

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 36-8310
Exam Date: 6-19-2020

1. Current Owner:
BLIND CANYON AQUARANCH INC 2775 S 1050 E HAGERMAN ID 83332
2. Accompanied by: Gary Lemons
Phone No: Same as Above
Address: Same as Above
Relationship to permit Holder: Corporate Secretary

Please Note: The Idaho Secretary of State Business search shows that Blind Canyon Aquaranch Inc. doesn't have the space between the "Aqua" and "Ranch" as is shown on the permit. We should use the official name as recorded with the Idaho Secretary of State webpage.

Also Please Note: The address given on the permit is the same address given above. The Secretary of State Annual Report (Report) shows the above address as the address of Gary Lemons who filed the permit and is co-owner of the project. According to the Report, the official mailing address for the Blind Canyon Aquaranch, Inc. is 2757 S 1050 E, Hagerman Idaho 8332. The official address of the Report is also shown as the address of Kim Lemon. Gary Lemon is listed as the Secretary, and Kim Lemon is listed as the Treasurer. To make the ownership match the Secretary of State's records, I will be changing the mailing address to 2757 S 1050 E, Hagerman, Idaho 83332.

3. **SOURCE:** CEDAR DRAW CREEK **Tributary** SNAKE RIVER

Method of Determination: USGS Topographical Maps and Visual Inspection

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
North Side Canal Co. LTD, portfolio of water rights for irrigation uses			

Comments: The place of use is within the North Side Canal Company borders, but they are all for irrigation uses, and this is a hydropower use. The water being used for hydropower is the wastewater at the tail end of the North Side Canal Company's water system. An agreement has been entered into the canal company and the permit holder to use this wastewater. The main purpose of this permit was to keep as much water as possible out of the portion of Cedar Draw Creek that flows into Blind Canyon. The reason for this was to enhance the water quality of this creek prior to entering the permit holder's fish propagation facilities downstream. There is also a Domestic and Stockwater Right 36-11020 from ground water that is used to supply water to a neighbor's home east of the pond where the water is diverted from.

2. Other water rights with the same point-of-diversion: NO Overlap

Water Right No.	Source	Purpose of Use	Basis

Comments: There are no other water rights diverted at the point of diversion.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

CEDAR DRAW CREEK SW¼ SW¼, Sec. 27, Twp 08S, Rge 14E, B.M. GOODING County

Method of Determination: GPS, Visual Inspection, GIS, and Review of Water Management Information System (WMIS) data.
PLEASE NOTE: The source is listed as Cedar Draw Creek on the topographical maps, but is referred to as the S Coulee in the April 1984 agreement between the permit holder and North Side Canal Company and other documents in the file.

PLACE OF USE: POWER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
08S	14E	28									X								
											L5								
08S	14E	28									X								

Method of Determination: GPS, Visual Inspection, and GIS. PLEASE NOTE: The actual place of use was further described as being in the NESW and Lot 5 (NESW), since a portion of the place of use is in the old Snake River Channel.

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. GENERATOR AND TURBINE INFORMATION:

Generator Make – General Electric
 Generator Serial Number – 5268395
 Generator Type – ATB – 26 – 1625 - 277
 Volts – 2400
 KW – 1300
 Amp Field – 12.4
 Speed – 2077

Turbine Make – S Morgan Smith Company
 Turbine Serial Number – 8809
 Turbine R.P.M – 277

PLEASE NOTE: The above information was taken from the name plate on the turbine and generator. However, this is a very old unit that has been rebuilt and the information is probably no longer accurate. The owner did inform me that he has replaced some of the parts on the Turbine to make it more efficient.

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
11.5 Foot Rectangular Weir						

2. Measurements: The permit holder provided daily records of head readings taken each day over the 11.5 foot weir. The permit holder also provided daily power records. The annual volumes provided by the permit holder were compared to the WMIS database of the annual diversion volume for this permit.

E. FLOW CALCULATIONSYES Additional Computation Sheets Attached**Measured Method:**

Per the permit holder's records, the maximum diversion rate for this system was 75.35 cfs on 7/19/1993. A diversion rate of 75.35 cfs was only reached once during the first full year of operation, and appears to be an anomaly for the following reasons:

- 1.) A diversion rate of 75.35 is beyond the highest limit of the 11.5 foot weir's rating table¹, so it had to be calculated separately.
- 2.) The total power output for 7/19/1993 was only 17,600 KWh, while on 7/18/1993 the diversion rate was 31.11 cfs and power output was 19,200 KWh and on 7/20/1993 the diversion rate was 31.67 cfs and the power output was 20,800 KWh. According to the permit holder's records this diversion rate was only achieved once, and produced less power than the day before or after with less than 1/2 of the diversion rate for either day.
- 3.) In reviewing the monthly power report for 7/19/1993 the power system was tripped and they had several entries suggesting a problem with the turbine on that day.
- 4.) According to notes in the Raw Data, from 4/13/1996 to 4/26/1996, once the weir gauge reading reached 1.00 feet of head, water began to spill. I am assuming that this water was spilling in the creek, but I can't confirm that. At 1.00 feet of head, the flow rate according to the rating table¹ suggests that the amount of water flowing into the generator is approximately 37 cfs. A flow rate of 75.35 cfs would require an additional .60 feet of water flowing over the weir. If the system starts spilling at 1.00 feet of head, I would imagine that there would be a significant amount of water spilling into the channel and overtopping the power canal channel with an additional .60 feet of water going over the weir.

Taking all of the above information into consideration, I have determined that 75.35 cfs should be considered an outlier and not be considered for a maximum diversion rate for this permit. The next highest diversion rate of 67.41 cfs is shown in the daily records multiple times in the records supplied to the Department. Therefore, I believe that the true capacity of the system is 67.41 cfs.

System Capacity Per Records Supplied by Permit Holder = 67.41 cfs

Permit Authorized = 85 cfs

I am recommending that this permit be licensed at 67.41 cfs, which will be rounded to 67.40 cfs per Department standards.

¹ Rating tables is the term used for tables prepared to provide the amount of the flow of water being diverted over a specific sized weir by using the measurement of the amount of head in feet of water flowing over that weir. For additional information on rating tables, please see the U. S. Department of Interior Bureau of Reclamation Water Measurement Manual. Rating tables are also known as flow tables, discharge tables, and various other names. ¹

F. VOLUME CALCULATIONS**1. Volume Calculations for irrigation:**

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 =$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$$

2. Volume Calculations for Other Uses:

Per the daily diversion records, the maximum diversion volume diverted during the development period from 1992 to 1995 is 16,375 af (diverted in 1993). The records supplied by the permit holder and the WMIS database suggest that the 16,375 af is more than adequate to cover the volume diverted through the turbine most of the time. The volume of 16,375 af was exceed in 1996 (16,581), 1997 (21,806), and 2011 (19,511). This system is dependent on the wastewater that is available at the end of the canal company's system. It is understandable that that more water could have been diverted if available during the development period, but I am limited on what I can recommend.

In the spreadsheets I compared the actual water diverted over the weir to the volume of water calculated using the power usage or Total KWh/Ave KWh/cfs. In 1993 the power calculation and actual water matched exactly at 16,375 af. The remainder of the years, the power calculations and the actual volume diverted were generally within less than 50 to 60 af. With the range of error in measurement.

It also appears from my observation, that all of the water in the power canal has to go through the power generator. The water controls on the system are at the pond, so when they shut down the power plant for repair, the water is no longer diverted into the power canal, but is diverted back into the original channel of Cedar Draw Creek also known as the S Coulee.

I am recommending that this permit be licensed for an annual volume of 16,400 af. Please Note: I rounded the volume according to the Department's standards.

G. NARRATIVE/REMARKS/COMMENTS

This application for permit was originally filed to provide hydro power and fish propagation on Cedar Draw Creek, known locally as the S Coulee. The water that is diverted for this permit is the tail water of the North Side Canal Company project, so this water flowing in Cedar Draw Creek is actually wastewater. There is a memorandum agreement dated April 20, 1984, between the permit holder and North Snake Canal Company that clearly states that the permit holder is only entitled to the waste water from the project, and have no right or authority to call for water from North Snake Canal Company. Prior to this permit, the water from Cedar Draw Creek went into a settling pond to help remove sediments before the water flowed into Blind Canyon and joined with water from Blind Canyon Springs in Blind Canyon Creek.

The permit holder has a fish rearing facility that uses the water from Blind Canyon Springs and Blind Canyon Creek. There was concern that the wastewater from Cedar Draw Creek was degrading the water quality of Blind Canyon Creek, so the permit holder filed this permit. This permit allows the majority of the wastewater from the North Side Canal Company to be diverted away from Blind Canyon Creek, and provides some additional income through power generation.

The system is a very basic hydropower system. The system begins at a settling pond at the end of Cedar Draw Creek/S Coulee. At the outflow of this pond, water can be diverted in two directions. The original direction was to allow the water to continue down Cedar Draw Creek/S Coulee to Blind Canyon Springs and Blind Canyon Creek. The intention of this permit was to divert the canal return flows away from Blind Canyon Springs and Blind Canyon Creek to improve the water quality of Blind Canyon Springs and Blind Canyon Creek for the fish hatcheries that take water from those water sources. The majority of the water in the pond is now diverted over a 11.5 foot wide rectangular weir that is located under a bridge shown in the photos to the power canal. There is a screen set up on the bridge to ensure the weir is not compromised by weeds and vegetation from the pond. The power canal is approximately 2,080 feet in length, and a width that ranges from 17 feet to 100 feet in width. At the end (west end of canal) of the power canal, the water in the canal enters 2 - 12 ft cement intake structures that are outfitted with screens to separate any vegetation or debris from entering the pipeline. The water from the cement intake structures enters a pipeline that travels to the plant. The pipeline is buried, so I was unable to measure the pipeline. The schematics suggest that there is approximately 500 feet of 54 inch pipe that bells down to a 1,000 feet of 48 inch pipe that goes into the turbine. The total distance from the intake to the power generator is only approximately 1,350 feet, so I cannot confirm how much of each size pipe was removed. The pipeline has a fall of approximately 280 feet according to the Department's contour layer. At the end of the pipeline, the water enters a turbine type generator. The specification in the file suggest that there is an outlet designed to allow water to go around the generator, but I didn't see a separate spillway pipeline. It is possible that the spillway pipeline was under the floor where I couldn't see it. The water flows through the turbine and exits under the floor of the building into a 12 wide foot cement channel that carries the water approximately 40 feet from where it exits under the cement floor to the Snake River. The total distance from where the pipeline enters the building to where it exits from the cement floor is approximately 55 feet. As stated above, I was not able to see anything that was happening under the cement flooring, so I can only assume it was built reasonably close to the schematics supplied in the letter submitted to the Department on February 27, 1990.

The power house is an enclosed structure, and the power lines from the generator to the transmission lines for Idaho Power are enclosed behind a locked fenced in area. The entire facility is on private property, and there are employees on site every day tending the fish propagation facility and the power house. The only way to drive to the power facility is through the fish propagation facility. Access to the power facility is limited to facility employees. There is a trail along the Snake River from a public trail ½ miles to the south of the power facility, but there are no trespassing signs around the power facility. The only other possible access would be from a boat on the Snake River. Any access to the facility except through the fish propagation facility would be extremely difficult.

During the application for permit and permit approval process, the permit holder did intend to raise fish in a settling pond prior to the water from Cedar Draw Creek flowing over the canyon rim into Blind Canyon Creek. Due to the water quality of the wastewater and the uncertainty of demand in Cedar Draw Creek, the fish propagation portion of this permit was never developed.

The settling pond was in place prior to the development of the hydropower use. It is difficult to tell if the pond increased in size after the development of the hydropower use. However, it is still not part of the hydropower use. It is was and still is used to reduce the sediments out of the canal company's system before it reaches the Snake River. The pond level probably did increase a little bit, when the permit holder installed the head gates in Cedar Draw Creek to divert the water to the hydropower facility. The diversion dam is approximately 2 to 4 feet in height. Raising the dam height provided additional benefit to the Northside Canal Company by slowing down the water in Cedar Draw Creek even more to allow more sediment to settle out into the pond before the waste water is discharged into a known water source. Even with the raise of the pond level caused by the diversion dam, the pond doesn't need a water right, because it is not part of or need for the hydropower use. The pond is part of the entire North Side Canal Company system, and would fit within the 24 hour rule for irrigation uses.

The water right file has the Federal Energy Regulatory Commission (FERC) application and FERC order that states that this power use is exempt from FERC Licensing. The FERC order stated that this facility qualifies as a small power production facility under the Public Utility Regulation Policies Act (PURPA). The FERC application provides the operation plans for this plant.

Where there is no FERC licensing requirements, this system is regulated by Public Utility Commission (PUC). I was able to download the December 15, 2014, PUC order that authorized the sale of energy produced by the hydro power plant to Idaho Power. The PUC order approves the 2014 Energy Sales Agreement with Idaho Power Company. The original PUC order and Energy Sales Agreement was authorized in 1994. The 1994 agreement was for 20 years, and then it was extended in 2014 for an additional 20 years. Blind Canyon asked that the new agreement begin on December 15, 2014, and run for an additional 20 years. This would place the expiration date of the 2014 agreement as December 15, 2034. Please review the first sentence of the second paragraph of page 2 or Order #3391 issued by the PUC.

Conditions:

This permit was filed before many of our current hydropower conditions were instituted. Therefore, we will be adding standard hydropower conditions, and removing a majority of the conditions that were shown on the permit. A number of the conditions on the permit have been updated and included in several standard conditions. Other of the conditions on the permit were requirements need at the time proof of beneficial use was filed or to assist the field examiner, and all of these conditions have been met.

The first condition we will add is condition 915. This condition will be based on the PUC Order 33191 signed on December 15, 2014. We will also change some of the standard wording to remove the word "Subsequent" in regards to the water right. The case number is IPC-E-14-39. This permit will also have the standard hydropower conditions R22 and 025. Condition 027 will also be carried forward to the licensing.

Additional conditions will need to be added. Condition 004 will be needed, since the use of the pond is only through an agreement with the North Side Canal Company. Conditions R05 and R43 are also needed, because this system is measured and regulated by Water District 130.

Condition will need to be added and modified as follows:

The diversion and use of water described in this right may be subject to a separate agreement with North Side Canal Company to which the Department is not a party. Because the Department is not a party, the Department is not responsible for enforcement of any aspect of the agreement not specifically addressed in other conditions herein. Enforcement of those portions of the agreement not specifically addressed in other conditions shall be the responsibility of the North Side Canal Company and the water right holder.

Another condition will also need to be added. This condition was taken from water right 63-10240 for power uses on canals and laterals. Staff have requested that we not include the specific channels or canals that deliver water to this power generation plant. The condition will state the following:

This water right authorizes the incidental generation of power using water diverted under existing water rights and operating procedures for irrigation, flood control, and other authorized purposes. This right does not convey the authority to require or demand the delivery, storage, or release of water solely for power generation purposes.

