aerial photography.

Point of Discharge

The powerhouse is constructed onto an existing on-stream storage facility. The turbines discharge into an aeration basin, which in turn discharges into the Henry's Fork of the Snake River below the dam.

Status & Combined Use

Water District 1

Island Park Dam is owned by the USBR and they continue to act as technical advisors to Fremont-Madison Irrigation District who operate and maintain the dam. Fall River Rural Electric Cooperative is responsible for operation of the hydroelectric powerplant.

Recommendations

I am recommending no volume for this water right license. The volume of water released from Island Park Reservoir is not under the control of the powerhouse operators. They can only use the water that passes through Island Park Dam for other purposes.

# The data you have obtained from this automated U.S. Geological Survey database						
# have not received Director's approval and as such are provisional and subject to						
# revision. The data are released on the condition that neither the USGS nor the						
# United States Government may be held liable for any damages resulting from its use.						
# Additional info: http://help.waterdata.usgs.gov/policies/provisional-data-statement						
#						
# File-format description: http://help.waterdata.usgs.gov/faq/about-tab-delimited-output						
# Automated-retrieval info: http://help.waterdata.usgs.gov/faq/automated-retrievals						
#						
# Contact: gs-w_support_nwisweb@usgs.gov						
# retrieved: 2014-10-22 16:46:43 EDT (vaww02)						
#						
# Data for the following 1 site(s) are contained in this file						
# USGS 13042500 HENRYS FORK NR ISLAND PARK ID						
# -----						
#						
# Data provided for site 13042500						
# DD parameter statistic Description						
# 01 00060 00003 Discharge, cubic feet per second (Mean)						
#						
# Data-value qualification codes included in this output:						
# A Approved for publication -- Processing and review completed.						
# e Value has been estimated.						
#						
#						
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5s	15s	20d	14n	10s		
USGS					USBR Hydromet data	
USGS	USGSsite #	date	Q	quality flag	DATE	ISL FB
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USGS	13042500	1/4/1994	541	A	1/4/1994	6301.58
USGS	13042500	1/5/1994	534	A	1/5/1994	6301.58
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USGS	13042500	1/7/1994	530	A	1/7/1994	6301.54
USGS	13042500	1/8/1994	530	A	1/8/1994	6301.54
USGS	13042500	1/9/1994	525	A	1/9/1994	6301.55
USGS	13042500	1/10/1994	524	A	1/10/1994	6301.51
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USGS	13042500	1/12/1994	498	A	1/12/1994	6301.51
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USGS	13042500	1/17/1994	462	A	1/17/1994	6301.42
USGS	13042500	1/18/1994	484	A	1/18/1994	6301.41

created by Michele Edl for 21-7212

USGS	13042500	1/19/1994	484 A		1/19/1994	6301.41		
USGS	13042500	1/20/1994	470 A		1/20/1994	6301.4		
USGS	13042500	1/21/1994	432 A		1/21/1994	6301.39		
USGS	13042500	1/22/1994	426 A		1/22/1994	6301.4		
USGS	13042500	1/23/1994	446 A		1/23/1994	6301.38		
USGS	13042500	1/24/1994	446 A		1/24/1994	6301.4		
USGS	13042500	1/25/1994	446 A		1/25/1994	6301.41		
USGS	13042500	1/26/1994	441 A		1/26/1994	6301.4		
USGS	13042500	1/27/1994	447 A		1/27/1994	6301.4		
USGS	13042500	1/28/1994	464 A		1/28/1994	6301.38		
USGS	13042500	1/29/1994	465 A		1/29/1994	6301.39		
USGS	13042500	1/30/1994	465 A		1/30/1994	6301.36		
USGS	13042500	1/31/1994	465 A		1/31/1994	6301.35		
USGS	13042500	2/1/1994	447 A		2/1/1994	6301.35	offline	
USGS	13042500	2/2/1994	433 A		2/2/1994	6301.35		
USGS	13042500	2/3/1994	433 A		2/3/1994	6301.34		
USGS	13042500	2/4/1994	433 A		2/4/1994	6301.34		
USGS	13042500	2/5/1994	433 A		2/5/1994	6301.34		
USGS	13042500	2/6/1994	433 A		2/6/1994	6301.34		
USGS	13042500	2/7/1994	433 A		2/7/1994	6301.38		
USGS	13042500	2/8/1994	437 A		2/8/1994	6301.37		
USGS	13042500	2/9/1994	440 A		2/9/1994	6301.4		
USGS	13042500	2/10/1994	440 A		2/10/1994	6301.39		
USGS	13042500	2/11/1994	440 A		2/11/1994	6301.37		
USGS	13042500	2/12/1994	440 A		2/12/1994	6301.37		
USGS	13042500	2/13/1994	440 A		2/13/1994	6301.36		
USGS	13042500	2/14/1994	440 A		2/14/1994	6301.36		
USGS	13042500	2/15/1994	440 A		2/15/1994	6301.36		
USGS	13042500	2/16/1994	440 A		2/16/1994	6301.34		
USGS	13042500	2/17/1994	440 A		2/17/1994	6301.35		
USGS	13042500	2/18/1994	440 A		2/18/1994	6301.39		
USGS	13042500	2/19/1994	440 A		2/19/1994	6301.4		
USGS	13042500	2/20/1994	440 A		2/20/1994	6301.4		
USGS	13042500	2/21/1994	440 A		2/21/1994	6301.39		
USGS	13042500	2/22/1994	440 A		2/22/1994	6301.39		
USGS	13042500	2/23/1994	440 A		2/23/1994	6301.43		
USGS	13042500	2/24/1994	440 A		2/24/1994	6301.42		
USGS	13042500	2/25/1994	440 A		2/25/1994	6301.42		
USGS	13042500	2/26/1994	440 A		2/26/1994	6301.44		
USGS	13042500	2/27/1994	440 A		2/27/1994	6301.44		
USGS	13042500	2/28/1994	440 A		2/28/1994	6301.42		
USGS	13042500	3/1/1994	440 A		3/1/1994	6301.41		
USGS	13042500	3/2/1994	440 A		3/2/1994	6301.41		
USGS	13042500	3/3/1994	440 A		3/3/1994	6301.4		
USGS	13042500	3/4/1994	440 A		3/4/1994	6301.42		
USGS	13042500	3/5/1994	440 A		3/5/1994	6301.4		
USGS	13042500	3/6/1994	440 A		3/6/1994	6301.38		