Have conditions of permit approval been met? X 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	67.40 CFS	16,400 af

Totals: 67.40 CFS 16,400 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

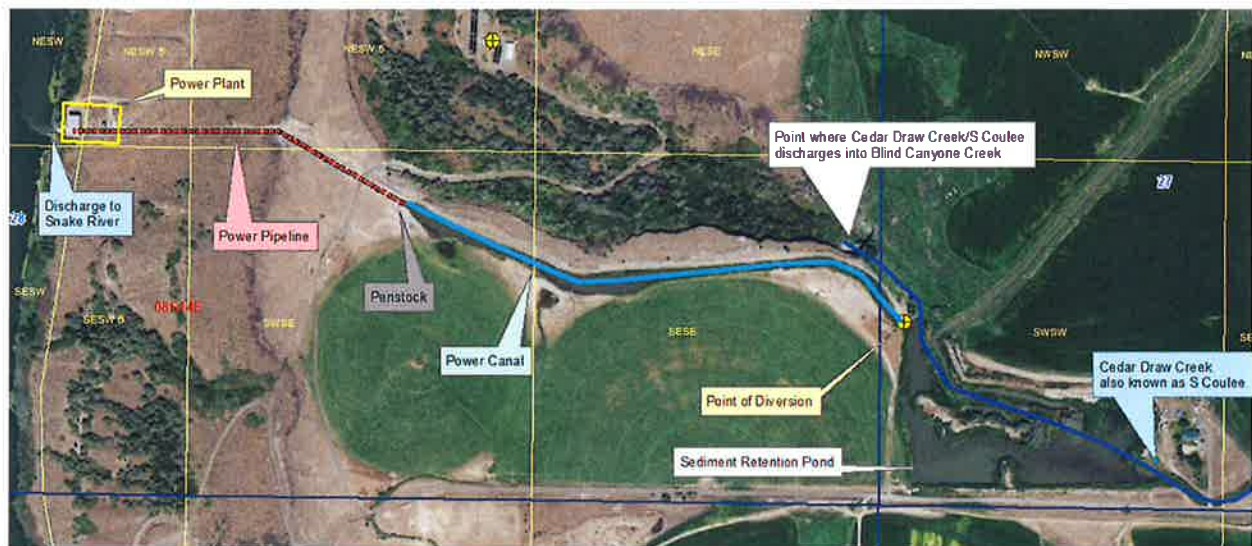
I. AUTHENTICATION Dan Nelson - Analyst 3

Field Examiner's Name Dan Nelson Date 1-26-21

Reviewer Angela M. Gunn Date 1/26/2021

Field Exam Map – Permit 36-8310

The water for this permit comes from Cedar Draw Creek also known as the S Coulee. North Side Canal Company uses this channel to discharge waste water from the end of their canal project. The water in Cedar Draw Creek flows into a sediment retention pond owned by North Side Canal Company. The water in the pond is then diverted into the Power Canal (shown in blue) to the penstock. At the penstock the water enters a buried pipeline (shown in red) that flows down the Snake River Canyon Rim to the power plant (shown in yellow) where it goes through the turbine for this permit. According to the contour lines available to the Department, this is a fall of approximately 280 to 300 feet. After it goes through the power plant's turbine it is open discharged into the Snake River.





0003830295

**STATE OF IDAHO***Office of the secretary of state, Lawrence Denney***ANNUAL REPORT**

Idaho Secretary of State

PO Box 83720

Boise, ID 83720-0080

(208) 334-2301

Filing Fee: \$0.00

*For Office Use Only***-FILED-**

File #: 0003830295

Date Filed: 4/3/2020 8:53:34 AM

Entity Name and Mailing Address:

BLIND CANYON AQUARANCH, INC.

The file number of this entity on the records of the Idaho Secretary of State is: 0000143297

Address

2757 S 1050 E
HAGERMAN, ID 83332-5838

Entity Details:

Entity Status

Active-Good Standing

This entity is organized under the laws of:

IDAHO

If applicable, the old file number of this entity on the records of the Idaho Secretary of State was: C43768

The registered agent on record is:

Registered Agent

KIM G LEMMON
Registered Agent

Physical Address

2757 S. 1050 E.
HAGERMAN, ID 83332

Mailing Address

Corporate Officers and Directors:

Name	Title	Business Address
KIM LEMMON	Treasurer	2757 SOUTH 1050 EAST HAGERMAN, ID 83332
GARY LEMMON	Secretary	2775 SOUTH 1050 EAST HAGERMAN, ID 83332
PAT WINDES	President	1424 BOB BARTON RD WENDELL, ID 83355
JACOB LEMMON	Director	2354 E MEADOWGRASS ST. MERIDIAN, ID 83646

The annual report must be signed by an authorized signer of the entity.

Kim Lemmon

Sign Here

04/03/2020

Date

Job Title: Treasurer

FILED EFFECTIVE



STATEMENT OF CHANGE OF REGISTERED OFFICE

OR REGISTERED AGENT, OR BOTH

(See reverse for instructions)

SECRETARY OF STATE
STATE OF IDAHO

File #: C43768

08 AUG 13 AM 8:41

The undersigned entity submits the following statement for the purpose of changing its registered office or its registered agent, or both, in the State of Idaho.

1. The name of the entity is:

Blind Canyon Aguaranch, Inc.

2. The street address of its present registered office is:

2757 S 1050 E, Hagerman, Idaho 83332

3. The new street address in Idaho (not a P.O. box or PMB) to which its registered office is to be changed is:

4. The name of its old registered agent is: George H. Lemmon

5. The name of its new registered agent is: Kim G. Lemmon

6. The address of the registered office and the business address of the registered agent are identical.

Dated: August 6, 2008

Signed: J. Patrick Windes

Printed: J. Patrick Windes

Capacity: Vice President

I consent to serve as registered agent for the above-named entity.

Kim G. Lemmon
(Signature of new registered agent)

FILE ONE COPY

NO FEE REQUIRED

g:\corp\form\elecform\changeRA_RO.p65

Rev. 01/2007

FILED EFFECTIVE

08 JUN 13 AM 8:19

File Number: C43768

SECRETARY OF STATE
STATE OF IDAHO

STATEMENT OF CHANGE OF BUSINESS MAILING ADDRESS
(see reverse for instructions)

The entity identified below submits to the Secretary of State the following statement for the purpose of changing its business mailing address.

1. The name of the business entity is: Blind Canyon Aguaranch, Inc.
2. The business mailing address is currently on file as:
2727 South 1050 East Hagerman, ID 83332
3. The business mailing address is to be changed to:
2757 South 1050 East Hagerman, ID 83332
4. Change of address is effective:

☒ Upon Receipt OR ☐ _____
(Date)

Signed: Kim Lemman
Printed Name: Kim Lemman
Capacity: Treasurer
Dated: 6-10-'08

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION	)	
OF IDAHO POWER COMPANY FOR	)	CASE NO. IPC-E-14-39
APPROVAL OR REJECTION OF AN	)	
ENERGY SALES AGREEMENT WITH	)	
BLIND CANYON AQUARANCH, INC. FOR	)	
THE SALE AND PURCHASE OF	)	ORDER NO. 33191
<u>ELECTRIC ENERGY.</u>	)	

On November 13, 2014, Idaho Power filed an Application with the Commission for approval or rejection of an energy sales agreement with Blind Canyon Aquaranch, Inc. for the sale and purchase of electric energy from the Blind Canyon Hydro Project. On November 26, 2014, the Commission issued a Notice of Application and Notice of Modified Procedure setting a comment deadline of December 9, 2014. Order No. 33186. Commission Staff was the only person or party to file comments.

By this Order, we approve the October 31, 2014, Energy Sales Agreement between Blind Canyon Aquaranch and Idaho Power for the sale and purchase of electric energy.

THE APPLICATION

Idaho Power requests that the Commission accept or reject the Energy Sales Agreement between Idaho Power and Blind Canyon Aquaranch, Inc. (Blind Canyon) under which Blind Canyon would sell and Idaho Power would purchase electric energy generated by the project's 1.625 megawatt (MW) non-seasonal hydro facility located near Wendell, Idaho. The Agreement between the parties was executed on October 31, 2014. The Agreement is for a term of 20 years.

Blind Canyon is currently selling energy to Idaho Power under a 20-year PURPA agreement that was executed in 1994 and approved by the Commission in January 1995. Order No. 25852. Blind Canyon has requested a new 20-year agreement as a PURPA qualifying facility for a non-seasonal hydro project smaller than 10 average megawatts (aMW). The Agreement between Idaho Power and Blind Canyon includes full capacity payments pursuant to Commission Order No. 32697 as a replacement contract.

The nameplate rating of this facility is 1.625 MW. Blind Canyon will be required to provide data that Idaho Power will use to confirm that under normal and/or average conditions,

the facility will not exceed 10 aMW on a monthly basis. Should the facility exceed 10 aMW on a monthly basis, Idaho Power will accept the inadvertent energy that does not exceed the maximum capacity amount, but will not purchase or pay for the inadvertent energy.

Blind Canyon has selected December 15, 2014, as its Scheduled First Energy Date and Scheduled Operation Date in order to maintain uninterrupted operation after the expiration of its existing agreement. All applicable interconnection charges and monthly operation and maintenance charges under Schedule 72 will be assessed to Blind Canyon.

The new Agreement contains revised terms and conditions pursuant to the Commission's final Orders in Case No. GNR-E-11-03. These revised conditions are the same or similar to those recently approved by the Commission in Case Nos. IPC-E-14-06, IPC-E-14-07 and IPC-E-14-12. The changes include: reference to the ICE index and formula; modified provisions regarding delay liquidated damages and delay security; ownership of environmental attributes; provisions providing for revision of initial year monthly net energy amounts on a monthly rather than quarterly basis; and several other minor changes consistent with Commission orders.

As with all PURPA QF generation, the project must be designated as a network resource (DNR) to serve Idaho Power's retail load on its system. Consequently, the Agreement contains provisions requiring completion of a Generator Interconnection Agreement (GIA), compliance with GIA requirements, and designation as an Idaho Power network resource as conditions of Idaho Power accepting delivery of energy and paying for the same under the Agreement. In order for the project to maintain its DNR status, there must be a power purchase agreement associated with its transmission service request that maintains compliance with Idaho Power's non-discriminatory administration of its Open Access Transmission Tariff (OATT) and maintains compliance with FERC requirements.

Article 21 of the Agreement provides that the Agreement will not become effective until the Commission has approved all of the Agreement's terms and conditions and declared that all payments Idaho Power makes to Blind Canyon for purchases of energy will be allowed as prudently incurred expenses for ratemaking purposes.

COMMENTS

Staff was the only person or party to file comments. Staff noted that this Agreement is intended to replace an existing agreement that will expire on December 14, 2014. Staff further

reviewed and confirmed the Agreement's use of non-levelized published avoided cost rates for non-seasonal hydro replacement contracts. Staff verified that all other terms and conditions contained in the Agreement are consistent with prior Commission orders.

Based on its review, Staff recommended that the Commission approve all of the Agreement's terms and conditions and declare that all payments made by Idaho Power to Blind Canyon for the purchase of energy be allowed as prudently incurred expenses for ratemaking purposes.

FINDINGS AND CONCLUSIONS

The Idaho Public Utilities Commission has jurisdiction over Idaho Power, an electric utility, and the issues raised in this matter pursuant to the authority and power granted it under Title 61 of the Idaho Code and the Public Utility Regulatory Policies Act of 1978 (PURPA). The Commission has authority under PURPA and the implementing regulations of the Federal Energy Regulatory Commission (FERC) to set avoided costs, to order electric utilities to enter into fixed-term obligations for the purchase of energy from qualified facilities (QFs) and to implement FERC rules. The Commission is also empowered to resolve complaints between QFs and utilities and approve QF contracts.

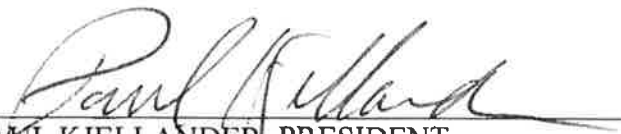
The Commission has reviewed the record in this case, including the Application, the Agreement, and the comments of Commission Staff. Based on the record, we find that the proposed Agreement submitted in this case contains acceptable contract provisions consistent with prior Commission orders. Consequently, we approve the Agreement without material change or condition. We further find it reasonable to allow payments made under the Agreement as prudently incurred expenses for ratemaking purposes.

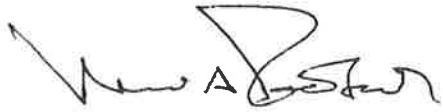
ORDER

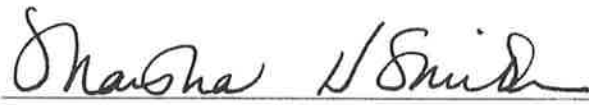
IT IS HEREBY ORDERED that the October 31, 2014, Energy Sales Agreement between Idaho Power and Black Canyon Aquaranch, Inc. is approved without change or condition.

THIS IS A FINAL ORDER. Any person interested in this Order may petition for reconsideration within twenty-one (21) days of the service date of this Order. Within seven (7) days after any person has petitioned for reconsideration, any other person may cross-petition for reconsideration. See *Idaho Code* § 61-626.

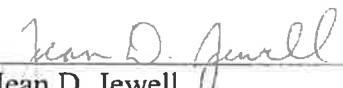
DONE by Order of the Idaho Public Utilities Commission at Boise, Idaho this 15th
day of December 2014.


PAUL KJELLANDER, PRESIDENT


MACK A. REDFORD, COMMISSIONER


MARSHA H. SMITH, COMMISSIONER

ATTEST:


Jean D. Jewell
Commission Secretary

O:IPC-E-14-39_ks2

RECEIVED

2014 NOV 13 PM 2:56

IDAHO PUBLIC
UTILITIES COMMISSION

DONOVAN E. WALKER
Lead Counsel
dwalker@idahopower.com

November 13, 2014

VIA HAND DELIVERY

Jean D. Jewell, Secretary
Idaho Public Utilities Commission
472 West Washington Street
Boise, Idaho 83702

Re: Case No. IPC-E-14-39
Blind Canyon Aquaranch Inc. – Idaho Power Company's Application
Regarding Energy Sales Agreement

Dear Ms. Jewell:

Enclosed for filing please find an original and seven (7) copies of Idaho Power Company's Application in the above matter.

Very truly yours,



Donovan E. Walker

DEW:csb
Enclosures

DONOVAN E. WALKER (ISB No. 5921)
Idaho Power Company
1221 West Idaho Street (83702)
P.O. Box 70
Boise, Idaho 83707
Telephone: (208) 388-5317
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IDAHO PUBLIC UTILITIES COMMISSION

Attorney for Idaho Power Company

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION	)	
OF IDAHO POWER COMPANY FOR	)	CASE NO. IPC-E-14-39
APPROVAL OR REJECTION OF AN	)	
ENERGY SALES AGREEMENT WITH	)	APPLICATION
BLIND CANYON AQUARANCH INC. FOR	)	
THE SALE AND PURCHASE OF ELECTRIC	)	
ENERGY FROM THE BLIND CANYON	)	
HYDRO PROJECT.	)	
	)	

Idaho Power Company ("Idaho Power" or "Company"), in accordance with RP 52 and the applicable provisions of the Public Utility Regulatory Policies Act of 1978 ("PURPA"), hereby respectfully applies to the Idaho Public Utilities Commission ("Commission") for an order accepting or rejecting the Energy Sales Agreement ("ESA") between Idaho Power and Blind Canyon Aquaranch Inc. ("Blind Canyon" or "Seller") under which Blind Canyon would sell and Idaho Power would purchase electric energy generated by the Blind Canyon Hydro project ("Facility") located near Wendell, Idaho.

In support of this Application, Idaho Power represents as follows:

I. INTRODUCTION

1. The small hydro generation facility that is subject to this ESA (Blind Canyon Hydro) is currently selling energy to Idaho Power under a 20-year PURPA agreement that was executed in 1994, and approved by Commission Order No. 25852 in January 1995. The expiration of the 1994 agreement is December 14, 2014.

2. Blind Canyon has requested a new 20-year PURPA qualifying facility ("QF") ESA, for a Non-Seasonal Hydro project less than 10 average megawatts ("aMW") to go into effect immediately following the expiration of the existing agreement on December 14, 2014. Commission Order No. 32697 established that an existing project will continue to receive full capacity payments if it requests an agreement to sell energy to Idaho Power after its existing agreement expires. Commission Order No. 32737 identified these types of ESAs as "replacement contracts" and confirmed that the published avoided costs available for replacement contracts will include capacity payments for all years of the ESA.