USGS	13042500	3/7/1994	438 A		3/7/1994	6301.37		
USGS	13042500	3/8/1994	412 A		3/8/1994	6301.36		
USGS	13042500	3/9/1994	391 A		3/9/1994	6301.37		
USGS	13042500	3/10/1994	411 A		3/10/1994	6301.4		
USGS	13042500	3/11/1994	440 A		3/11/1994	6301.39		
USGS	13042500	3/12/1994	440 A		3/12/1994	6301.38		
USGS	13042500	3/13/1994	440 A		3/13/1994	6301.37		
USGS	13042500	3/14/1994	412 A		3/14/1994	6301.37		
USGS	13042500	3/15/1994	374 A		3/15/1994	6301.38		
USGS	13042500	3/16/1994	322 A		3/16/1994	6301.4		
USGS	13042500	3/17/1994	291 A		3/17/1994	6301.44		
USGS	13042500	3/18/1994	281 A		3/18/1994	6301.48		
USGS	13042500	3/19/1994	281 A		3/19/1994	6301.53		
USGS	13042500	3/20/1994	281 A		3/20/1994	6301.56		
USGS	13042500	3/21/1994	281 A		3/21/1994	6301.59		
USGS	13042500	3/22/1994	281 A		3/22/1994	6301.64		
USGS	13042500	3/23/1994	281 A		3/23/1994	6301.69		
USGS	13042500	3/24/1994	279 A		3/24/1994	6301.72		
USGS	13042500	3/25/1994	267 A		3/25/1994	6301.75		
USGS	13042500	3/26/1994	264 A		3/26/1994	6301.78		
USGS	13042500	3/27/1994	260 A		3/27/1994	6301.83		
USGS	13042500	3/28/1994	259 A		3/28/1994	6301.86		
USGS	13042500	3/29/1994	259 A		3/29/1994	6301.9		
USGS	13042500	3/30/1994	235 A		3/30/1994	6301.94		
USGS	13042500	3/31/1994	222 A		3/31/1994	6301.98		
USGS	13042500	4/1/1994	222 A		4/1/1994	6302.04	offline	
USGS	13042500	4/2/1994	222 A		4/2/1994	6302.08		
USGS	13042500	4/3/1994	225 A		4/3/1994	6302.16		
USGS	13042500	4/4/1994	248 A		4/4/1994	6302.24		
USGS	13042500	4/5/1994	264 A		4/5/1994	6302.28		
USGS	13042500	4/6/1994	290 A		4/6/1994	6302.34		
USGS	13042500	4/7/1994	304 A		4/7/1994	6302.39		
USGS	13042500	4/8/1994	294 A		4/8/1994	6302.41		
USGS	13042500	4/9/1994	301 A		4/9/1994	6302.43		
USGS	13042500	4/10/1994	320 A		4/10/1994	6302.44		
USGS	13042500	4/11/1994	320 A		4/11/1994	6302.46		
USGS	13042500	4/12/1994	283 A		4/12/1994	6302.51		
USGS	13042500	4/13/1994	235 A		4/13/1994	6302.58		
USGS	13042500	4/14/1994	278 A		4/14/1994	6302.63		
USGS	13042500	4/15/1994	309 A		4/15/1994	6302.63		
USGS	13042500	4/16/1994	343 A		4/16/1994	6302.67		
USGS	13042500	4/17/1994	383 A		4/17/1994	6302.7		
USGS	13042500	4/18/1994	426 A		4/18/1994	6302.73		
USGS	13042500	4/19/1994	475 A		4/19/1994	6302.78		
USGS	13042500	4/20/1994	544 A		4/20/1994	6302.83		
USGS	13042500	4/21/1994	642 A		4/21/1994	6302.92		
USGS	13042500	4/22/1994	761 A		4/22/1994	6303.01	high HW	

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USGS	13042500	4/23/1994	1010 A	high Q	4/23/1994	6303.07		
USGS	13042500	4/24/1994	1310 A		4/24/1994	6303.22		
USGS	13042500	4/25/1994	1620 A		4/25/1994	6303.22		
USGS	13042500	4/26/1994	1770 A		4/26/1994	6303.12		
USGS	13042500	4/27/1994	1550 A		4/27/1994	6303		
USGS	13042500	4/28/1994	1280 A		4/28/1994	6302.95		
USGS	13042500	4/29/1994	1070 A		4/29/1994	6302.9		
USGS	13042500	4/30/1994	911 A		4/30/1994	6302.87		
USGS	13042500	5/1/1994	879 A		5/1/1994	6302.89		
USGS	13042500	5/2/1994	902 A		5/2/1994	6302.86		
USGS	13042500	5/3/1994	888 A		5/3/1994	6302.9		
USGS	13042500	5/4/1994	878 A		5/4/1994	6302.92		
USGS	13042500	5/5/1994	879 A		5/5/1994	6302.91		
USGS	13042500	5/6/1994	807 A		5/6/1994	6302.86		
USGS	13042500	5/7/1994	747 A		5/7/1994	6302.88		
USGS	13042500	5/8/1994	668 A		5/8/1994	6302.9		
USGS	13042500	5/9/1994	691 A		5/9/1994	6302.94		
USGS	13042500	5/10/1994	715 A		5/10/1994	6302.96		
USGS	13042500	5/11/1994	737 A		5/11/1994	6302.97		
USGS	13042500	5/12/1994	767 A		5/12/1994	6302.95		
USGS	13042500	5/13/1994	812 A		5/13/1994	6302.98		
USGS	13042500	5/14/1994	818 A		5/14/1994	6303.04	high HW	
USGS	13042500	5/15/1994	830 A		5/15/1994	6302.95		
USGS	13042500	5/16/1994	850 A		5/16/1994	6303.01		
USGS	13042500	5/17/1994	871 A		5/17/1994	6303.01		
USGS	13042500	5/18/1994	854 A		5/18/1994	6303		
USGS	13042500	5/19/1994	846 A		5/19/1994	6302.99		
USGS	13042500	5/20/1994	839 A		5/20/1994	6302.99		
USGS	13042500	5/21/1994	834 A		5/21/1994	6302.98		
USGS	13042500	5/22/1994	801 A		5/22/1994	6302.97		
USGS	13042500	5/23/1994	772 A		5/23/1994	6302.96		
USGS	13042500	5/24/1994	750 A		5/24/1994	6302.93		
USGS	13042500	5/25/1994	734 A		5/25/1994	6302.93		
USGS	13042500	5/26/1994	733 A		5/26/1994	6302.92		
USGS	13042500	5/27/1994	734 A		5/27/1994	6302.97		
USGS	13042500	5/28/1994	764 A		5/28/1994	6302.99		
USGS	13042500	5/29/1994	777 A		5/29/1994	6302.9		
USGS	13042500	5/30/1994	725 A		5/30/1994	6302.89		
USGS	13042500	5/31/1994	701 A		5/31/1994	6302.93		
USGS	13042500	6/1/1994	746 A		6/1/1994	6302.92		
USGS	13042500	6/2/1994	732 A		6/2/1994	6302.91		
USGS	13042500	6/3/1994	718 A		6/3/1994	6302.93		
USGS	13042500	6/4/1994	707 A		6/4/1994	6302.88		
USGS	13042500	6/5/1994	667 A		6/5/1994	6302.86		
USGS	13042500	6/6/1994	660 A		6/6/1994	6302.92		
USGS	13042500	6/7/1994	639 A		6/7/1994	6302.82		
USGS	13042500	6/8/1994	624 A		6/8/1994	6302.81		

USGS	13042500	6/9/1994	720	A		6/9/1994	6302.78		
USGS	13042500	6/10/1994	982	A		6/10/1994	6302.71	high Q & high HW	
USGS	13042500	6/11/1994	988	A		6/11/1994	6302.7		
USGS	13042500	6/12/1994	974	A		6/12/1994	6302.49		
USGS	13042500	6/13/1994	1000	A		6/13/1994	6302.48		
USGS	13042500	6/14/1994	1040	A		6/14/1994	6302.34		
USGS	13042500	6/15/1994	979	A		6/15/1994	6302.27	turbines max'd	
USGS	13042500	6/16/1994	984	A		6/16/1994	6302.13	(960cfs x 105%=1008)	
USGS	13042500	6/17/1994	1030	A		6/17/1994	6302.05		
USGS	13042500	6/18/1994	1040	A		6/18/1994	6301.95		
USGS	13042500	6/19/1994	1210	A		6/19/1994	6301.8		
USGS	13042500	6/20/1994	1300	A		6/20/1994	6301.64		
USGS	13042500	6/21/1994	1300	A		6/21/1994	6301.55		
USGS	13042500	6/22/1994	1370	A		6/22/1994	6301.31		
USGS	13042500	6/23/1994	1400	A		6/23/1994	6301.13		
USGS	13042500	6/24/1994	1400	A		6/24/1994	6300.91		
USGS	13042500	6/25/1994	1410	A		6/25/1994	6300.71		
USGS	13042500	6/26/1994	1400	A		6/26/1994	6300.51		
USGS	13042500	6/27/1994	1520	A		6/27/1994	6300.27		
USGS	13042500	6/28/1994	1590	A		6/28/1994	6300.1		
USGS	13042500	6/29/1994	1600	A		6/29/1994	6299.84		
USGS	13042500	6/30/1994	1700	A		6/30/1994	6299.59		
USGS	13042500	7/1/1994	1780	A		7/1/1994	6299.33		
USGS	13042500	7/2/1994	1770	A		7/2/1994	6299.04		
USGS	13042500	7/3/1994	1760	A		7/3/1994	6298.75		
USGS	13042500	7/4/1994	1760	A		7/4/1994	6298.45		
USGS	13042500	7/5/1994	1730	A		7/5/1994	6298.18		
USGS	13042500	7/6/1994	1670	A		7/6/1994	6297.94		
USGS	13042500	7/7/1994	1620	A		7/7/1994	6297.68		
USGS	13042500	7/8/1994	1590	A		7/8/1994	6297.45		
USGS	13042500	7/9/1994	1600	A		7/9/1994	6297.18		
USGS	13042500	7/10/1994	1590	A		7/10/1994	6296.92		
USGS	13042500	7/11/1994	1580	A		7/11/1994	6296.68		
USGS	13042500	7/12/1994	1590	A		7/12/1994	6296.42		
USGS	13042500	7/13/1994	1600	A		7/13/1994	6296.12		
USGS	13042500	7/14/1994	1590	A		7/14/1994	6295.88		
USGS	13042500	7/15/1994	1570	A		7/15/1994	6295.56		
USGS	13042500	7/16/1994	1560	A		7/16/1994	6295.32		
USGS	13042500	7/17/1994	1550	A		7/17/1994	6295.06		
USGS	13042500	7/18/1994	1560	A		7/18/1994	6294.79		
USGS	13042500	7/19/1994	1560	A		7/19/1994	6294.49		
USGS	13042500	7/20/1994	1550	A		7/20/1994	6294.19		
USGS	13042500	7/21/1994	1540	A		7/21/1994	6293.99		
USGS	13042500	7/22/1994	1530	A		7/22/1994	6293.71		
USGS	13042500	7/23/1994	1530	A		7/23/1994	6293.38		
USGS	13042500	7/24/1994	1520	A		7/24/1994	6293.15		
USGS	13042500	7/25/1994	1510	A		7/25/1994	6292.87		

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USGS	13042500	7/26/1994	1520	A	7/26/1994	6292.52	
USGS	13042500	7/27/1994	1500	A	7/27/1994	6292.27	
USGS	13042500	7/28/1994	1500	A	7/28/1994	6291.95	
USGS	13042500	7/29/1994	1500	A	7/29/1994	6291.63	
USGS	13042500	7/30/1994	1500	A	7/30/1994	6291.29	
USGS	13042500	7/31/1994	1480	A	7/31/1994	6290.94	
USGS	13042500	8/1/1994	1480	A	8/1/1994	6290.63	
USGS	13042500	8/2/1994	1470	A	8/2/1994	6290.3	
USGS	13042500	8/3/1994	1480	A	8/3/1994	6289.94	
USGS	13042500	8/4/1994	1480	A	8/4/1994	6289.58	
USGS	13042500	8/5/1994	1470	A	8/5/1994	6289.18	
USGS	13042500	8/6/1994	1440	A	8/6/1994	6288.83	
USGS	13042500	8/7/1994	1480	A	8/7/1994	6288.47	
USGS	13042500	8/8/1994	1470	A	8/8/1994	6288.08	
USGS	13042500	8/9/1994	1480	A	8/9/1994	6287.68	
USGS	13042500	8/10/1994	1470	A	8/10/1994	6287.29	
USGS	13042500	8/11/1994	1460	A	8/11/1994	6286.86	
USGS	13042500	8/12/1994	1310	A	8/12/1994	6286.53	
USGS	13042500	8/13/1994	1210	A	8/13/1994	6286.22	
USGS	13042500	8/14/1994	1210	A	8/14/1994	6285.91	
USGS	13042500	8/15/1994	1200	A	8/15/1994	6285.56	
USGS	13042500	8/16/1994	1200	A	8/16/1994	6285.22	
USGS	13042500	8/17/1994	1200	A	8/17/1994	6284.86	
USGS	13042500	8/18/1994	1040	A	8/18/1994	6284.58	
USGS	13042500	8/19/1994	866	A	8/19/1994	6284.41	
USGS	13042500	8/20/1994	870	A	8/20/1994	6284.21	
USGS	13042500	8/21/1994	865	A	8/21/1994	6284.07	
USGS	13042500	8/22/1994	872	A	8/22/1994	6283.86	
USGS	13042500	8/23/1994	866	A	8/23/1994	6283.6	
USGS	13042500	8/24/1994	866	A	8/24/1994	6283.35	
USGS	13042500	8/25/1994	871	A	8/25/1994	6283.13	
USGS	13042500	8/26/1994	873	A	8/26/1994	6282.88	
USGS	13042500	8/27/1994	876	A	8/27/1994	6282.63	
USGS	13042500	8/28/1994	876	A	8/28/1994	6282.38	
USGS	13042500	8/29/1994	863	A	8/29/1994	6282.15	
USGS	13042500	8/30/1994	858	A	8/30/1994	6281.91	HW below required
USGS	13042500	8/31/1994	848	A	8/31/1994	6281.66	
USGS	13042500	9/1/1994	828	A	9/1/1994	6281.41	
USGS	13042500	9/2/1994	569	A	9/2/1994	6281.38	
USGS	13042500	9/3/1994	564	A	9/3/1994	6281.35	
USGS	13042500	9/4/1994	570	A	9/4/1994	6281.29	
USGS	13042500	9/5/1994	570	A	9/5/1994	6281.24	
USGS	13042500	9/6/1994	570	A	9/6/1994	6281.19	
USGS	13042500	9/7/1994	534	A	9/7/1994	6281.17	
USGS	13042500	9/8/1994	478	A	9/8/1994	6281.19	
USGS	13042500	9/9/1994	468	A	9/9/1994	6281.22	
USGS	13042500	9/10/1994	379	A	9/10/1994	6281.31	