3. The ESA was executed in compliance with the Commission's orders directing the implementation of PURPA for the state of Idaho and contains avoided cost rates pursuant to Commission Order No. 33084, including capacity payments for all months of the ESA as required by Commission Order Nos. 32697 and 32737 for a replacement contract.

II. BACKGROUND

4. Sections 201 and 210 of PURPA, and pertinent regulations of the Federal Energy Regulatory Commission ("FERC"), require that regulated electric utilities

purchase power produced by cogenerators or small power producers that obtain QF status. The rate a QF receives for the sale of its power is generally referred to as the "avoided cost" rate and is to reflect the incremental cost to an electric utility of electric energy or capacity or both, which, but for the purchase from the QF, such utility would generate itself or purchase from another source. The Commission has authority under PURPA Sections 201 and 210 and the implementing regulations of FERC, 18 C.F.R. § 292, to set avoided costs, to order electric utilities to enter into fixed-term obligations for the purchase of energy from QFs, and to implement FERC rules.

5. On December 18, 2012, the Commission issued Order No. 32697, which established parameters for published and negotiated avoided cost rate calculations. The Commission further established and defined numerous contract terms and conditions for standard power purchase agreements entered into between regulated utilities and QFs. On January 2, 2013, the Commission issued Errata to Order No. 32697, which corrected published avoided cost rates to include energy payments not discounted by transmission and line loss. Then the Commission issued reconsideration Order Nos. 32737 and 32802 on February 5, 2013, and May 5, 2013, respectively, which further clarified certain terms and conditions of power purchase agreements. Most recently, in Order No. 33084, the Commission directed Idaho Power to utilize July 2021 as its first capacity deficit in the Company's surrogate avoided resource methodology, effective July 30, 2014. However, because this ESA is a replacement contract, its rates contain capacity payment for all years of the contract term.

III. THE ENERGY SALES AGREEMENT

6. On October 31, 2014, Idaho Power and Blind Canyon entered into an ESA pursuant to the terms and conditions of various Commission orders applicable to this replacement PURPA QF ESA for a Non-Seasonal Hydro project. A copy of the ESA is attached to this Application as Attachment 1. Under the terms of this replacement ESA, Blind Canyon elected to contract with Idaho Power for a 20-year term using the non-levelized, Non-Seasonal Hydro published avoided cost rates as currently established by the Commission in Order No. 33084 as modified by Commission Order Nos. 32697 and 32737 for replacement contracts and for energy deliveries of less than 10 aMW. This ESA was executed by Blind Canyon on October 30, 2014. It was subsequently executed by Idaho Power on October 31, 2014, and now filed for the Commission's review.

7. Prior to the Effective Date of this agreement, this Facility has been delivering energy to Idaho Power in accordance with an Energy Sales Agreement dated December 14, 1994, that expires on December 14, 2014. Blind Canyon proposes to continue to operate and maintain a 1.625 megawatt ("MW") (Maximum Capacity Amount, paragraph B-4, Appendix B) Non-Seasonal Hydro energy facility located near Wendell, Idaho. The Facility is a QF under the applicable provisions of PURPA.

8. The nameplate rating of this Facility is 1.625 MW (paragraph B-1 of the ESA). As defined in paragraphs 1.21 and 4.1.4 of the ESA, Blind Canyon will be required to provide data on the Facility that Idaho Power will use to confirm that under normal and/or average conditions, the Facility will not exceed 10 aMW on a monthly basis. Furthermore, as described in paragraph 7.5 of the ESA, should the Facility

exceed 10 aMW on a monthly basis, Idaho Power will accept the energy (Inadvertent Energy) that does not exceed the Maximum Capacity Amount, but will not purchase or pay for this Inadvertent Energy.

9. As this project is already interconnected and selling energy to Idaho Power under a previous agreement, Blind Canyon has selected December 15, 2014, as the Scheduled First Energy Date and Scheduled Operation Date in order to maintain uninterrupted operation after the expiration of the existing agreement on December 14, 2014. As specified in Articles IV and V of this ESA, the parties recognize that information provided under the previous agreement may still be applicable to this new replacement ESA. As specified in the ESA, Idaho Power shall review the previously provided information and will accept the information as previously submitted, request updates to that information, and/or require new information to satisfy compliance with the various requirements for the Seller to be granted a First Energy Date and Operation Date for this replacement ESA. In addition, Idaho Power will monitor the ongoing requirements through the full term of this ESA.

10. The ESA, as signed and submitted by the parties thereto, contains non-levelized published avoided cost rates in conformity with applicable Commission orders. All applicable interconnection charges and monthly operation and maintenance charges under Schedule 72 will be assessed to Blind Canyon.

11. The ESA contains revised terms and conditions subsequent to the Commission's final and reconsideration orders from Case No. GNR-E-11-03. As such, the form of the ESA has several terms and conditions that vary from approved agreements prior to the GNR cases. These revised terms and conditions are the same

or similar to those recently approved by the Commission in Case Nos. IPC-E-14-06, IPC-E-14-07, and IPC-E-14-12. Those changes include: reference to the Intercontinental Exchange (ICE) index and formula; modified provisions regarding Delay Liquidated Damages and Delay Security pursuant to Order No. 32697; reference to Seller ownership of Environmental Attributes; provisions providing for revision of Initial Year Monthly Net Energy Amounts on a monthly rather than quarterly basis; provisions allowing Seller the option to claim maintenance will be scheduled at the same time each year with one notification; and several other minor provisions.

12. At the time the 1994 energy sales agreement was executed, the interconnection requirements and energy sales requirements were all contained within the same agreement. However, several changes since 1994 require all generation projects to have a specific Generation Interconnection Agreement ("GIA") and a separate independent ESA. Therefore, this project will be executing a GIA with Idaho Power prior to the First Energy Date that will be in compliance with Schedule 72, including payment of costs of any required modifications to the interconnection and the monthly operational or maintenance charges under Schedule 72.

13. PURPA QF generation must be designated as a network resource ("DNR") to serve Idaho Power's retail load on its system. In order for the Facility to maintain its DNR status, there must be an ESA associated with its transmission service request in order to maintain compliance with Idaho Power's non-discriminatory administration of its Open Access Transmission Tariff (OATT) and maintain compliance with FERC requirements. This ESA will satisfy those requirements and enable this project to maintain the DNR status that was established under the 1994 agreement. If

for any reason there is not an executed ESA in place at the time the 1994 agreement expires, potentially the DNR status established under the 1994 agreement would be lost and the project would have to reapply for DNR status and be subject to the non-discriminatory regulatory procedures Idaho Power is required to follow for all new network transmission service requests.

14. Article 21 of the ESA provides that the ESA will not become effective until the Commission has approved all of the ESA's terms and conditions and declared that all payments Idaho Power makes to Blind Canyon for purchases of energy will be allowed as prudently incurred expenses for ratemaking purposes.

IV. MODIFIED PROCEDURE

15. Idaho Power believes that a hearing is not necessary to consider the issues presented herein and respectfully requests that this Application be processed under Modified Procedure; i.e., by written submissions rather than by hearing. RP 201 *et seq.* If, however, the Commission determines that a technical hearing is required, the Company stands ready to prepare and present its testimony in such hearing.

V. COMMUNICATIONS AND SERVICE OF PLEADINGS

16. Communications and service of pleadings, exhibits, orders, and other documents relating to this proceeding should be sent to the following:

Donovan E. Walker
Lead Counsel
Regulatory Dockets
Idaho Power Company
1221 West Idaho Street
P.O. Box 70
Boise, Idaho 83707
dwalker@idahopower.com
dockets@idahopower.com

Randy C. Allphin
Energy Contract Administrator
Idaho Power Company
1221 West Idaho Street
P.O. Box 70
Boise, Idaho 83707
rallphin@idahopower.com

VI. REQUEST FOR RELIEF

17. Idaho Power respectfully requests that the Commission issue an order: (1) authorizing that this matter may be processed by Modified Procedure; (2) accepting or rejecting the Energy Sales Agreement between Idaho Power and Blind Canyon, without change or condition; and, if accepted, (3) declaring that all payments for purchases of energy under the Energy Sales Agreement between Idaho Power and Blind Canyon be allowed as prudently incurred expenses for ratemaking purposes.

Respectfully submitted this 13th day of November 2014.



DONOVAN E. WALKER
Attorney for Idaho Power Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 13th day of November 2014 I served a true and correct copy of the within and foregoing APPLICATION upon the following named parties by the method indicated below, and addressed to the following:

Blind Canyon Aquaranch Inc.

Pat Windes

Blind Canyon Aquaranch Inc.

2757 South 1050 East

Hagerman, Idaho 83332

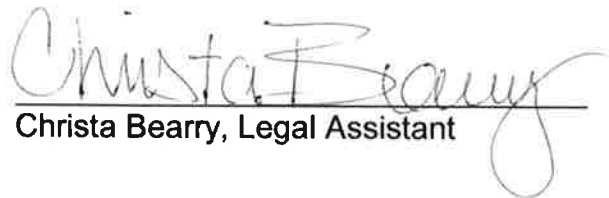
☐ Hand Delivered

☒ U.S. Mail

☐ Overnight Mail

☐ FAX

☒ Email jpwindes@gmail.com


Christa Bearry, Legal Assistant

**BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION**

CASE NO. IPC-E-14-39

IDAHO POWER COMPANY

ATTACHMENT 1

ENERGY SALES AGREEMENT
BETWEEN
IDAHO POWER COMPANY
AND
BLIND CANYON AQUARANCH INC.
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ENERGY SALES AGREEMENT
(Non Seasonal Hydro Facility 10 average Monthly MW or Less)

Project Name: Blind Canyon Hydro

Project Number: 31615140

THIS ENERGY SALES AGREEMENT ("AGREEMENT"), entered into on this 31st day of October 2014 between BLIND CANYON AQUARANCH, INC, an Idaho corporation (Seller), and IDAHO POWER COMPANY, an Idaho corporation (Idaho Power), hereinafter sometimes referred to collectively as "Parties" or individually as "Party."

WITNESSETH:

WHEREAS, Seller owns, maintains and operates a PURPA Qualifying Facility; and

WHEREAS, Seller wishes to sell, and Idaho Power is required to purchase, electric energy produced by a PURPA Qualifying Facility.

THEREFORE, In consideration of the mutual covenants and agreements hereinafter set forth, the Parties agree as follows:

ARTICLE I: DEFINITIONS

As used in this Agreement and the appendices attached hereto, the following terms shall have the following meanings:

- 1.1 "Adjusted Estimated Net Energy Amount" – the Estimated Net Energy Amount specified in paragraph 6.2 including any adjustments that have been made in accordance with paragraphs 6.2.2, 6.2.3 or 6.2.4.
- 1.2 "Authorized Agent" – a person or persons specified within paragraph 25.2 of this Agreement as being authorized and empowered, for and on behalf of the Seller, to execute instruments, agreements, certificates, and other documents (collectively "Documents") and to take actions on behalf of the Seller, and that Idaho Power Company and its directors, officers, employees, and agents are entitled to consider and deal with such persons as agents of the Seller for all purposes,

until such time as an authorized officer of the Seller shall have delivered to Idaho Power Company a notice in writing stating that such person is and shall no longer be an agent on behalf of the Seller. Any Documents executed by such persons shall be deemed duly authorized by the Seller for all purposes.

- 1.3 “Base Energy” – Monthly Net Energy less any Surplus Energy as calculated in paragraph 1.41.
- 1.4 “Commission” – The Idaho Public Utilities Commission.
- 1.5 “Contract Year” – The period commencing each calendar year on the same calendar date as the Operation Date and ending 364 days thereafter.
- 1.6 “Delay Cure Period” – 120 days immediately following the Scheduled Operation Date.
- 1.7 “Delay Damages” – Shall be calculated monthly and shall be – The Estimated Net Energy Amounts provided as of the Effective Date of this Agreement as specified in paragraph 6.2.1 divided by the number of days in the current month multiplied by the number of days in the Delay Period in the current month multiplied by the current month’s Delay Price.
- 1.8 “Delay Period” – All days past the Scheduled Operation Date until the Seller’s Facility achieves the Operation Date or the Agreement is terminated by Idaho Power.
- 1.9 “Delay Price” – The current month’s Mid-Columbia Market Energy Cost minus the current month’s All Hours Energy Price as specified in Appendix D of this Agreement. If this calculation results in a value less than 0, the result of this calculation will be 0.
- 1.10 “Designated Network Resource (DNR)” – A resource that is designated for Idaho Power network load and does not include any resource, or any portion thereof, that is committed for sale to third parties or otherwise cannot be called upon to meet Idaho Power’s network load.
- 1.11 “Designated Dispatch Facility” – Idaho Power’s Load Serving Operations, or any subsequent group designated by Idaho Power.
- 1.12 “Effective Date” – The date stated in the opening paragraph of this Energy Sales Agreement representing the date upon which this Energy Sales Agreement was fully executed by both Parties.

1.13 “Environmental Attributes” – means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to the generation from the Facility, and its avoided emission of pollutants. Environmental Attributes include but are not limited to: (1) any avoided emission of pollutants to the air, soil or water such as sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and other pollutants; (2) any avoided emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere;¹ (3) the reporting rights to these avoided emissions, such as REC Reporting Rights. REC Reporting Rights are the right of a REC purchaser to report the ownership of accumulated RECs in compliance with federal or state law, if applicable, and to a federal or state agency or any other party at the REC purchaser’s discretion, and include without limitation those REC Reporting Rights accruing under Section 1605(b) of The Energy Policy Act of 1992 and any present or future federal, state, or local law, regulation or bill, and international or foreign emissions trading program. RECs are accumulated on a MWh basis and one REC represents the Environmental Attributes associated with one (1) MWh of energy. Environmental Attributes do not include (i) any energy, capacity, reliability or other power attributes from the Facility, (ii) production tax credits or investment tax credits associated with the construction or operation of the Facility and other financial incentives in the form of credits, reductions, or allowances associated with the Facility that are applicable to a state or federal income taxation obligation, (iii) the cash grant in lieu of the investment tax credit pursuant to Section 1603 of the American Recovery and Reinvestment Act of 2009, or (iv) emission reduction credits encumbered or used by the Facility for compliance with local, state, or federal operating and/or air quality permits.

¹ Avoided emissions may or may not have any value for GHG compliance purposes. Although avoided emissions are included in the list of Environmental Attributes, this inclusion does not create any right to use those avoided emissions to comply with any GHG regulatory program.

- 1.14 "Facility" – That electric generation facility described in Appendix B of this Agreement
- 1.15 "Facility Nameplate Capacity" – The sum of the individual Generation Unit Nameplate Capacity's that are installed at this Facility.
- 1.16 "First Energy Date" – The day commencing at 00:01 hours, Mountain Time, following the day that Seller has satisfied the requirements of Article IV and after the Seller requested First Energy Date.
- 1.17 "Forced Outage" – a partial or total reduction of a) the Facility's capacity to produce and/or deliver Net Energy to the Point of Delivery, or b) Idaho Power's ability to accept Net Energy at the Point of Delivery for non-economic reasons, as a result of Idaho Power or Facility: 1) equipment failure which was not the result of negligence or lack of preventative maintenance, or 2) responding to a transmission provider curtailment order, or 3) unplanned preventative maintenance to repair equipment that left unrepaired, would result in failure of equipment prior to the planned maintenance period, or 4) planned maintenance or construction of the Facility or electrical lines required to serve this Facility, or 5) icing events within the immediate water source used as the Facility's primary motive force that causes the Facility to reduce energy production.
- 1.18 "Generation Interconnection Agreement (GIA)" – The interconnection agreement that specifies terms, conditions and requirements of interconnecting to the Idaho Power electrical system, which will include but not be limited to all requirements as specified by Schedule 72.
- 1.19 "Generation Unit" – a complete hydro electrical generation system within the Facility that is able to generate and deliver energy to the Point of Delivery independent of other Generation Units within the same Facility.
- 1.20 "Heavy Load Hours (HL)" – The daily hours from hour ending 0700 - 2200 Mountain Time, (16 hours) excluding all hours on all Sundays, New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas.
- 1.21 "Inadvertent Energy" – Electric energy Seller does not intend to generate. Inadvertent energy is more particularly described in paragraph 7.5 of this Agreement.