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USGS	13042500	9/11/1994	379 A		9/11/1994	6281.4	
USGS	13042500	9/12/1994	371 A		9/12/1994	6281.51	
USGS	13042500	9/13/1994	296 A		9/13/1994	6281.66	
USGS	13042500	9/14/1994	297 A		9/14/1994	6281.88	
USGS	13042500	9/15/1994	241 A		9/15/1994	6282.06	
USGS	13042500	9/16/1994	201 A		9/16/1994	6282.28	
USGS	13042500	9/17/1994	205 A		9/17/1994	6282.48	
USGS	13042500	9/18/1994	209 A		9/18/1994	6282.71	
USGS	13042500	9/19/1994	209 A		9/19/1994	6282.91	
USGS	13042500	9/20/1994	208 A		9/20/1994	6283.09	
USGS	13042500	9/21/1994	203 A		9/21/1994	6283.27	
USGS	13042500	9/22/1994	201 A		9/22/1994	6283.45	
USGS	13042500	9/23/1994	199 A		9/23/1994	6283.64	
USGS	13042500	9/24/1994	203 A		9/24/1994	6283.83	
USGS	13042500	9/25/1994	203 A		9/25/1994	6283.99	
USGS	13042500	9/26/1994	201 A		9/26/1994	6284.15	
USGS	13042500	9/27/1994	203 A:e		9/27/1994	6284.32	
USGS	13042500	9/28/1994	196 A	lowest Q	9/28/1994	6284.48	
USGS	13042500	9/29/1994	201 A		9/29/1994	6284.71	
USGS	13042500	9/30/1994	205 A		9/30/1994	6284.92	
USGS	13042500	10/1/1994	210 A		10/1/1994	6285.11	
USGS	13042500	10/2/1994	212 A		10/2/1994	6285.28	
USGS	13042500	10/3/1994	209 A		10/3/1994	6285.44	
USGS	13042500	10/4/1994	211 A		10/4/1994	6285.61	
USGS	13042500	10/5/1994	214 A		10/5/1994	6285.87	
USGS	13042500	10/6/1994	217 A		10/6/1994	6286.07	
USGS	13042500	10/7/1994	215 A		10/7/1994	6286.19	
USGS	13042500	10/8/1994	217 A		10/8/1994	6286.33	
USGS	13042500	10/9/1994	217 A		10/9/1994	6286.45	
USGS	13042500	10/10/1994	219 A		10/10/1994	6286.59	
USGS	13042500	10/11/1994	222 A		10/11/1994	6286.72	
USGS	13042500	10/12/1994	228 A		10/12/1994	6286.86	
USGS	13042500	10/13/1994	228 A		10/13/1994	6286.99	
USGS	13042500	10/14/1994	229 A		10/14/1994	6287.19	
USGS	13042500	10/15/1994	225 A		10/15/1994	6287.36	
USGS	13042500	10/16/1994	212 A		10/16/1994	6287.52	
USGS	13042500	10/17/1994	216 A		10/17/1994	6287.61	
USGS	13042500	10/18/1994	218 A		10/18/1994	6287.75	
USGS	13042500	10/19/1994	217 A		10/19/1994	6287.87	
USGS	13042500	10/20/1994	213 A		10/20/1994	6287.99	
USGS	13042500	10/21/1994	214 A		10/21/1994	6288.07	
USGS	13042500	10/22/1994	212 A		10/22/1994	6288.22	
USGS	13042500	10/23/1994	216 A		10/23/1994	6288.32	
USGS	13042500	10/24/1994	215 A		10/24/1994	6288.43	
USGS	13042500	10/25/1994	219 A		10/25/1994	6288.52	
USGS	13042500	10/26/1994	221 A		10/26/1994	6288.63	
USGS	13042500	10/27/1994	220 A		10/27/1994	6288.8	

USGS	13042500	10/28/1994	224 A	10/28/1994	6288.81
USGS	13042500	10/29/1994	224 A	10/29/1994	6288.91
USGS	13042500	10/30/1994	224 A	10/30/1994	6289.01
USGS	13042500	10/31/1994	224 A	10/31/1994	6289.12
USGS	13042500	11/1/1994	226 A	11/1/1994	6289.24
USGS	13042500	11/2/1994	229 A	11/2/1994	6289.31
USGS	13042500	11/3/1994	234 A	11/3/1994	6289.4
USGS	13042500	11/4/1994	220 A	11/4/1994	6289.52
USGS	13042500	11/5/1994	229 A	11/5/1994	6289.62
USGS	13042500	11/6/1994	239 A	11/6/1994	6289.77
USGS	13042500	11/7/1994	243 A	11/7/1994	6289.88
USGS	13042500	11/8/1994	240 A	11/8/1994	6289.96
USGS	13042500	11/9/1994	239 A	11/9/1994	6290.06
USGS	13042500	11/10/1994	239 A	11/10/1994	6290.17
USGS	13042500	11/11/1994	240 A	11/11/1994	6290.24
USGS	13042500	11/12/1994	240 A	11/12/1994	6290.41
USGS	13042500	11/13/1994	247 A	11/13/1994	6290.51
USGS	13042500	11/14/1994	244 A	11/14/1994	6290.59
USGS	13042500	11/15/1994	234 A	11/15/1994	6290.67
USGS	13042500	11/16/1994	232 A	11/16/1994	6290.78
USGS	13042500	11/17/1994	231 A	11/17/1994	6290.86
USGS	13042500	11/18/1994	226 A	11/18/1994	6290.94
USGS	13042500	11/19/1994	229 A	11/19/1994	6291.02
USGS	13042500	11/20/1994	232 A	11/20/1994	6291.11
USGS	13042500	11/21/1994	227 A	11/21/1994	6291.19
USGS	13042500	11/22/1994	231 A	11/22/1994	6291.26
USGS	13042500	11/23/1994	222 A	11/23/1994	6291.32
USGS	13042500	11/24/1994	231 A	11/24/1994	6291.4
USGS	13042500	11/25/1994	231 A	11/25/1994	6291.52
USGS	13042500	11/26/1994	235 A	11/26/1994	6291.6
USGS	13042500	11/27/1994	230 A	11/27/1994	6291.69
USGS	13042500	11/28/1994	231 A	11/28/1994	6291.76
USGS	13042500	11/29/1994	228 A	11/29/1994	6291.88
USGS	13042500	11/30/1994	223 A	11/30/1994	6291.97
USGS	13042500	12/1/1994	222 A	12/1/1994	6292.08
USGS	13042500	12/2/1994	226 A	12/2/1994	6292.15
USGS	13042500	12/3/1994	226 A	12/3/1994	6292.28
USGS	13042500	12/4/1994	226 A	12/4/1994	6292.41
USGS	13042500	12/5/1994	226 A	12/5/1994	6292.49
USGS	13042500	12/6/1994	233 A	12/6/1994	6292.56
USGS	13042500	12/7/1994	237 A	12/7/1994	6292.64
USGS	13042500	12/8/1994	234 A	12/8/1994	6292.71
USGS	13042500	12/9/1994	237 A	12/9/1994	6292.81
USGS	13042500	12/10/1994	239 A	12/10/1994	6292.87
USGS	13042500	12/11/1994	239 A	12/11/1994	6292.93
USGS	13042500	12/12/1994	243 A	12/12/1994	6293.01
USGS	13042500	12/13/1994	250 A	12/13/1994	6293.08

created by Michele Edl for 21-7212

USGS	13042500	12/14/1994	251 A		12/14/1994	6293.15		
USGS	13042500	12/15/1994	239 A		12/15/1994	6293.23		
USGS	13042500	12/16/1994	239 A		12/16/1994	6293.3		
USGS	13042500	12/17/1994	240 A		12/17/1994	6293.39		
USGS	13042500	12/18/1994	239 A		12/18/1994	6293.46		
USGS	13042500	12/19/1994	221 A		12/19/1994	6293.53		
USGS	13042500	12/20/1994	212 A		12/20/1994	6293.61		
USGS	13042500	12/21/1994	230 A		12/21/1994	6293.67		
USGS	13042500	12/22/1994	236 A		12/22/1994	6293.72		
USGS	13042500	12/23/1994	251 A		12/23/1994	6293.79		
USGS	13042500	12/24/1994	250 A		12/24/1994	6293.85		
USGS	13042500	12/25/1994	248 A		12/25/1994	6293.91		
USGS	13042500	12/26/1994	249 A		12/26/1994	6293.97		
USGS	13042500	12/27/1994	252 A		12/27/1994	6294.04		
USGS	13042500	12/28/1994	254 A		12/28/1994	6294.1		
USGS	13042500	12/29/1994	255 A		12/29/1994	6294.17		
USGS	13042500	12/30/1994	257 A		12/30/1994	6294.22		
USGS	13042500	12/31/1994	257 A		12/31/1994	6294.27		



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

October 8, 2013

Jerrold D. Gregg, Area Manager
USBR Snake River Area Office
230 Collins Road
Boise, ID 83702-4520

COPY

RE: Island Park Dam
Inspection and Storage Authorization

IDWR File No: 21-2156
National Dam No: ID00272

Dear Mr. Gregg:

Island Park Dam and its appurtenant dike was inspected by a representative from the Idaho Department of Water Resources (IDWR) Dam Safety program on August 20, 2013. The inspection was scheduled to coincide with the Periodic Facility Review (PFR) performed by the Bureau of Reclamation Dam Safety team, thus helping to avoid duplication of effort. As you recall, the periodic inspection of existing dams and reservoirs is mandated by Idaho statute to help protect downstream life and property from the consequences of a dam failure and sudden release of water. We appreciate the cooperation extended us by Reclamation staff during the inspection. IDWR will continue to inspect the project on a three-year frequency to coordinate our efforts with those of your organization according to pre-determined schedule(s). The state of Idaho considers the dam owner to be responsible and potentially liable for any damages resulting from a failure of the dam.

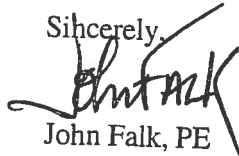
The recent inspection indicates that the dam and dike benefit from proper maintenance and appear to exist in satisfactory physical condition. Based on our site inspection, and in accordance with the terms and conditions included on the attached *Certificate of Approval*, we have determined the earthen structures are suitable for continued impoundment of water not to exceed the maximum normal design pool elevation 6203.0 feet, corresponding to the top of the fully-inflated rubber bladder fastened to the crest of the concrete service (primary) spillway.

Please note that the recent dam inspection did not include the inspection of the buried 10' diameter steel siphon pipe, its associated valving, or the hydroelectric generating facilities located in the power house at the left abutment. We understand these features are operated separately from the dam as water availability will allow, and that all appurtenances associated with power generation are regulated separately by the Federal Energy Regulatory Commission (FERC) according to terms/conditions of power license P-2973. However, we understand also that the regulating gates in the dam can be operated via the powerhouse; a situation that absent close communication between regulators and operators potentially could negatively influence the greater safety of the dam and downstream public.

Conditional to the reservoir elevation requirements listed above, the existing water rights previously established for the project, and other instructions noted in the Standing Operating Procedures and Emergency Action Plan, the continued impoundment of water is authorized until December 31, 2016. IDWR dam safety personnel will make future arrangements with Reclamation to inspect the dam prior to the listed expiration date. Please note that authorization to store water behind the dam may be jeopardized if the project is not being properly maintained and operated for the benefit of public safety.

Thank you for your cooperation. If you have any questions, please do not hesitate to call me at (208) 287-4927 or Kade Raymond (208) 525-7161.

Sincerely,



John Falk, PE
Dam Safety Manager

cc: Lyle Swank – IDWR Eastern Region Office Manager
Chris Regilski – PN Regional Office
Dale Swensen – Fremont Madison Irrigation District
Byron Case – General Manager, Fall River Electric Cooperative

Enc: Trip Report
Certificate of Approval



~ STATE OF IDAHO ~
DEPARTMENT OF WATER RESOURCES

DAM AND RESERVOIR CERTIFICATE OF APPROVAL

This document certifies that:

Island Park Dam located in Section 28, T13N, R43E, Fremont County has been inspected by the Idaho Department of Water Resources Dam Safety program as provided in Title 42, Chapter 17 Idaho Code, and is hereby approved to impound water not to exceed a pool level greater than the top of the rubber bladder, fully inflated, which is fastened to the concrete primary spillway; corresponding approximately to elevation 6303.0 feet, however subject to the following terms and conditions:

- This certificate supersedes all previous versions.
- This certificate will expire on **December 31, 2016**
- Authorized storage is based on the results of periodic inspection, and the continued maintenance, repair and proper operation of the structure by the owner for the protection of public safety.
- This certificate is the property of the State of Idaho and may be revoked at any time upon written notice if the Department determines the structure is unsuitable to impound water, and thus constitutes a danger to life or property downstream.
- Reservoir storage is limited to existing and valid water right(s) as recorded by the Department of Water Resources.
- An Emergency Action Plan shall be prepared and updated as necessary to reflect current operating instructions and contact information.

Dated this 8th day of October, 2013


John Falk, PE
Dam Safety Manager

COPY



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Web Site: www.idwr.idaho.gov

GARY SPACKMAN
Director

C.L. "BUTCH" OTTER
Governor

January 7, 2015

FALL RIVER RURAL ELECTRIC COOPERATIVE INC
1150 N 3400 E
ASHTON ID 83420

RE: Water Right Permit No. 21-07212

Dear Permit Holder(s):

The Department of Water Resources is reviewing the permit referenced above prior to issuing a water right license. By issuing a license, the Department confirms the extent of development that has been established in compliance with the terms of the permit. The examiner who verified your water use reported that certain elements of the permit have been developed differently than described on your permit. Changes that do not increase the authorized use of water under the permit can be requested and approved in accordance with Section 42-211, Idaho Code. Before a license can be issued, your permit must be amended to depict your water use as it was actually developed.

Based on the examiner's report, the following elements were developed differently than described on your permit:

☒ **Point(s) of Diversion**

☐ **Place(s) of Use**

☐ **Other**

The enclosed Application for Amendment form depicts the elements of the water right as they will appear on the license when it is issued. Please review the amendment form carefully. If you concur with the information presented, please sign the form and return it with the \$100.00 filing fee within 14 days.

If you have any questions, please call me at 208-287-4946.