- 1.22 "Interconnection Facilities" – All equipment specified in the GIA.
- 1.23 "Initial Capacity Determination" – The process by which Idaho Power confirms that under normal or average design conditions the Facility will generate at no more than 10 average megawatts (MW) per month and is therefore eligible to be paid the published rates in accordance with Commission Order No. 33084 and Order No. 32697 (page 21, full capacity payments for replacement contracts).
- 1.24 "Light Load Hours (LL)" – The daily hours from hour ending 2300 – 0600 Mountain Time (8 hours), plus all other hours on all Sundays, New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas.
- 1.25 "Losses" – The loss of electrical energy expressed in kilowatt hours (kWh) occurring as a result of the transformation and transmission of energy between the point where the Facility's energy is metered and the Facility's Point of Delivery. The loss calculation formula will be as specified in Appendix B of this Agreement.
- 1.26 "Market Energy Reference Price" – Eighty-five percent (85%) of the Mid-Columbia Market Energy Cost.
- 1.27 "Material Breach" – A Default (paragraph 19.2.1) subject to paragraph 19.2.2.
- 1.28 "Maximum Capacity Amount" – The maximum capacity (MW) of the Facility will be as specified in Appendix B of this Agreement.
- 1.29 "Mid-Columbia Market Energy Cost" – is 82.4% of the monthly arithmetic average of each day's Intercontinental Exchange ("ICE") daily firm Mid-C Peak Avg and Mid-C Off-Peak Avg index prices in the month as follows:

The actual calculation being:

$$.824 * \left(\sum_{X=1}^n \{ (\text{ICE Mid-C Peak Avg}_x * \text{HL hours for day}) + (\text{ICE Mid-C Off-Peak Avg}_x * \text{LL hours for day}) \} / (n*24) \right)$$

where n = number of days in the month

If the ICE Mid-C Index prices are not reported for a particular day or days, prices derived from the respective averages of HL and LL prices for the immediately preceding and following reporting periods or days shall be substituted into the formula stated in this definition and shall therefore be multiplied by the appropriate respective numbers of HL and LL Hours for such particular day or days with the result that each hour in such month shall have a related price in such formula. If the day for which prices are not reported has in it only LL Hours (for example a Sunday), the respective averages shall use only prices reported for LL hours in the immediately preceding and following reporting periods or days. If the day for which prices are not reported is a Saturday or Monday or is adjacent on the calendar to a holiday, the prices used for HL Hours shall be those for HL hours in the nearest (forward or backward) reporting periods or days for which HL prices are reported..

- 1.30 “Monthly Nameplate Energy” – Facility Nameplate Capacity (kW) multiplied by the hours in the applicable month.
- 1.31 “Nameplate Capacity” –The full-load electrical quantities assigned by the designer to a Generation Unit and its prime mover or other piece of electrical equipment, such as transformers and circuit breakers, under standardized conditions, expressed in amperes, kilovolt-amperers, kilowatts, volts or other appropriate units. Usually indicated on a nameplate attached to the individual machine or device. This value is established for the term of this Agreement in Appendix B, item B-1 of this Agreement and validated in paragraph 4.1.4 of this Agreement.
- 1.32 “Net Energy” – All of the electric energy produced by the Facility, less Station Use and Losses, expressed in kilowatt hours (kWh) delivered by the Facility to Idaho Power at the Point of Delivery. Subject to the terms of this Agreement, Seller commits to deliver all Net Energy to Idaho Power at the Point of Delivery for the full term of the Agreement. Net Energy does not include Inadvertent Energy.
- 1.33 “Operation Date” – The day commencing at 00:01 hours, Mountain Time, following the day that all requirements of paragraph 5.2 have been completed and after the Seller requested Operation Date.

- 1.34 “Point of Delivery” – The location specified in the GIA and referenced in Appendix B, where Idaho Power’s and the Seller’s electrical facilities are interconnected and the energy from this Facility is delivered to the Idaho Power electrical system.
- 1.35 “Prudent Electrical Practices” – Those practices, methods and equipment that are commonly and ordinarily used in electrical engineering and operations to operate electric equipment lawfully, safely, dependably, efficiently and economically.
- 1.36 “Renewable Energy Certificate” or “REC” means a certificate, credit, allowance, green tag, or other transferable indicia, howsoever entitled, indicating generation of renewable energy by the Facility, and includes all Environmental Attributes arising as a result of the generation of electricity associated with the REC. One REC represents the Environmental Attributes associated with the generation of one thousand (1,000) kWh of Net Energy.
- 1.37 “Scheduled Operation Date” – The date specified in Appendix B when Seller anticipates achieving the Operation Date. It is expected that the Scheduled Operation Date provided by the Seller shall be a reasonable estimate of the date that the Seller anticipates that the Seller’s Facility shall achieve the Operation Date.
- 1.38 “Schedule 72” – Idaho Power’s Tariff No 101, Schedule 72 or its successor schedules as approved by the Commission.
- 1.39 “Season” – The three periods identified in paragraph 6.2.1 of this Agreement.
- 1.40 “Station Use” – Electric energy that is used to operate equipment that is auxiliary or otherwise related to the production of electricity by the Facility.
- 1.41 “Surplus Energy” – Is (1) Net Energy produced by the Seller’s Facility and delivered to the Idaho Power electrical system during the month which exceeds 110% of the monthly Adjusted Estimated Net Energy Amount for the corresponding month specified in paragraph 6.2, or (2) if the Net Energy produced by the Seller’s Facility and delivered to the Idaho Power electrical system during the month is less than 90% of the monthly Adjusted Estimated Net Energy Amount for the corresponding month specified in paragraph 6.2, then all Net Energy delivered by the Facility to the Idaho Power electrical system for that given month, or (3) all Net Energy produced

by the Seller's Facility and delivered by the Facility to the Idaho Power electrical system prior to the Operation Date, or (4) all monthly Net Energy that exceeds the Monthly Nameplate Energy.

- 1.42 "Termination Damages" – Financial damages the non defaulting party has incurred as a result of termination of this Agreement.

ARTICLE II: NO RELIANCE ON IDAHO POWER

- 2.1 Seller Independent Investigation - Seller warrants and represents to Idaho Power that in entering into this Agreement and the undertaking by Seller of the obligations set forth herein, Seller has investigated and determined that it is capable of performing hereunder and has not relied upon the advice, experience or expertise of Idaho Power in connection with the transactions contemplated by this Agreement.
- 2.2 Seller Independent Experts - All professionals or experts including, but not limited to, engineers, attorneys or accountants, that Seller may have consulted or relied on in undertaking the transactions contemplated by this Agreement have been solely those of Seller.

ARTICLE III: WARRANTIES

- 3.1 No Warranty by Idaho Power - Any review, acceptance or failure to review Seller's design, specifications, equipment or facilities shall not be an endorsement or a confirmation by Idaho Power and Idaho Power makes no warranties, expressed or implied, regarding any aspect of Seller's design, specifications, equipment or facilities, including, but not limited to, safety, durability, reliability, strength, capacity, adequacy or economic feasibility.
- 3.2 Qualifying Facility Status - Seller warrants that the Facility is a "Qualifying Facility," as that term is used and defined in 18 CFR 292.201 et seq. and Seller will take such steps as may be required to maintain the Facility's Qualifying Facility status during the term of this Agreement and Seller's failure to maintain Qualifying Facility status will be a Material Breach of this Agreement. Idaho Power reserves the right to review the Facility's Qualifying Facility status and associated support and compliance documents at anytime during the term of this Agreement.

- 3.3 FERC License / Exemption / Determination - Seller warrants that Seller possesses a valid license, exemption from licensing, or a determination of a qualifying conduit hydropower facility (pursuant to section 30 of the Federal Power Act) from the Federal Energy Regulatory Commission ("FERC") for the Facility. Seller recognizes that Seller's possession and retention of a valid FERC license, exemption, or a determination of a qualifying conduit hydropower facility is a material part of the consideration for Idaho Power's execution of this Agreement. If applicable, Seller will take such steps as may be required to maintain a valid FERC license, exemption, or a determination of a qualifying conduit hydropower facility for the Facility during the term of this Agreement, and Seller's failure to maintain a valid FERC license or exemption will be a material breach of this Agreement.

ARTICLE IV: CONDITIONS TO ACCEPTANCE OF ENERGY

- 4.1 Prior to the Effective Date of this Agreement, this Facility has been delivering energy to Idaho Power in accordance with an Energy Sales Agreement dated December 14, 1994 that expires on December 14, 2014, and some of the requirements of this Article are similar to the requirements of that previous Agreement. Prior to the First Energy Date and as a condition of Idaho Power's acceptance of deliveries of energy from the Seller under this Agreement, Idaho Power shall review the previously provided information and at Idaho Power's sole discretion may 1) accept the previously provided information as meeting the requirements of this Article or, 2) require updates to the previously provided information or 3) require the Seller to provide new information to complete the following requirements.
- 4.1.1 Submit proof to Idaho Power that all licenses, permits, determinations and approvals necessary for Seller's operations have been obtained from applicable federal, state or local authorities, including, but not limited to, evidence of compliance with Subpart B, 18 CFR 292.201 et seq. as a certified Qualifying Facility.
- 4.1.2 Opinion of Counsel - Submit to Idaho Power an Opinion Letter signed by an attorney admitted to practice and in good standing in the State of Idaho providing an opinion that

Seller's licenses, permits, determinations and approvals as set forth in paragraph 4.1.1 above are legally and validly issued, are held in the name of the Seller and, based on a reasonable independent review, counsel is of the opinion that Seller is in substantial compliance with said permits as of the date of the Opinion Letter. The Opinion Letter will be in a form acceptable to Idaho Power and will acknowledge that the attorney rendering the opinion understands that Idaho Power is relying on said opinion. Idaho Power's acceptance of the form will not be unreasonably withheld. The Opinion Letter will be governed by and shall be interpreted in accordance with the legal opinion accord of the American Bar Association Section of Business Law (1991).

- 4.1.3 Commission Approval - Confirm with Idaho Power that Commission approval of this Agreement in a form acceptable to Idaho Power has been received.
- 4.1.4 Initial Capacity Determination - Submit to Idaho Power such data as Idaho Power may reasonably require to perform the Initial Capacity Determination. Such data will include but not be limited to, Generation Unit Nameplate Capacity, equipment specifications, prime mover data, resource characteristics, normal and/or average operating design conditions and Station Use data. Upon receipt of this information, Idaho Power will review the provided data and if necessary, request additional data to complete the Initial Capacity Determination within a reasonable time.
 - 4.1.4.1 If the Maximum Capacity Amount specified in Appendix B of this Agreement and the cumulative manufacturer's Nameplate Capacity rating of the individual Generation Units at this Facility does not exceed 10 MW, the Seller shall submit detailed, manufacturer, verifiable data of the Nameplate Capacity ratings of the individual Generation Units to be installed at this Facility. Upon verification by Idaho Power that the data provided establishes the combined Nameplate Capacity rating of the Generation Units to be installed at this Facility does not exceed 10 MW, it will be deemed that the Seller has satisfied the Initial Capacity Determination for this Facility.

- 4.1.4.2 If the Maximum Capacity or the cumulative manufacture's Nameplate Capacity Rating of the individual Generation Units at this Facility exceeds 10 MW, Idaho Power will review all data submitted by Seller to determine if it is a reasonable estimate that the Facility will not exceed 10 average monthly MW in any month.
- 4.1.5 Nameplate Capacity – Submit to Idaho Power manufacturer's and engineering documentation that establishes the Nameplate Capacity of each individual Generation Unit that is included within this entire Facility. The sum of the individual Generation Unit Capacity ratings shall be equal to Facility Nameplate Capacity. Upon receipt of this data, Idaho Power shall review the provided data and determine if the Nameplate Capacity specified is reasonable based upon the manufacturer's specified generation ratings for the specific Generation Units.
- 4.1.6 Completion certificate - Submit a certificate executed by an authorized agent of the Seller attesting that all mechanical and electrical equipment of the designated Generation Unit has been completed to enable the Generation Unit to beginning testing and delivery of Test Energy in a safe manner.
- 4.1.7 Insurance - Submit written proof to Idaho Power of all insurance required in Article XIII.
- 4.1.8 Interconnection – Provide written confirmation from Idaho Power's business unit that administers the GIA that Seller has satisfied all interconnection and testing requirements that will enable the Facility to be safely connected to the Idaho Power electrical system.
- 4.1.9 Designated Network Resource (DNR) – Confirm that the Seller's Facility has completed all of the requirements to be an Idaho Power DNR capable of delivering energy up to the amount of the Maximum Capacity at the Point of Delivery.
- 4.1.9.1 As specified in Appendix B item 7 of this Agreement, the Seller's Facility must have achieved the status of being an Idaho Power DNR prior to Idaho Power accepting any energy from this Facility. Appendix B item 7 provides information on the initial application process required to enable Idaho Power to determine if network transmission capacity is available for this Facility's

Maximum Capacity Amount and/or if Idaho Power transmission network upgrades will be required. The results of this study process and any associated costs will be included in the GIA for this Facility.

4.1.9.2 After the Facility has completed all requirements of the GIA that enable the Facility to come online and at least 30 days prior to the Scheduled First Energy Date, Idaho Power will complete the process for approving the Seller's Facility as an Idaho Power DNR. If the Seller estimates that the actual First Energy is expected to be different then the Scheduled First Energy Date specified in Appendix B of this Agreement, the Seller must notify Idaho Power of this revised date no later than 30 days prior to Scheduled First Energy Date. The Facility cannot deliver any energy to Idaho Power until it is approved as a DNR after completing all the requirements of the GIA and complying with the requirements of this Agreement.

4.1.10 Written Acceptance – Request and obtain written confirmation from Idaho Power that all conditions to acceptance of energy have been fulfilled. Such written confirmation shall be provided within a commercially reasonable time following the Seller's request and will not be unreasonably withheld by Idaho Power.

ARTICLE V: TERM AND OPERATION DATE

5.1 Term - Subject to the provisions of paragraph 5.2 below, this Agreement shall become effective on the Effective Date and shall continue in full force and effect for a period of twenty (20) Contract Years from the Operation Date.

5.2 Operation Date – Prior to the Effective Date of this Agreement, this Facility has been delivering energy to Idaho Power in accordance with an Energy Sales Agreement dated December 14, 1994 that expires on December 14, 2014, and some of the requirements of this Article are very similar to the requirements of that previous Agreement. Idaho Power shall review the previously provided information and at Idaho Power's sole discretion may 1) accept the previously provided

information as meeting the requirements of this Article or, 2) require updates to the previously provided information or 3) require the Seller to provide new information to complete the following requirements. A single Operation Date will be granted for the entire Facility and may occur only after the Facility has achieved all of the following:

- a) At a minimum, 75% of the Facility Nameplate Capacity as identified in Appendix B, item, B-1 has achieved First Energy Date.
- b) Seller has demonstrated to Idaho Power's satisfaction that all mechanical and electrical testing has been completed satisfactorily and the Facility is able to provide energy in a consistent, reliable and safe manner.
- c) Engineer's Certifications - Submit an executed Engineer's Certification of Design & Construction Adequacy and an Engineer's Certification of Operations and Maintenance (O&M) Policy as described in Commission Order No. 21690. These certificates will be in the form specified in Appendix C but may be modified to the extent necessary to recognize the different engineering disciplines providing the certificates.
- d) Seller has requested an Operation Date from Idaho Power in a written format.
- e) Seller has received written confirmation from Idaho Power of the Operation Date.