Sincerely,

Michele D. Edl (E.I.T.)
Senior Water Resources Agent

Enclosure(s)

Edl, Michele

From: Dave Peterson [Dave.Peterson@fallriverelectric.com]
Sent: Tuesday, December 16, 2014 1:29 PM
To: Edl, Michele
Subject: RE: info request: FERC inspection report
Attachments: Plaque1.jpg; Plaque2.jpg

Ms. Edl:

Attached are a couple of pictures that I had the operator take of the plague at Island Park Hydro that gives the amount of head at the facility amongst other information.

Have a Merry Christmas!

Thanks,
Dave

From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Thursday, December 11, 2014 9:09 AM
To: Dave Peterson
Subject: RE: info request: FERC inspection report

Mr. Peterson,
This spec sheet will work nicely. Thank you for digging.
I should be able to finish my review this week and I am hoping that Fall River will have their water right license before Christmas.

If Santa asks, please put in a good word for me.
Best regards,
Michele Edl

From: Dave Peterson [<mailto:Dave.Peterson@fallriverelectric.com>]
Sent: Wednesday, December 10, 2014 3:36 PM
To: Edl, Michele
Subject: RE: info request: FERC inspection report

Ms. Edl:

Thanksgiving was great, thank you. We are really enjoying the unseasonably warm temperatures of late. Could use some moisture but there is plenty of time for that.

In digging through files looking for the data you asked for I found some data on the turbine – see attached. Let me know if this will work.

I don't think there would be anything associated with the turbines in the Dam Safety Inspection Reports but I can dig those out and send to you if needed.

Thanks,
Dave

From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Friday, December 05, 2014 12:28 PM
To: Dave Peterson
Subject: info request: FERC inspection report

Mr. Peterson,

I hope Thanksgiving holiday went well for you and the reservoir is filling as everyone hopes.

After putting out a couple of fires, I have returned to the review of the beneficial use report for the Island Park Hydroelectric Project. When we last spoke, I had hoped that the photos of the nameplates would provide me all the information I needed about the turbines. Unfortunately, they did not.

Because the field examiner based his flow rate recommendations on a calculation of the penstock's capacity, I need some confirmation of the hydraulic capacity of the turbines.

I have read the Comprehensive Facility Reviews and the Standard Operating Procedures for Island Park, which are generated by the US BoR. (IDWR's Dam Safety section made them available to me.) They concentrate on the dam and reservoir operations and have relatively little to say about the powerhouse operations.

So, do you have a copy of any of FERC's Dam Safety Inspection Reports/Operation Reports? I believe that the one of most value to me would be the inspection report for the period 1994 to 1996. It's FERC issuance 19970917-0335.

Like the CFRs and the SOP, it's not a publically available document. Dam Safety doesn't need copies of them and although I can request them from one of my FERC contacts, it's usually just easier to get a copy from the power plant operator.

Sincerely,
Michele Edl
208-287-4946

SECTION 1 GENERAL DATA SUMMARY

Turbine (2)

Manufacturer	-	Bouvier Hydro, S.A. Grenoble, France
Type	-	Vertical Francis
Model	-	602/13
Throat Diameter	-	1400 mm
Maximum Output	-	2678 KW @ 72' Net Head & 480 cfs
Speed	-	300 rpm
Runaway Speed	-	513 rpm (max)
Centerline Setting	-	3.5 feet above Tailwater
Intake Type	-	Spiral Case (Flanged)
Spiral Case Inlet Diameter	-	84 inches
Draft Tube Type	-	Elbow
No of Wicket Gates	-	20
Runner Inertia	-	Approx 11,840 lb-ft ²
Runner Weight	-	Approx 5,500 lbs
Hydraulic Thrust	-	Approx 28,660 lbs
Reverse Thrust	-	Approx 34,390 lbs
Direction of Rotation	-	Clockwise when viewed from above
Servomotor Type	-	1 - Double Acting Cylinder CPOAC Type C80H/125x56
Servomotor Stroke	-	236 mm (rated) 260 mm (gate mech. limited)
Servomotor Volume	-	0.67 gallons (closure volume)
Servomotor Pressure	-	855 psi (normal operating)
Gate Opening Time	-	Approx 30 seconds
Gate Closing Time	-	As limited by failsafe orifice (time to be finalized by Customer)

Island Park Dam completed 1938 - U.S. Bureau of Reclamation

ISLAND PARK HYDROELECTRIC PROJECT

Pall River Rural Electric Cooperative, Inc.

Project Actions

Preliminary Study - April 1991

Feasibility Study - October 1991

Construction Completed - October 1994

Project Details:

Generators Two 2400 kW Vertical Francis
Gross Head 75 feet

Hydraulic capacity 170 to 960 c.f.s.

Officers & Directors of the Board

President Kenneth Brown

Vice President Clyde Seely

Secretary-Treasurer Sonja J. Cherry

Directors Delton Brower

Marvin Hill

Ryan Kearsley

Burton Phillips

Larry Williamson

Gordon V. Zollinger

Attorney Ray Rigby

General Manager Dee M Reynolds

Engineering Consultant Bingham Engineering

Island Park Dam completed 1938 - U.S. Bureau of Reclamation
ISLAND PARK HYDROELECTRIC PROJECT

Fall River Rural Electric Cooperative, Inc.

Project Actions:

Preliminary Study - April 1981
Feasibility Study - October 1991
Construction Completed - October 1994

Project Details:

Generators Two 2400 kW Vertical Francis
Gross Head 75 feet

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Gordon V. Zollinger

Attorney: Ray Rigby

General Manager: Dee M. Reynolds

Engineering Consultant: Bingham Engineering

Edl, Michele

From: Dave Peterson [Dave.Peterson@fallriverelectric.com]
Sent: Tuesday, October 21, 2014 4:46 PM
To: Edl, Michele
Subject: RE: 1997 Island Park Data
Attachments: DSC03053.JPG; DSC03056.JPG

Control room.

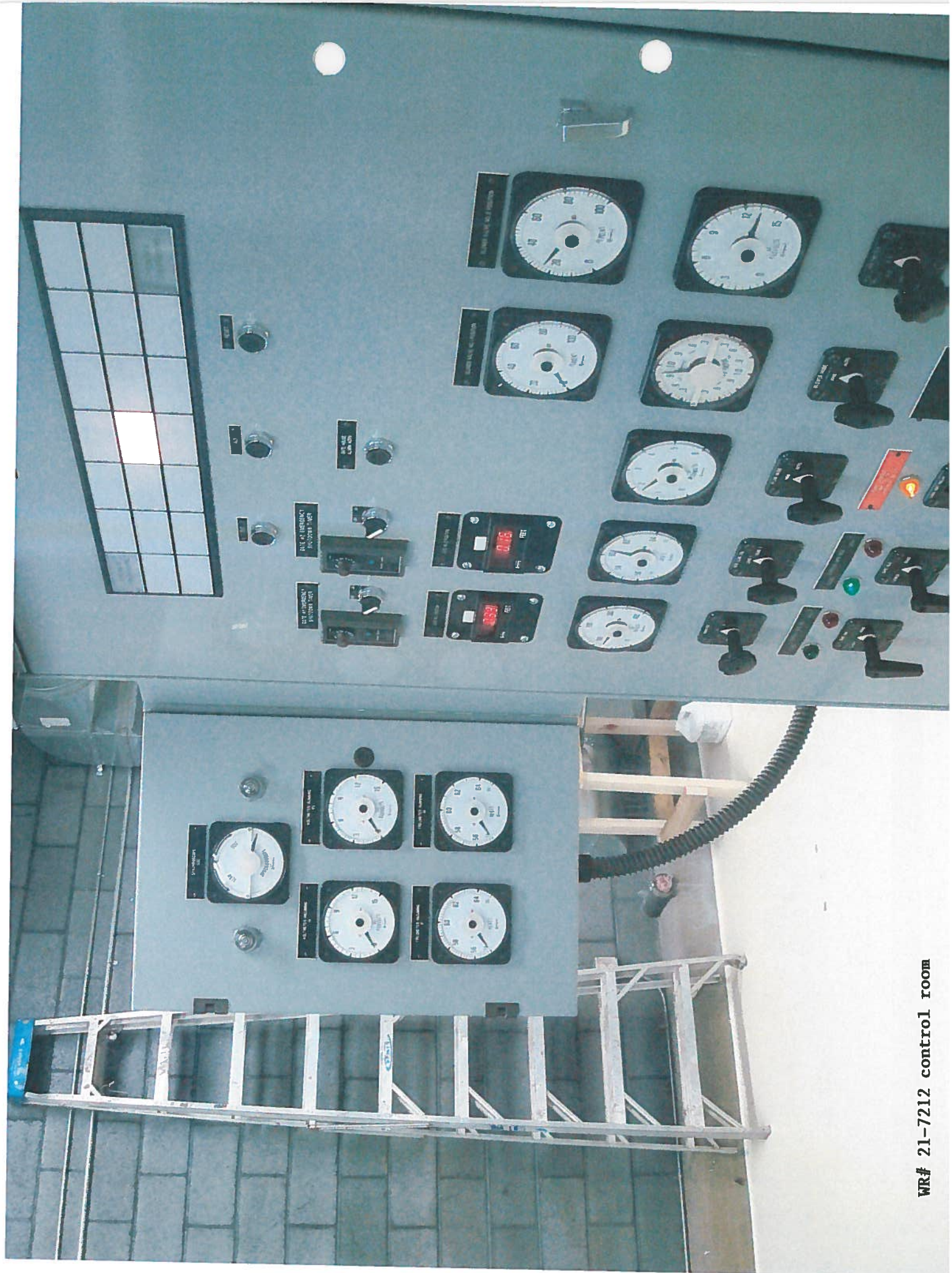
From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Tuesday, October 21, 2014 4:35 PM
To: Dave Peterson
Subject: RE: 1997 Island Park Data

Mr. Peterson,

The field examiner's report on this project has photos of the exterior of the powerhouse but none of the interior. I am assuming that the two turbine-generators are twins and that they are Francis type. Do you have any photos of the powerhouse interior and/or of the nameplates on the units?

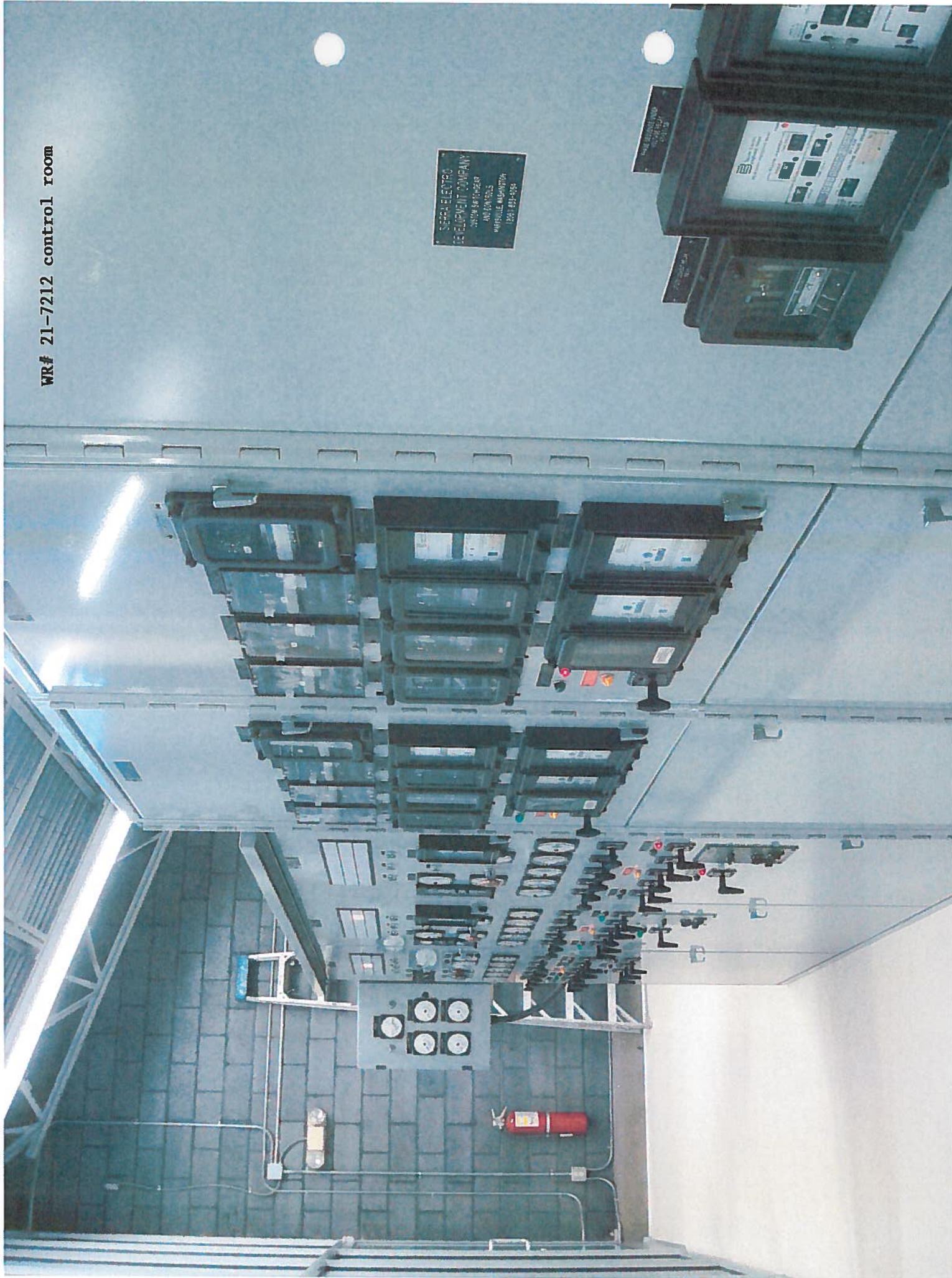
Thank you.

Michele Edl



WR# 21-7212 control room

WR# 21-7212 control room



Edl, Michele

From: Dave Peterson [Dave.Peterson@fallriverelectric.com]
Sent: Tuesday, October 21, 2014 4:44 PM
To: Edl, Michele
Subject: FW: 1997 Island Park Data
Attachments: DSC03052.JPG; DSC03060.JPG

These are what I have, I will send more in a separate emails as the maximum size was exceeded. The pictures of the nameplate are not real clear. I can get better ones if you need them, Just let me know.