This confirmation will not be unreasonably withheld by Idaho Power.

5.3 Operation Date Delay - Seller shall cause the Facility to achieve the Operation Date on or before the Scheduled Operation Date. Delays in the interconnection and transmission network upgrade study, design and construction process (This includes any delay in making the required deposit payments set forth in the Facility's GIA) that **are not** caused by Idaho Power or Force Majeure events accepted by both Parties, **shall not** prevent Delay Damages or Termination Damages from being due and owing as calculated in accordance with this Agreement.

5.4 Termination - If Seller fails to achieve the Operation Date prior to expiration of the Delay Cure Period, such failure will be a Material Breach and Idaho Power may terminate this Agreement at any time until the Seller cures the Material Breach.

- 5.5 Delay Damages billing and payment – Idaho Power shall calculate and submit to the Seller any Delay Damages due Idaho Power within 15 days after the end of each month or within 30 days of the date this Agreement is terminated by Idaho Power.
- 5.6 Termination Damages billing and payment - Idaho Power shall calculate and submit to the Seller any Termination Damages due Idaho Power within 30 days after this Agreement has been terminated.
- 5.7 Seller Payment - Seller shall pay Idaho Power any calculated Delay or Termination Damages within 7 days of when Idaho Power presents these billings to the Seller. Seller's failure to pay these damages within the specified time will be a Material Breach of this Agreement.

ARTICLE VI: PURCHASE AND SALE OF NET ENERGY

- 6.1 Net Energy Purchase and Delivery - Except when either Party's performance is excused as provided herein, Idaho Power will purchase and Seller will sell all of the Net Energy to Idaho Power at the Point of Delivery. All Inadvertent Energy produced by the Facility will also be delivered by the Seller to Idaho Power at the Point of Delivery.
- 6.2 Estimated Net Energy Amounts – Neither the monthly Estimated Net Energy Amounts provided as of the Effective Date of this Agreement nor monthly Adjusted Estimated Net Energy Amounts provided during the term of this Agreement shall exceed 10 average monthly MW nor be greater than the Maximum Capacity Amount (measured in kW) multiplied by the hours in the applicable month.
- 6.2.1 Estimated Net Energy Amounts provided as of the Effective Date of this Agreement:

	<u>Month</u>	<u>kWh</u>
Season 1	March	0
	April	240,403
	May	795,545
	July	396,982
	August	496,622

Season 2	November	0
	December	0
Season 3	June	577,284
	September	624,732
	October	191,374
	January	0
	February	0

6.2.2 Seller's Adjustment of Estimated Net Energy Amounts - Prior to the Operation Date, the Seller may revise all of the previously provided Estimated Net Energy Amounts by providing written notice to Idaho Power in accordance with paragraph 25.1.

6.2.3 Seller's Adjustment of Estimated Net Energy Amounts After the Operation Date - After the Operation Date, the Seller may revise any future monthly Estimated Net Energy Amounts by providing written notice no later than 5 PM Mountain Standard time on the last business day of the Notification Month specified in the following schedule:

Notification Month	Future monthly Estimated Net Energy Amounts eligible to be revised
November	January and any future months
December	February and any future months
January	March and any future months
February	April and any future months
March	May and any future months
April	June and any future months
May	July and any future months
June	August and any future months
July	September and any future months
August	October and any future months
September	November and any future months
October	December and any future months

a.) This written notice must be provided to Idaho Power in accordance with paragraph 25.1 or by electronic notice provided and verified via return electronic verification of receipt to the electronic notices address specified in paragraph 25.1.

b.) Failure to provide timely written notice of changes to the Estimated Net Energy

Amounts will be deemed to be an election of no change from the most recently provided Estimated Net Energy Amounts.

6.2.3.1 Idaho Power Adjustment of Estimated Net Energy Amounts – If Idaho Power is excused from accepting the Seller's Net Energy as specified in paragraph 12.2.1 or if the Seller declares a Suspension of Energy Deliveries as specified in paragraph 12.3.1 and the Seller's declared Suspension of Energy Deliveries is accepted by Idaho Power, the Estimated Net Energy Amount as specified in paragraph 6.2 for the specific month in which the reduction or suspension under paragraph 12.2.1 or 12.3.1 occurs will be temporarily reduced in accordance with the following and only for the actual month in which the event occurred:

Where:

NEA = Current Month's Estimated Net Energy Amount (Paragraph 6.2)

SGU = a.) If Idaho Power is excused from accepting the Seller's Net Energy as specified in paragraph 12.2.1 this value will be equal to the percentage of curtailment as specified by Idaho Power multiplied by the TGU as defined below.

b.) If the Seller declares a Suspension of Energy Deliveries as specified in paragraph 12.3.1 this value will be the sum of the individual Generation Units size ratings as specified in Appendix B that are impacted by the circumstances causing the Seller to declare a Suspension of Energy Deliveries.

TGU = Sum of all of the individual generator ratings of the Generation Units at this Facility as specified in Appendix B of this agreement.

RSH = Actual hours the Facility's Net Energy deliveries were either reduced or suspended under paragraph 12.2.1 or 12.3.1

TH = Actual total hours in the current month

Resulting formula being:

$$\begin{array}{l} \text{Adjusted} \\ \text{Estimated} \\ \text{Net Energy} \\ \text{Amount} \end{array} = \text{NEA} - \left(\left(\frac{\text{SGU}}{\text{TGU}} \times \text{NEA} \right) \times \left(\frac{\text{RSH}}{\text{TH}} \right) \right)$$

This Adjusted Estimated Net Energy Amount will be used in applicable Surplus Energy calculations for only the specific month in which Idaho Power was excused from accepting the Seller's Net Energy or the Seller declared a Suspension of Energy Deliveries.

- 6.3 Failure to deliver minimum amounts of Net Energy - Unless excused by an event of Force Majeure or Idaho Power's inability to accept Net Energy, Seller's failure to deliver Net Energy in any Contract Year in an amount equal to at least ten percent (10%) of the sum of the Estimated Net Energy Amounts in effect as of the Operation Date shall constitute an event of default.

ARTICLE VII: PURCHASE PRICE AND METHOD OF PAYMENT

- 7.1 Base Energy Heavy Load Purchase Price – For all Base Energy received during Heavy Load Hours, Idaho Power will pay the monthly non-levelized Base Energy Heavy Load Purchase Price as specified in Appendix D.
- 7.2 Base Energy Light Load Purchase Price – For all Base Energy received during Light Load Hours, Idaho Power will pay the monthly non-levelized Base Energy Light Load Purchase Price as specified in Appendix D.
- 7.3 All Hours Energy Price – The price to be used in the calculation of the Surplus Energy Price and Delay Damage Price shall be the monthly non-levelized All Hours Energy as specified in Appendix D.
- 7.4 Surplus Energy Price - For all Surplus Energy, Idaho Power shall pay to the Seller the current month's Market Energy Reference Price or the applicable All Hours Energy Price, whichever is lower.
- 7.5 Inadvertent Energy –
- 7.5.1 Inadvertent Energy is electric energy produced by the Facility, expressed in kWh, which the Seller delivers to Idaho Power at the Point of Delivery that exceeds 10,000 kW multiplied by the hours in the specific month in which the energy was delivered. (For example January contains 744 hours. 744 hours times 10,000 kW = 7,440,000

kWh. Energy delivered in January in excess of 7,440,000 kWh in this example would be Inadvertent Energy.)

7.5.2 Although Seller intends to design and operate the Facility to generate no more than 10 average MW monthly and therefore does not intend to generate Inadvertent Energy, Idaho Power will accept Inadvertent Energy that does not exceed the Maximum Capacity Amount but will not purchase or pay for Inadvertent Energy.

7.5.3 Delivering Inadvertent Energy to Idaho Power for 2 consecutive months and/or in any 3 months during a Contract Year will be a Material Breach of this Agreement and Idaho Power may terminate this Agreement within sixty (60) days after the Material Breach has occurred.

7.6 Payments – Undisputed Base Energy and Surplus Energy payments, less any payments due to Idaho Power will be disbursed to the Seller within thirty (30) days of the date which Idaho Power receives and accepts the documentation of the monthly Base Energy and Surplus Energy actually delivered to Idaho Power as specified in Appendix A.

7.7 Continuing Jurisdiction of the Commission This Agreement is a special contract and, as such, the rates, terms and conditions contained in this Agreement will be construed in accordance with Idaho Power Company v. Idaho Public Utilities Commission and Afton Energy, Inc., 107 Idaho 781, 693 P.2d 427 (1984), Idaho Power Company v. Idaho Public Utilities Commission, 107 Idaho 1122, 695 P.2d 1 261 (1985), Afton Energy, Inc. v. Idaho Power Company, 111 Idaho 925, 729 P.2d 400 (1986), Section 210 of the Public Utility Regulatory Policies Act of 1978 and 18 CFR §292.303-308

ARTICLE VIII: ENVIRONMENTAL ATTRIBUTES

8.1 Pursuant to Commission Order 32697 and 32802 the Environmental Attributes and Renewable Energy Certificates as defined within this Agreement and directly associated with the production of energy from the Seller's Facility are owned by the Seller.

ARTICLE IX: FACILITY AND INTERCONNECTION

- 9.1 Design of Facility - Seller will design, construct, install, own, operate and maintain the Facility and any Seller-owned Interconnection Facilities so as to allow safe and reliable generation and delivery of Net Energy and Inadvertent Energy to the Idaho Power Point of Delivery for the full term of the Agreement in accordance with the GIA.

ARTICLE X:

METERING, METERING COMMUNICATIONS AND SCADA TELEMETRY

- 10.1 Metering – Idaho Power shall, provide, install, and maintain metering equipment needed for metering the electrical energy production from the Facility. The metering equipment will be capable of measuring, recording, retrieving and reporting the Facility's hourly gross electrical energy production, Station Use, maximum energy deliveries (kW) and any other energy measurements at the Point of Delivery that Idaho Power needs to administer this Agreement and integrate this Facility's energy production into the Idaho Power electrical system. Specific equipment, installation details and requirements for this metering equipment will be established in the GIA process and documented in the GIA. Seller shall be responsible for all initial and ongoing costs of this equipment as specified in Schedule 72 and the GIA.
- 10.2 Metering Communications – Seller shall, at the Seller's sole initial and ongoing expense, arrange for, provide, install, and maintain dedicated metering communications equipment capable of transmitting the metering data specified in paragraph 10.1 to Idaho Power in a frequency, manner and form acceptable to Idaho Power. Seller shall grant Idaho Power sole control and use of this dedicated metering communications equipment. Specific details and requirements for this metering communications equipment will be established in the GIA process and documented in the GIA.
- 10.3 Supervisory Control and Data Acquisition (SCADA) Telemetry – In addition to the requirements of paragraph 10.1 and 10.2, Idaho Power may require telemetry equipment and telecommunications which will be capable of providing Idaho Power with continuous

instantaneous SCADA telemetry of the Seller's Net Energy and Inadvertent Energy production in a form acceptable to Idaho Power. Seller shall grant Idaho Power sole control and use of this dedicated SCADA and telecommunications equipment. Specific details and requirements for this SCADA Telemetry and telecommunications equipment will be established in the GIA process and documented in the GIA. Seller shall be responsible for all initial and ongoing costs of this equipment as specified in Schedule 72 and the GIA.

ARTICLE XI - RECORDS

- 11.1 Maintenance of Records - Seller shall maintain monthly records at the Facility or such other location mutually acceptable to the Parties. These records shall include total generation, Net Energy, Station Use, Surplus Energy, Inadvertent Energy and maximum hourly generation (kW) and be recorded in a form and content acceptable to Idaho Power. Monthly records shall be retained for a period of not less than five years.
- 11.2 Inspection - Either Party, after reasonable notice to the other Party, shall have the right, during normal business hours, to inspect and audit any or all records pertaining to the Seller's Facility generation, Net Energy, Station Use, Surplus Energy, Inadvertent Energy and maximum generation (kW) records pertaining to the Seller's Facility.

ARTICLE XII: OPERATIONS

- 12.1 Communications - Idaho Power and the Seller shall maintain appropriate operating communications through Idaho Power's Designated Dispatch Facility in accordance with the GIA.
- 12.2 Acceptance of Energy -
- 12.2.1 Idaho Power shall be excused from accepting and paying for Net Energy or accepting Inadvertent Energy which would have otherwise been produced by the Facility and delivered by the Seller to the Point of Delivery:
- a.) If energy deliveries are interrupted due an event of Force Majeure or

Forced Outage.

- b.) If interruption of energy deliveries is allowed by Section 210 of the Public Utility Regulatory Policies Act of 1978 and 18 CFR §292.304
- c.) If temporary disconnection and/or interruption of energy deliveries is in accordance with Schedule 72 or other provisions as specified within the GIA.
- d.) If Idaho Power determines that curtailment, interruption or reduction of Net Energy or Inadvertent Energy deliveries is necessary because of line construction, electrical system maintenance requirements, emergencies, electrical system operating conditions, electrical system reliability emergencies on its system, or as otherwise required by Prudent Electrical Practices.

12.2.2 If, in the reasonable opinion of Idaho Power, Seller's operation of the Facility or Interconnection Facilities is unsafe or may otherwise adversely affect Idaho Power's equipment, personnel or service to its customers, Idaho Power may temporarily disconnect the Facility from Idaho Power's transmission/distribution system as specified within the GIA or Schedule 72 or take such other reasonable steps as Idaho Power deems appropriate.

12.2.3 Under no circumstances will the Seller deliver energy from the Facility to the Point of Delivery in an amount that exceeds the Maximum Capacity Amount at any moment in time. Seller's failure to limit deliveries to the Maximum Capacity Amount will be a Material Breach of this Agreement.

12.2.4 If Idaho Power is unable to accept the energy from this Facility and is not excused from accepting the Facility's energy, Idaho Power's damages shall be limited to only the value of the estimated energy that Idaho Power was unable to accept valued at the applicable energy prices specified in this Agreement. Idaho Power will have no responsibility to pay for any other costs, lost revenue or consequential damages the Facility may incur.

12.3 Seller Declared Suspension of Energy Deliveries

12.3.1 If the Seller's Facility experiences a Forced Outage, and the Seller initiates a Declared Suspension of Energy Deliveries, Seller shall, after giving notice as provided in paragraph 12.3.2 below, temporarily reduce deliveries of Net Energy (kW) to Idaho Power from the Facility to not exceed the reduced energy deliveries (kW) stated by the Seller in the initial declaration for a period of not less than 48 hours ("Declared Suspension of Energy Deliveries"). The Seller's Declared Suspension of Energy Deliveries will begin at the start of the next full hour following the Seller's telephone notification as specified in paragraph 12.3.2 and will continue for the time as specified (not less than 48 hours) in the written notification provided by the Seller. In the month(s) in which the Declared Suspension of Energy occurred, the Estimated Net Energy Amount will be adjusted as specified in paragraph 6.2.3.

12.3.2 If the Seller desires to initiate a Declared Suspension of Energy Deliveries as provided in paragraph 12.3.1, the Seller will notify the Designated Dispatch Facility by telephone. The beginning hour of the Declared Suspension of Energy Deliveries will be at the earliest the next full hour after making telephone contact with Idaho Power. The Seller will, within 24 hours after the telephone contact, provide Idaho Power a written notice in accordance with Article XXV that will contain the beginning hour and expected duration of the Declared Suspension of Energy Deliveries, a description of the conditions that caused the Seller to initiate a Declared Suspension of Energy Deliveries and the reduced level (kW) of energy deliveries the Facility is requesting that will be set as the maximum energy deliveries to Idaho Power for the duration of the Declared Suspension of Energy Delivery event (not less than 48 hours). Idaho Power will review the documentation provided by the Seller to determine Idaho Power's acceptance of the described Forced Outage as qualifying for a Declared Suspension of Energy Deliveries as specified in paragraph 12.3.1. Idaho Power's acceptance of the Seller's Forced Outage as an acceptable Forced Outage will be based upon the clear documentation provided by the

Seller that the Forced Outage is not due to an event of Force Majeure or by neglect, disrepair or lack of adequate preventative maintenance of the Seller's Facility.

- 12.4 Scheduled Maintenance – On or before January 31st of each calendar year, Seller shall submit a written proposed maintenance schedule of significant Facility maintenance for that calendar year and Idaho Power and Seller shall mutually agree as to the acceptability of the proposed schedule. If the Seller intends to perform planned maintenance at approximately the same time every year, the Seller may submit a maintenance schedule for the first calendar year and include a statement that this maintenance schedule shall be consistent for all future years, until such time as the Seller notifies Idaho Power of a change to this schedule. The Parties determination as to the acceptability of the Seller's timetable for scheduled maintenance will take into consideration Prudent Electrical Practices, Idaho Power system requirements and the Seller's preferred schedule. Neither Party shall unreasonably withhold acceptance of the proposed maintenance schedule.
- 12.5 Idaho Power Maintenance Information – Upon receiving a written request from the Seller, Idaho Power shall provide publically available information in regards to Idaho Power planned maintenance information that may impact the Facility.
- 12.6 Contact Prior to Curtailment - Idaho Power will make a reasonable attempt to contact the Seller prior to exercising its rights to interrupt the interconnection or curtail deliveries from the Seller's Facility. Seller understands that in the case of emergency circumstances, real time operations of the electrical system, and/or unplanned events, Idaho Power may not be able to provide notice to the Seller prior to interruption, curtailment, or reduction of electrical energy deliveries to Idaho Power.

ARTICLE XIII: INDEMNIFICATION AND INSURANCE

- 13.1 Indemnification - Each Party shall agree to hold harmless and to indemnify the other Party, its officers, agents, affiliates, subsidiaries, parent company and employees against all loss, damage, expense and liability to third persons for injury to or death of person or injury to property,

proximately caused by the indemnifying Party's, (a) construction, ownership, operation or maintenance of, or by failure of, any of such Party's works or facilities used in connection with this Agreement, or (b) negligent or intentional acts, errors or omissions. The indemnifying Party shall, on the other Party's request, defend any suit asserting a claim covered by this indemnity. The indemnifying Party shall pay all documented costs, including reasonable attorney fees that may be incurred by the other Party in enforcing this indemnity.

- 13.2 Insurance - During the term of this Agreement, Seller shall secure and continuously carry insurance as specified in Appendix E.

ARTICLE XIV: FORCE MAJEURE

- 14.1 As used in this Agreement, "Force Majeure" or "an event of Force Majeure" means any cause beyond the control of the Seller or of Idaho Power which, despite the exercise of due diligence, such Party is unable to prevent or overcome. Force Majeure includes, but is not limited to, acts of God, fire, flood, storms, wars, hostilities, civil strife, strikes and other labor disturbances, earthquakes, fires, lightning, epidemics, sabotage, or changes in law or regulation occurring after the effective date, which, by the exercise of reasonable foresight such party could not reasonably have been expected to avoid and by the exercise of due diligence, it shall be unable to overcome. Fluctuations and/or changes of the motive force and/or the fuel supply are not events of Force Majeure. If either Party is rendered wholly or in part unable to perform its obligations under this Agreement because of an event of Force Majeure, both Parties shall be excused from whatever performance is affected by the event of Force Majeure, provided that:

- (1) The non-performing Party shall, as soon as is reasonably possible after the occurrence of the Force Majeure, give the other Party written notice describing the particulars of the occurrence.
- (2) The suspension of performance shall be of no greater scope and of no longer duration than is required by the event of Force Majeure.
- (3) No obligations of either Party which arose before the occurrence of the Force

Majeure event and which could and should have been fully performed before such occurrence shall be excused as a result of such occurrence.

ARTICLE XV: LIABILITY; DEDICATION

15.1 Limitation of Liability. Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to, or any liability to any person not a Party to this Agreement. Neither party shall be liable to the other for any indirect, special, consequential, nor punitive damages, except as expressly authorized by this Agreement.

15.2 Dedication. No undertaking by one Party to the other under any provision of this Agreement shall constitute the dedication of that Party's system or any portion thereof to the Party or the public or affect the status of Idaho Power as an independent public utility corporation or Seller as an independent individual or entity.

ARTICLE XVI: SEVERAL OBLIGATIONS

16.1 Except where specifically stated in this Agreement to be otherwise, the duties, obligations and liabilities of the Parties are intended to be several and not joint or collective. Nothing contained in this Agreement shall ever be construed to create an association, trust, partnership or joint venture or impose a trust or partnership duty, obligation or liability on or with regard to either Party. Each Party shall be individually and severally liable for its own obligations under this Agreement.

ARTICLE XVII: WAIVER

17.1 Any waiver at any time by either Party of its rights with respect to a default under this Agreement or with respect to any other matters arising in connection with this Agreement shall not be deemed a waiver with respect to any subsequent default or other matter.

ARTICLE XVIII: CHOICE OF LAWS AND VENUE

- 18.1 This Agreement shall be construed and interpreted in accordance with the laws of the State of Idaho without reference to its choice of law provisions.
- 18.2 Venue for any litigation arising out of or related to this Agreement will lie in the District Court of the Fourth Judicial District of Idaho in and for the County of Ada.

ARTICLE XIX: DISPUTES AND DEFAULT

- 19.1 Disputes - All disputes related to or arising under this Agreement, including, but not limited to, the interpretation of the terms and conditions of this Agreement, will be submitted to the Commission for resolution.
- 19.2 Notice of Default
- 19.2.1 Defaults. If either Party fails to perform any of the terms or conditions of this Agreement (an "event of default"), the non-defaulting Party shall cause notice in writing to be given to the defaulting Party, specifying the manner in which such default occurred. If the defaulting Party shall fail to cure such default within the sixty (60) days after service of such notice, or if the defaulting Party reasonably demonstrates to the other Party that the default can be cured within a commercially reasonable time but not within such sixty (60) day period and then fails to diligently pursue such cure, then the non-defaulting Party may, at its option, terminate this Agreement and/or pursue its legal or equitable remedies.
- 19.2.2 Material Breaches – The notice and cure provisions in paragraph 19.2.1 do not apply to defaults identified in this Agreement as Material Breaches. Material Breaches must be cured as expeditiously as possible following occurrence of the breach or if a specific cure and/or inability to cure is identified by this Agreement for the specific Material Breach then that cure shall apply.
- 19.3 Prior to the Operation Date and thereafter for the full term of this Agreement, Seller will provide Idaho Power with the following:

- 19.3.1 Insurance - Evidence of compliance with the provisions of Appendix E. If Seller fails to comply, such failure will be a Material Breach.
- 19.3.2 Engineer's Certifications - Every three (3) years after the Operation Date, Seller will supply Idaho Power with a Certification of Ongoing Operations and Maintenance (O&M) from a Registered Professional Engineer licensed in the State of Idaho, which Certification of Ongoing O&M shall be in the form specified in Appendix C. Seller's failure to supply the required certificate will be an event of default. Such a default may only be cured by Seller providing the required certificate; and
- 19.3.3 Licenses / Permits / Determinations - During the full term of this Agreement, Seller shall maintain compliance with all permits, licenses and determinations described in paragraph 4.1.1 of this Agreement. In addition, Seller will supply Idaho Power with copies of any new or additional permits, licenses or determinations. At least every fifth Contract Year, Seller will update the documentation described in Paragraph 4.1.1. If at any time Seller fails to maintain compliance with the permits, licenses and determinations described in paragraph 4.1.1 or to provide the documentation required by this paragraph, such failure will be an event of default and may only be cured by Seller submitting to Idaho Power evidence of compliance from the permitting agency.

ARTICLE XX: GOVERNMENTAL AUTHORIZATION

- 20.1 This Agreement is subject to the jurisdiction of those governmental agencies having control over either Party of this Agreement.

ARTICLE XXI: COMMISSION ORDER

- 21.1 Idaho Power shall file this Agreement for its acceptance or rejection by the Commission. This Agreement shall only become finally effective upon the Commission's approval of all terms and provisions hereof without change or condition and declaration that all payments to be made to Seller hereunder shall be allowed as prudently incurred expenses for ratemaking purposes.

ARTICLE XXII: SUCCESSORS AND ASSIGNS

- 22.1 This Agreement and all of the terms and provisions hereof shall be binding upon and inure to the benefit of the respective successors and assigns of the Parties hereto. Neither this Agreement nor any rights or obligations of either Party hereunder may be assigned, in whole or in part, by operation of law or otherwise, without the prior written consent of both Parties, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, any party with which Idaho Power may consolidate, or into which it may merge, or to which it may convey or transfer substantially all of its electric utility assets, shall automatically, without further act, and without need of consent or approval by the Seller, succeed to all of Idaho Power's rights, obligations and interests under this Agreement. Any purported assignment in derogation of the foregoing shall be void. This article shall not prevent a financing entity with recorded or secured rights from exercising all rights and remedies available to it under law or contract. Idaho Power shall have the right to be notified by the financing entity that it is exercising such rights or remedies.

ARTICLE XXIII: MODIFICATION

- 23.1 No modification to this Agreement shall be valid unless it is in writing and signed by both Parties and subsequently approved by the Commission.

ARTICLE XXIV: TAXES

- 24.1 Each Party shall pay before delinquency all taxes and other governmental charges which, if failed to be paid when due, could result in a lien upon the Facility or the Interconnection Facilities.

ARTICLE XXV: NOTICES AND AUTHORIZED AGENTS

- 25.1 Notices - All written notices under this Agreement shall be directed as follows and shall be considered delivered when faxed, e-mailed and confirmed with deposit in the U.S. Mail, first-class, postage prepaid, as follows:

To Seller:

Original document to:

Name: Pat Windes
Address: 2757 S. 1050 E.
Hagerman, ID 83332
Telephone: 208-536-2566
Cell: 208-280-2513
E-mail: jpwindes@gmail.com

To Idaho Power:

Original document to:

Vice President, Power Supply
Idaho Power Company
PO Box 70
Boise, Idaho 83707
Email: lgrow@idahopower.com

Copy of document to:

Cogeneration and Small Power Production
Idaho Power Company
PO Box 70
Boise, Idaho 83707
E-mail: rallphin@idahopower.com

Either Party may change the contact person and/or address information listed above, by providing written notice from an authorized person representing the Party.

25.2 Authorized Agent(s)

<u>Name</u>	<u>Title</u>
Pat Windes	President
Jacob Lemmon	Vice President
Gary Lemmon	Secretary

Authorized Agents as listed above may be modified by the Seller by requesting and completing an Authorized Agent modification document provided by Idaho Power. This document at minimum will include the requested changes and require signature(s) from an authorized party of the Seller.

ARTICLE XXVI: ADDITIONAL TERMS AND CONDITIONS

- 26.1 Equal Employment. During performance pursuant to this Agreement, Seller agrees to comply with all applicable equal employment opportunity, small business, and affirmative action laws and regulations. All Equal Employment Opportunity and affirmative action laws and regulations are hereby incorporated by this reference, including provisions of 38 U.S.C. § 4212, Executive Order 11246, as amended, and any subsequent executive orders or other laws or regulations relating to equal opportunity for employment on government contracts. To the extent this Agreement is covered by Executive Order 11246, the Equal Opportunity Clauses contained in 41 C.F.R. 60-1.4, 41 C.F.R. 60-250.5, and 41 CFR 60-741.5 are incorporated herein by reference.
- 26.2 Prior to the Seller executing this Agreement, the Seller shall have:
- a) Initiated the Generation Interconnection review process which shall result in the identification of any required modifications, additions, or upgrades to the existing interconnection of this Facility to enable the Facility to deliver energy in accordance with this Agreement. Completion of this review process will result in a GIA being created for this project that will require execution by the Seller and the Idaho Power interconnection group.
 - b) Acknowledged responsibility for all interconnection costs and any costs associated with acquiring adequate firm transmission capacity to enable the project to be classified as an Idaho Power DNR. If final interconnection or transmission studies are not complete at the time the Seller executes this Agreement, the Seller understands that the Seller's obligations to pay Delay and Termination Damages associated with the project's failure to achieve the Operation Date by the Scheduled Operation Date as specified in this Agreement is not relieved by final interconnection or transmission costs, processes or schedules.
 - c) Provide acceptable and verifiable evidence to Idaho Power that demonstrates the Facility is eligible for the published avoided costs requested by the Seller and contained within this Agreement. Commission Order 33084 provides the current published avoided costs

for Non-Seasonal Hydro Facilities, Seasonal Hydro Facilities, Other Facilities, Solar Facilities, and Wind Facilities. Commission Order 32697 provides for full capacity payments for existing projects that have requested replacement contracts after their existing contract expires.

- 26.3 This Agreement includes the following appendices, which are attached hereto and included by reference:

Appendix A	-	Generation Scheduling and Reporting
Appendix B	-	Facility and Point of Delivery
Appendix C	-	Engineer's Certifications
Appendix D	-	Non-Seasonal Hydro Facility Energy Prices
Appendix E	-	Insurance Requirements

ARTICLE XXVII: SEVERABILITY

- 27.1 The invalidity or unenforceability of any term or provision of this Agreement shall not affect the validity or enforceability of any other terms or provisions and this Agreement shall be construed in all other respects as if the invalid or unenforceable term or provision were omitted.

ARTICLE XXVIII: COUNTERPARTS

- 28.1 This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

ARTICLE XXIX: ENTIRE AGREEMENT

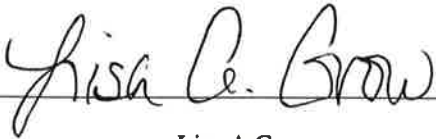
- 29.1 This Agreement constitutes the entire Agreement of the Parties concerning the subject matter hereof and supersedes all prior or contemporaneous oral or written agreements between the Parties concerning the subject matter hereof.

IN WITNESS WHEREOF, The Parties hereto have caused this Agreement to be executed
in their respective names on the dates set forth below:

Idaho Power Company

Blind Canyon Aquaranch

By



Lisa A Grow
Sr. Vice President, Power Supply

Dated

10.31.14

"Idaho Power"

By



Pat Windes
~~Vice~~ President

pw

Dated

10-30-2014

"Seller"

APPENDIX A

A -1 MONTHLY POWER PRODUCTION AND SWITCHING REPORT

At the end of each month the following required documentation will be submitted to:

Idaho Power Company
Attn: Cogeneration and Small Power Production
PO Box 70
Boise, Idaho 83707

The meter readings required on this report will be the readings on the Idaho Power meter equipment measuring the Facility's total energy production and Station Usage delivered to Idaho Power and the maximum generated energy (kW) as recorded on the metering equipment and/or any other required energy measurements to adequately administer this Agreement. This document shall be the document to enable Idaho Power to begin the energy payment calculation and payment process. The meter readings on this report may not be used to calculate the actual payment, but instead will be a check of the automated meter reading information that will be gathered as described in item A-2 below:

Idaho Power Company

Cogeneration and Small Power Production

MONTHLY POWER PRODUCTION AND SWITCHING REPORT

Month _____ Year _____

Project Name _____

Project Number: _____

Address _____

Phone Number: _____

City _____ State _____ Zip _____

**Facility
Output**

**Station
Usage**

**Metered
Maximum Generation**

Meter Number: _____

End of Month kWh Meter Reading: _____

Beginning of Month kWh Meter: _____

Difference: _____

Times Meter Constant: _____

kWh for the Month: _____ - _____

Metered Demand: _____

kW

Net Generation

Breaker Opening Record

<u>Date</u>	<u>Time</u>	<u>Meter</u>

Breaker Closing Record

<u>Date</u>	<u>Time</u>	<u>Meter</u>

<u>* Reason</u>

* Breaker Opening Reason Codes

- 1 Lack of Adequate Prime Mover
- 2 Forced Outage of Facility
- 3 Disturbance of IPCo System
- 4 Scheduled Maintenance
- 5 Testing of Protection Systems
- 6 Cause Unknown
- 7 Other (Explain)

I hereby certify that the above meter readings are true and correct as of Midnight on the last day of the above month and that the switching record is accurate and complete as required by the Energy Sales Agreement to which I am a Party.