Dave Peterson
Manager of Engineering
Fall River Electric Cooperative
(208) 652-7050 Direct Office
(208) 709-4870 Cell



From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Tuesday, October 21, 2014 4:35 PM
To: Dave Peterson
Subject: RE: 1997 Island Park Data

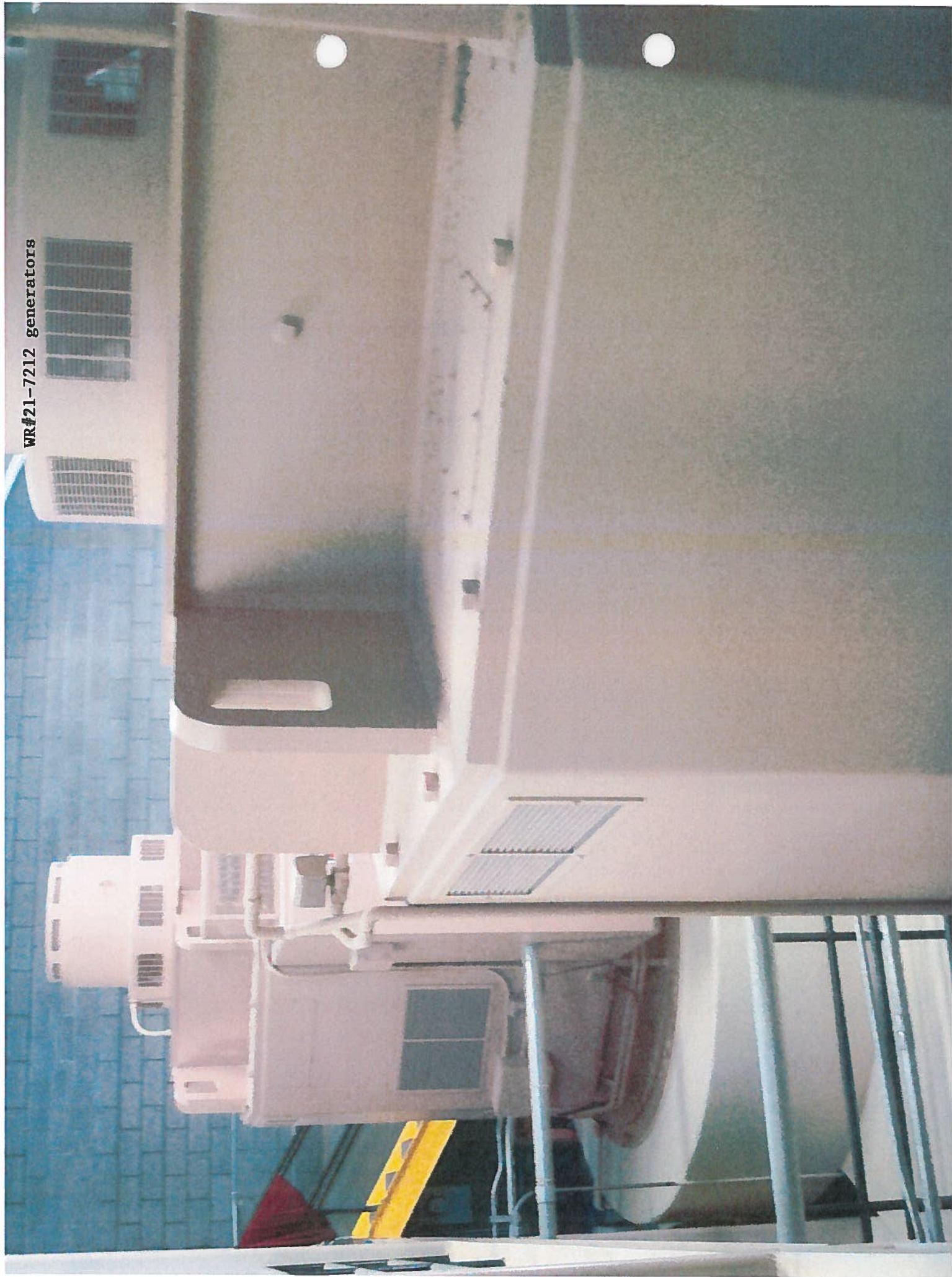
Mr. Peterson,

The field examiner's report on this project has photos of the exterior of the powerhouse but none of the interior. I am assuming that the two turbine-generators are twins and that they are Francis type. Do you have any photos of the powerhouse interior and/or of the nameplates on the units?

Thank you.

Michele Edl

WR#21-7212 generators





WR# 21-7212 generators

Edl, Michele

From: Dave Peterson [Dave.Peterson@fallriverelectric.com]
Sent: Thursday, October 16, 2014 9:03 AM
To: Edl, Michele
Subject: RE: 1997 Island Park Data

Below are the Kwhs that were generated in 1994. Let me know if you need anything else.

Year	1994
	<u>Kwh</u>
January	469,000
February	
March	14,170
April	
May	1,380
June	1,012,740
July	1,776,670
August	1,984,000
September	231,480
October	410,970
November	469,160
December	534,430
Total	
Kwhs	6,904,000

Dave Peterson
Manager of Engineering
Fall River Electric Cooperative
(208) 652-7050 Direct Office
(208) 709-4870 Cell



From: Edl, Michele [<mailto:Michele.Edl@idwr.idaho.gov>]
Sent: Wednesday, October 15, 2014 10:14 AM
To: Dave Peterson
Subject: RE: 1997 Island Park Data

Mr. Peterson,
Thank you for your prompt response. This is high quality data and I hope to use it to calculate a license volume for Falls River's permit 21-7212.

I still need data from the development period of your permit. A Proof of Beneficial Use statement was received at IDWR on 4/6/1994. That submittal ended the development period. Therefore I need generation data, and companion water data if it's available, for the time period from before the Proof statement (1993 & 1994).

I understand from our phone conversation this morning, that the powerplant was still being run through commissioning tests in that time frame. But without data which shows that a beneficial use occurred (power production) within the development period, I am required to take steps to void the permit.

Respectfully,
Michele Edl
208-287-4946

From: Dave Peterson [<mailto:Dave.Peterson@fallriverelectric.com>]
Sent: Wednesday, October 15, 2014 9:29 AM
To: Edl, Michele
Subject: 1997 Island Park Data

Michele:

Attached is the spreadsheet showing daily generation and flows out of Island Park. There is a tab for each month and also a tab for the entire year.

As you mentioned, the plant's maximum capacity is 960 cfs (2 turbines each with a capacity of 480 cfs) so anytime the flows are above 960 cfs, the additional water is being let out of the Bureau's gates.

Let me know if you need anything else.

Thanks,
Dave

Dave Peterson
Manager of Engineering
Fall River Electric Cooperative
(208) 652-7050 Direct Office
(208) 709-4870 Cell



MEMORANDUM

Date: October 10, 2014
To: Water Right File 21-7212
From: medl
Re: prelim review

The field exam was completed on 1/1/95 from a remote site. The powerhouse is attached to an on-stream storage so a volume may not be required for the license. However, no generation data is provided.

USBOR owns the property. The permit and the FERC license are held by Fall River Rural Electric Cooperative, Inc. but Fremont-Madison Irrigation District controls the irrigation releases.

The examiner recommended a change to the POD. The developed POD was alternative 2 on the Application for Permit. Only one POD, the wrong POD was permitted.

I called Fall River today to establish contact and left a message with Dave Peterson.