Signature

Date

A-2 AUTOMATED METER READING COLLECTION PROCESS

Monthly, Idaho Power will use the provided metering and telemetry equipment and processes to collect the meter reading information from the Idaho Power provided metering equipment that measures the Net Energy and energy delivered to supply Station Use for the Facility recorded at 12:00 AM (Midnight) of the last day of the month.

The meter information collected will include but not be limited to energy production, Station Use, the maximum generated power (kW) and any other required energy measurements to adequately administer this Agreement.

A-3 SELLER CONTACT INFORMATION

Seller's Contact Information

Project Management

Name:	Pat Windes
Telephone Number:	208-536-2566
Cell Phone:	208-280-2513

24-Hour Project Operational Contact

Name:	Pat Windes
Telephone Number:	208-536-2566
Cell Phone:	208-280-2513

Project On-site Contact information

Name:	Pat Windes
Telephone Number:	208-536-2566
Cell Phone:	208-280-2513

APPENDIX B

FACILITY AND POINT OF DELIVERY

Project Name: Blind Canyon Hydro

Project Number: 31615140

B-1 DESCRIPTION OF FACILITY

One Synchronous Generator with a nameplate rating of .80 power factor at 1,625 KVA, 2400 Volts, three-phase, 60 hertz, driven by a Pelton Wheel Turbine

Facility Nameplate Capacity: 1.625 MW

B-2 LOCATION OF FACILITY

Near: Westpoint

Actual or nearest physical street address: 1350 Bob Barton Rd, Wendell, Idaho 83355.

GPS Coordinates: Latitude Decimal Degrees -114.822343

 Longitude Decimal Degrees 42.699818

State: Idaho County: Gooding

Description of Interconnection Location: SE ¼ Section 28, Township 8S, Range 14E, BM.

B-3 SCHEDULED FIRST ENERGY AND OPERATION DATE

As this Facility is interconnected and already delivering energy to Idaho Power pursuant to an energy sales agreement that will expire at hour ending 2400 on December 14, 2014, it is expected that the First Energy Date and the Operation Date for this Agreement shall both occur at the same time. Both the Scheduled First Energy Date and the Scheduled Operation Date will be at hour beginning 0100 on December 15, 2014.

B-4 MAXIMUM CAPACITY AMOUNT:

This value will be 1.625 MW which is consistent with the value provided by the Seller to Idaho Power in accordance with the GIA. This value is the maximum energy (MW) that potentially could be delivered by the Seller's Facility to the Idaho Power electrical system at any moment in time.

B-5 POINT OF DELIVERY

"Point of Delivery" means, unless otherwise agreed by both Parties, the point of where the Seller's Facility energy is delivered to the Idaho Power electrical system. The GIA will determine the specific Point of Delivery for this Facility. The Point of Delivery identified by the GIA will become an integral part of this Agreement.

B-6 LOSSES

Pursuant to the energy sales agreement dated December 14, 1994, which expires on December 2014, 1994, the losses for this Facility were established to be 1.15% of the kWh energy production recorded on the Facility generation metering equipment. If the interconnection of this existing Facility is modified in accordance with this new Energy Sales Agreement and/or the GIA, this energy loss calculation will be revised to reflect the new interconnection configuration. If no changes to the existing interconnection are made, the Losses will remain at 1.15% of the kWh energy production recorded on the Facility generation metering equipment. If at any time during the term of this Agreement, Idaho Power or Seller determines that the loss calculation does not correctly reflect the actual kWh losses attributed to the electrical equipment between the Facility and the Idaho Power electrical system, Idaho Power may adjust the calculation and retroactively adjust the previous month's kWh loss calculations.

B-7 DESIGNATED NETWORK RESOURCE (DNR)

This Facility is an Idaho Power DNR pursuant to an existing energy sales agreement that will expire on December 14, 2014. If this Agreement is 1) executed and approved by the Commission prior to the expiration of the existing agreement and 2) a GIA has been executed by both parties and 3) the Seller is in compliance with all requirements of that GIA, then the previous DNR status will be extended for this Agreement. However, if any of these DNR requirements are not completed prior to the expiration of the existing agreement it will require that this Facility be processed through the routine DNR process as described below.

Idaho Power cannot accept or pay for generation from this Facility until the Facility has achieved the status of being an Idaho Power DNR. Federal Energy Regulatory Commission ("FERC") rules require Idaho Power to prepare and submit the application to achieve DNR status for this Facility. Because much of the information Idaho Power needs to prepare the DNR application is specific to the Seller's Facility, Idaho Power's ability to file the DNR application in a timely manner is contingent upon timely receipt of the required information from the Seller. Prior to Idaho Power beginning the process to enable Idaho Power to submit a request for DNR status for this Facility, the Seller shall have 1) filed a Generation Interconnection application, 2) submitted all information required by Idaho Power to complete the application, and 3) either executed this Agreement or, at a minimum, provided Idaho Power with confirmation of the Seller's intent to complete this Agreement in a timely manner. **Seller's failure to provide complete and accurate information in a timely manner can significantly impact Idaho Power's ability and cost to attain the DNR designation for the Seller's Facility and the Seller shall bear the costs of any of these delays that are a result of any action or inaction by the Seller.**

APPENDIX C

ENGINEER'S CERTIFICATION
OF
OPERATIONS & MAINTENANCE POLICY

The undersigned _____, on behalf of himself/herself and _____, hereinafter collectively referred to as "Engineer," hereby states and certifies to the Seller as follows:

1. That Engineer is a Licensed Professional Engineer in good standing in the State of Idaho.
2. That Engineer has reviewed the Energy Sales Agreement, hereinafter referred to as the "Agreement," between Idaho Power as Buyer, and _____ as Seller, dated _____.
3. That the cogeneration or small power production project which is the subject of the Agreement and this Statement is identified as Idaho Power Company Facility No. _____ and is hereinafter referred to as the "Project."
4. That the Project, which is commonly known as the _____ Project, is located in Section _____ Township _____ Range _____, Boise Meridian, _____ County, Idaho.
5. That Engineer recognizes that the Agreement provides for the Project to furnish electrical energy to Idaho Power for a _____ year period.
6. That Engineer has substantial experience in the design, construction and operation of electric power plants of the same type as this Project.
7. That Engineer has no economic relationship to the Design Engineer of this Project.
8. That Engineer has reviewed and/or supervised the review of the Policy for Operation and Maintenance ("O&M") for this Project and it is his professional opinion that, said Project has been designed and built to appropriate standards, and adherence to said O&M Policy will result in the Project's

producing at or near the design electrical output, efficiency and plant factor for the full Contact Term of _____ years.

9. That Engineer recognizes that Idaho Power, in accordance with paragraph 5.2 of the Agreement, is relying on Engineer's representations and opinions contained in this Statement.

10. That Engineer certifies that the above statements are complete, true and accurate to the best of his/her knowledge and therefore sets his/her hand and seal below.

By _____

(P.E. Stamp)

Date _____

APPENDIX C
ENGINEER'S CERTIFICATION
OF
ONGOING OPERATIONS AND MAINTENANCE

The undersigned _____, on behalf of himself/herself and _____ hereinafter collectively referred to as "Engineer," hereby states and certifies to the Seller as follows:

1. That Engineer is a Licensed Professional Engineer in good standing in the State of Idaho.
2. That Engineer has reviewed the Energy Sales Agreement, hereinafter referred to as the "Agreement," between Idaho Power as Buyer, and _____ as Seller, dated _____.
3. That the cogeneration or small power production project which is the subject of the Agreement and this Statement is identified as Idaho Power Company Facility No. _____ and hereinafter referred to as the "Project".
4. That the Project, which is commonly known as the _____ Project, is located in Section _____ Township _____ Range _____, Boise Meridian, _____ County, Idaho.
5. That Engineer recognizes that the Agreement provides for the Project to furnish electrical energy to Idaho Power for a _____ year period.
6. That Engineer has substantial experience in the design, construction and operation of electric power plants of the same type as this Project.
7. That Engineer has no economic relationship to the Design Engineer of this Project.

8. That Engineer has made a physical inspection of said Project, its operations and maintenance records since the last previous certified inspection. The Engineer certifies, based on the Project's appearance and the information provided by the Project, that the Project's ongoing O&M has been completed in accordance with said O&M Policy; that it is in reasonably good operating condition; and it is in the Engineer's professional opinion that if adherence to said O&M Policy continues, the Project will continue producing at or near its design electrical output, efficiency and plant factor for the remaining _____ years of the Agreement.

9. That Engineer recognizes that Idaho Power, in accordance with paragraph 5.2 of the Agreement, is relying on Engineer's representations and opinions contained in this Statement.

10. That Engineer certifies that the above statements are complete, true and accurate to the best of his/her knowledge and therefore sets his/her hand and seal below.

By _____

(P.E. Stamp)

Date _____

APPENDIX C

ENGINEER'S CERTIFICATION
OF
DESIGN & CONSTRUCTION ADEQUACY

The undersigned _____, on behalf of himself/herself and _____ hereinafter collectively referred to as "Engineer", hereby states and certifies to Idaho Power as follows:

1. That Engineer is a Licensed Professional Engineer in good standing in the State of Idaho.
2. That Engineer has reviewed the Energy Sales Agreement, hereinafter referred to as the "Agreement", between Idaho Power as Buyer, and _____ as Seller, dated _____.
3. That the cogeneration or small power production project, which is the subject of the Agreement and this Statement, is identified as Idaho Power Company Facility No _____ and is hereinafter referred to as the "Project".
4. That the Project, which is commonly known as the _____ Project, is located in Section _____ Township _____ Range _____, Boise Meridian, _____ County, Idaho.
5. That Engineer recognizes that the Agreement provides for the Project to furnish electrical energy to Idaho Power for a _____ year period.
6. That Engineer has substantial experience in the design, construction and operation of electric power plants of the same type as this Project.
7. That Engineer has no economic relationship to the Design Engineer of this Project and has made the analysis of the plans and specifications independently.
8. That Engineer has reviewed the engineering design and construction of the Project, including the civil work, electrical work, generating equipment, prime mover conveyance system, Seller furnished Interconnection Facilities and other Project facilities and equipment.

9. That the Project has been constructed in accordance with said plans and specifications, all applicable codes and consistent with Prudent Electrical Practices as that term is described in the Agreement.

10. That the design and construction of the Project is such that with reasonable and prudent operation and maintenance practices by Seller, the Project is capable of performing in accordance with the terms of the Agreement and with Prudent Electrical Practices for a _____ year period.

11. That Engineer recognizes that Idaho Power, in accordance with paragraph 5.2 of the Agreement, in interconnecting the Project with its system, is relying on Engineer's representations and opinions contained in this Statement.

12. That Engineer certifies that the above statements are complete, true and accurate to the best of his/her knowledge and therefore sets his/her hand and seal below.

By _____

(P.E. Stamp)

Date _____

APPENDIX D

NON SEASONAL HYDRO FACILITY ENERGY PRICES

(Prices based on 1.6 MW of Capacity)

D-1 Base Energy Heavy Load Purchase Price – For all Base Energy received during Heavy Load Hours, Idaho Power will pay the non-levelized energy price in accordance with Commission Order 33084 with full capacity payments per Commission Order 32697 and seasonalization factors applied:

Year	Season 1 - (73.50 %) Mills/kWh	Season 2 - (120.00 %) Mills/kWh	Season 3 - (100.00 %) Mills/kWh
2014	47.81	78.07	65.05
2015	46.32	75.62	63.02
2016	46.07	75.22	62.69
2017	48.49	79.16	65.97
2018	51.39	83.90	69.91
2019	53.60	87.51	72.92
2020	54.04	88.23	73.52
2021	55.61	90.79	75.66
2022	56.59	92.40	77.00
2023	58.24	95.09	79.24
2024	60.23	98.33	81.94
2025	61.63	100.62	83.85
2026	62.02	101.26	84.39
2027	63.00	102.86	85.71
2028	64.34	105.04	87.54
2029	67.08	109.51	91.26
2030	69.91	114.14	95.12
2031	72.14	117.78	98.15
2032	75.01	122.47	102.06
2033	78.03	127.39	106.16
2034	80.78	131.89	109.90
2035	83.72	136.69	113.91
2036	88.79	144.96	120.80

D-2 Base Energy Light Load Purchase Price – For all Base Energy received during Light Load Hours, Idaho Power will pay the non-levelized energy price in accordance with Commission Order 33084 with full capacity payments per Commission Order 32697 and seasonalization factors applied:

Year	Season 1 - (73.50 %) Mills/kWh	Season 2 - (120.00 %) Mills/kWh	Season 3 - (100.00 %) Mills/kWh
2014	42.46	69.33	57.77
2015	40.97	66.88	55.74
2016	40.72	66.49	55.41
2017	43.14	70.43	58.69
2018	46.04	75.16	62.63
2019	48.25	78.77	65.64
2020	48.69	79.49	66.24
2021	50.26	82.06	68.38
2022	51.24	83.66	69.72
2023	52.89	86.35	71.96
2024	54.88	89.60	74.66
2025	56.28	91.88	76.57
2026	56.67	92.53	77.11
2027	57.65	94.12	78.43
2028	58.99	96.31	80.26
2029	61.73	100.78	83.98
2030	64.56	105.40	87.84
2031	66.79	109.04	90.87
2032	69.66	113.74	94.78
2033	72.67	118.65	98.88
2034	75.43	123.15	102.62
2035	78.37	127.95	106.63
2036	83.44	136.23	113.52

D-3 All Hours Energy Price – The price to be used in the calculation of the Surplus Energy Price and Delay Damage Price shall be the non-levelized energy price in accordance with Commission Order 33084 with full capacity payments per Commission Order 32697 and seasonalization factors applied:

Year	Season 1 - (73.50 %) Mills/kWh	Season 2 - (120.00 %) Mills/kWh	Season 3 - (100.00 %) Mills/kWh
2014	45.43	74.18	61.81
2015	43.94	71.73	59.78
2016	43.69	71.34	59.45
2017	46.11	75.27	62.73
2018	49.01	80.01	66.67
2019	51.22	83.62	69.68
2020	51.66	84.34	70.28
2021	53.23	86.91	72.42
2022	54.21	88.51	73.76
2023	55.86	91.20	76.00
2024	57.85	94.45	78.70
2025	59.25	96.73	80.61
2026	59.64	97.38	81.15
2027	60.62	98.97	82.47
2028	61.96	101.16	84.30
2029	64.69	105.62	88.02
2030	67.53	110.25	91.88
2031	69.76	113.89	94.91
2032	72.63	118.58	98.82
2033	75.64	123.50	102.92
2034	78.40	128.00	106.66
2035	81.34	132.80	110.67
2036	86.41	141.08	117.56

APPENDIX E

INSURANCE REQUIREMENTS

The Seller shall secure and continuously carry insurance as specified within this Appendix for the term of the Agreement.

Insurance Requirements:

1. All insurance required by this Agreement shall be placed with an insurance company with an A.M. Best Company rating of A- or better.
2. If the insurance coverage required in this Appendix is cancelled, materially changed or lapses for any reason, the Seller will immediately notify Idaho Power in writing. This notice will advise Idaho Power of the specific reason for cancellation, material change or lapse and the steps being taken to comply with these Insurance Requirements. Failure to provide this notice and to comply with these Insurance Requirements within 5 days of the cancellation, material change or lapse will constitute a Material Breach and Idaho Power may terminate this Agreement.
3. Prior to the First Energy date and subsequently within 10 days of the annual anniversary of the Operation Date, the Seller shall provide a Certificate of Insurance in the name of Idaho Power Company and list Idaho Power Company as an Additional Insured Endorsement and Waiver of Subrogation Endorsement.
4. The Certificate of Insurance shall evidence the appropriate insurance coverage of Comprehensive General Liability Insurance for both bodily injury and property damage with limits equal to \$1,000,000, each occurrence, combined single limit. The deductible for such insurance shall be consistent with current Insurance Industry Utility practices for similar property.

Permit 36-8310 Power Consumption Analysis - Annual Totals.

Year	Total KWH From Daily Readings Per Year	Total Volume per Weir Measurements in AF	Total KWH/ Total AF = KWH/AF	Average KWH/ 24hr. CFS	Total Volume based on average KWH/CFS X 1.9835 (see each sheet)	Notes	Average KWH per 24 hour cfs per chart supplied by Permit Holder (Should Be Between 20 -25 24hr CFS/KWh)	Maximum Diversion Rate
1992	1,736,000	N/A	N/A	768	4,483	This was the first year and had poorly recorded data. I included it because it was the first year of operation.	32	48.43
1993	4,640,000	16,375	283	562	16,375	This was a better year for data gathering, but there were still a couple of lapses. Volumes based on weir and calculated from KWH/CFS matched exactly. There was one measurement that appeared to be an outlier at 75.35 cfs.	23	75.35
1994	4,180,800	14,114	296	587	14,127	The volumes based on the weir and calculated from the KWH/CFS were within 0.1% of each other.	24	66.07
1995	4,872,000	16,362	298	590	16,357	The volumes based on the weir and calculated from the KWH/CFS were less than 0.03% of each other.		67.41
1996	6,100,800	16,605	367	730	16,581	The volumes based on the weir and calculated from the KWH/CFS were less than 0.1% of each other.	30	62.77
1997	6,547,200	21,806	300	596	21,806	This data set matched exactly	25	67.41
Averages			308.8	613			25.5	

The diversion rate shown for 7/19/1993 was 75.35 cfs. This is concerning because the total power output for 7/19/1993 was only 17,600 KWh, while on 7/18/1993 the diversion rate was 31.11 cfs and power output was 19,200 KWh and on 7/20/1993 the diversion rate was 31.67 cfs and the power output was 20,800 KWh. According to the permit holder's records this diversion rate was only achieved once, and produced less power than the day before or after with less than 1/2 of the diversion rate for either day. Due to the power output, I believe that this diversion rate was written in error, and should be considered an outlier. The table doesn't show a diversion rate over 67.41 cfs and any more than that would most likely overtop the banks of the pond and spill water down the creek. The most consistent Maximum diversion rate is the 67.41 cfs, which is also the maximum rate shown on the weir chart. Therefore, I am recommending that this permit be limited to 67.41 cfs.

This permit is based on a wastewater water source, so the numbers for the power generation are going to vary. The power chart supplied by the permit holder did show that the generator generally operates between 20 and 25 Kwh/24 hr. CFS, so I think the averages supplied do seem reasonable. The chart bases the cfs rate on the 24 hour cfs or the KWH/CFS / 24 hours.

I have used the average KWH/AF amount shown above to calculate the Kwh generated from the Water management Information System data that only shows the total volume diverted for the year. There was no data for 2016. It appears as though this system provides between 3,100,000 Kwh to 6,500,000 Kwh per year, with an average within the 4,800,000 Kwh range.

The maximum volume diverted during the development period from 1992 to 1995 was 16,375 af of water in 1993. We cannot recommend water diverted outside of the development period. This is a wastewater right, so it is dependent on the amount of water supplied by the canal company. A diversion volume of 16,375 was exceeded in 1996, 1997, and 2011, but we cannot consider these diversion volumes.

Year	Total Volume	Average KWH/AF Shown Above.	Total Kwh
2011	19,511	308.8	6,024,997
2012	15,587	308.8	4,813,266
2013	10,062	308.8	3,107,146
2014	12,128	308.8	3,745,126
2015	15,587	308.8	4,813,266

Permit 36-8310 Daily Totals 1992

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
4/15/1992	0	13	20,800				0
4/16/1992	13	29	25,600				0
4/17/1992	29	49	32,000				0
4/18/1992	49	69	32,000				0
4/19/1992	69	69	0				0
4/20/1992	69	93	38,400				0
4/21/1992	93	114	33,600				0
4/22/1992	114	135	33,600				0
4/23/1992	135	159	38,400				0
4/24/1992	159	182	36,800				0
4/25/1992	182	205	36,800				0
4/26/1992	205	226	33,600				0
4/27/1992	226	248	35,200				0
4/28/1992	248	266	28,800				0
4/29/1992	266	283	27,200				0
4/30/1992	283	296	20,800				0
5/1/1992	296	306	16,000				0
5/2/1992	306	314	12,800				0
5/3/1992	314	325	17,600				0
5/4/1992	325	338	20,800				0
5/5/1992	338	350	19,200				0
5/6/1992	350	356	9,600				0
5/7/1992	356	362	9,600				0
5/8/1992	362	367	8,000				0
5/9/1992	367	373	9,600				0
5/10/1992	373	381	12,800				0
5/11/1992	381	395	22,400				0
5/12/1992	395	405	16,000				0
5/13/1992	405	414	14,400				0
5/14/1992	414	422	12,800				0
5/15/1992	422	429	11,200				0
5/16/1992	429	436	11,200				0
5/17/1992	436	441	8,000				0
5/18/1992	441	445	6,400				0
5/19/1992	445	447	3,200				0
5/20/1992	447	448	1,600				0
5/21/1992	448	450	3,200				0
5/22/1992	450	454	6,400				0
5/23/1992	454	460	9,600				0
5/24/1992	460	465	8,000				0
5/25/1992	465	468	4,800				0
5/26/1992	468	472	6,400				0
5/27/1992	472	475	4,800				0
5/28/1992	475	478	4,800				0
5/29/1992	478	483	8,000				0
5/30/1992	483	488	8,000				0
5/31/1992	488	494	9,600				0
6/1/1992	494	494	0				0
6/2/1992	494	497	4,800				0
6/3/1992	497	500	4,800				0
6/4/1992	500	507	11,200				0
6/5/1992	507	511	6,400				0
6/6/1992	511	517	9,600				0
6/7/1992	517	519	3,200				0
6/8/1992	519	524	8,000				0
6/9/1992	524	527	4,800				0
6/10/1992	527	529	3,200				0
6/11/1992	529	531	3,200				0
6/12/1992	531	533	3,200				0
6/13/1992	533	539	9,600				0
6/14/1992	539	550	17,600				0
6/15/1992	550	558	12,800				0

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Date	Beginnign Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/16/1992	558	570	19,200				0
6/17/1992	570	584	22,400				0
6/18/1992	584	599	24,000				0
6/19/1992	599	611	19,200				0
6/20/1992	611	620	14,400				0
6/21/1992	620	627	11,200				0
6/22/1992	627	630	4,800				0
6/23/1992	630	631	1,600				0
6/24/1992	631	631	0				0
6/25/1992	631	631	0				0
6/26/1992	631	635	6,400				0
6/27/1992	635	639	6,400				0
6/28/1992	639	642	4,800				0
6/29/1992	642	646	6,400				0
6/30/1992	646	656	16,000				0
7/1/1992	656	665	14,400				0
7/2/1992	665	671	9,600				0
7/3/1992	671	676	8,000				0
7/4/1992	676	679	4,800				0
7/5/1992	679	681	3,200				0
7/6/1992	681	684	4,800				0
7/7/1992	684	686	3,200				0
7/8/1992	686	690	6,400				0
7/9/1992	690	693	4,800				0
7/10/1992	693	697	6,400	0.22	4.00	1602.003	7.9240825
7/11/1992	697	700	4,800	0.38	8.91	538.7205	17.672985
7/12/1992	700	704	6,400	0.58	16.50	387.8788	32.72775
7/13/1992	704	712	12,800	0.57	16.14	793.3065	32.0037725
7/14/1992	712	719	11,200	0.54	14.88	752.6882	29.51448
7/15/1992	719	722	4,800	0.38	8.91	538.7205	17.672985
7/16/1992	722	727	8,000				0
7/17/1992	727	728	1,600	0.15	2.25	712.3776	4.454941
7/18/1992	728	730	3,200				0
7/19/1992	730	732	3,200	0.27	5.38	595.3488	10.6613125
7/20/1992	732	735	4,800	0.48	12.57	381.8616	24.932595
7/21/1992	735	739	6,400	0.24	4.48	1430.168	8.8761625
7/22/1992	739	740	1,600	0.20	3.46	462.0271	6.8688605
7/23/1992	740	741	1,600				0
7/24/1992	741	742	1,600				0
7/25/1992	742	743	1,600				0
7/26/1992	743	743	0				0
7/27/1992	743	743	0				0
7/28/1992	743	743	0				0
7/29/1992	743	743	0				0
7/30/1992	743	743	0				0
7/31/1992	743	743	0				0
8/1/1992	743	743	0				0
8/2/1992	743	743	0				0
8/3/1992	743	743	0				0
8/4/1992	743	743	0				0
8/5/1992	743	743	0	0.60	17.48		34.6616625
8/6/1992	743	747	6,400	0.38	8.91	718.2941	17.672985
8/7/1992	747	750	4,800	0.30	6.29	763.7232	12.4662975
8/8/1992	750	754	6,400	0.35	7.89	811.6677	15.6398975
8/9/1992	754	757	4,800	0.33	7.13	673.2118	14.142355
8/10/1992	757	759	3,200	0.39	9.26	345.759	18.3572925
8/11/1992	759	762	4,800	0.32	6.87	698.69	13.626645
8/12/1992	762	766	6,400	0.35	7.89	811.1534	15.649815
8/13/1992	766	770	6,400	0.44	11.08	577.8781	21.9672625
8/14/1992	770	774	6,400	0.43	10.65	601.2212	21.1143575
8/15/1992	774	777	4,800	0.22	4.00	1201.502	7.9240825
8/16/1992	777	779	3,200	0.34	7.55	423.8411	14.975425

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/17/1992	779	783	6,400				0
8/18/1992	783	786	4,800	0.28	5.63	853.3333	11.1571875
8/19/1992	786	789	4,800	0.35	7.89	608.7508	15.6398975
8/20/1992	789	792	4,800	0.23	4.24	1133.412	8.4001225
8/21/1992	792	794	3,200	0.27	5.38	595.3488	10.6613125
8/22/1992	794	797	4,800				0
8/23/1992	797	802	8,000				0
8/24/1992	802	807	8,000	0.66	20.25	395.0617	40.165875
8/25/1992	807	816	14,400	0.74	23.77	605.8056	47.147795
8/26/1992	816	824	12,800	0.50	13.28	963.8554	26.34088
8/27/1992	824	827	4,800	0.63	18.67	257.1658	37.0220275
8/28/1992	827	828	1,600	0.39	9.26	172.8795	18.3572925
8/29/1992	828	837	14,400	0.49	12.93	1114.12	25.6367375
8/30/1992	837	844	11,200	0.67	20.48	547.0085	40.6121625
8/31/1992	844	844	0				0
9/1/1992	844	844	0				0
9/2/1992	844	844	0				0
9/3/1992	844	844	0				0
9/4/1992	844	844	0				0
9/5/1992	844	844	0				0
9/6/1992	844	844	0				0
9/7/1992	844	844	0				0
9/8/1992	844	844	0				0
9/9/1992	844	844	0				0
9/10/1992	844	844	0				0
9/11/1992	844	844	0				0
9/12/1992	844	850	9,600	1.30			0
9/13/1992	850	850	0				0
9/14/1992	850	884	54,400	1.20			0
9/15/1992	884	903	30,400	1.14			0
9/16/1992	903	918	24,000	0.95			0
9/17/1992	918	934	25,600	1.01			0
9/18/1992	934	944	16,000	0.80			0
9/19/1992	944	944	0				0
9/20/1992	944	944	0				0
9/21/1992	944	944	0				0
9/22/1992	944	944	0				0
9/23/1992	944	944	0				0
9/24/1992	944	944	0				0
9/25/1992	944	944	0				0
9/26/1992	944	944	0				0
9/27/1992	944	944	0				0
9/28/1992	944	944	0				0
9/29/1992	944	944	0				0
9/30/1992	944	944	0				0
10/1/1992	944	953	14,400	0.75	24.23	594.3046	48.060205
10/2/1992	953	957	6,400	0.46	11.70	547.0085	23.20695
10/3/1992	957	966	14,400	1.15	45.47	316.6923	90.189745
10/4/1992	966	976	16,000	0.80	26.64	600.7133	52.8305225
10/5/1992	976	989	20,800	1.18	47.28	439.9323	93.77988
10/6/1992	989	1006	27,200	1.20	48.43	561.6353	96.060905
10/7/1992	1006	1022	25,600	1.02	38.15	671.0354	75.670525
10/8/1992	1022	1036	22,400	0.92	32.78	683.4477	65.0092125
10/9/1992	1036	1046	16,000	0.93	33.26	481.1307	65.9612925
10/10/1992	1046	1058	19,200	1.00	37.02	518.6386	73.42917
10/11/1992	1058	1070	19,200				0
10/12/1992	1070	1085	24,000	0.91	32.22	744.879	63.90837
MAX			54,400		48.43	1123.271	
AVE			12,312		16.03	768.0858	
MIN			1,600		2.25	712.3776	

MAX KWH/CFS / 24 =

46.80295

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
AVE KWH/CFS / 24 =						32.00357	
Min KWH/CFS / 24 =						29.6824	

Total KWH	1,736,000
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	3065.47
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	4483.04
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	4833.61

PLEASE NOTE: Average KWH/24
Hour CFS should be close to the 20
to 25 KWH/24hr CFS efficiency chart
to fall within reasonable power
making efficiency levels.

Please Note: Measurement data was very spotting during this year. The minimum values don't include those days when there wee no recordings marked by a "0" or a blank.

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
2/12/1993	1070	1085	24,000	0.54	14.88	1612.90323	29.51448
2/13/1993	1085	1090	8,000	0.17	2.70	2962.96296	5.35545
4/30/1993	1090	1100	16,000	0.71	22.31	717.16719	44.251885
5/1/1993	1100	1110	16,000	0.71	22.31	717.16719	44.251885
5/2/1993	1110	1128	28,800	1.31	55.07	522.970764	109.231345
5/3/1993	1128	1151	36,800	1.23	50.25	732.338308	99.670875
5/4/1993	1151	1169	28,800	1.01	37.59	766.161213	74.559765
5/5/1993	1169	1187	28,800	1.01	37.59	766.161213	74.559765
5/6/1993	1187	1207	32,000	1.28	53.31	600.262615	105.740385
5/7/1993	1207	1227	32,000	1.34	56.98	561.600562	113.01983
5/8/1993	1227	1246	30,400	1.35	57.65	527.320035	114.348775
5/9/1993	1246	1263	27,200	1.17	46.62	583.440583	92.47077
5/10/1993	1263	1278	24,000	0.73	23.23	1033.14679	46.076705
5/11/1993	1278	1292	22,400	0.73	23.23	964.27034	46.076705
5/12/1993	1292	1303	17,600	1.17	46.62	377.520378	92.47077
5/13/1993	1303	1313	16,000	0.80	26.64	600.600601	52.84044
5/14/1993	1313	1330	27,200	1.45	64.11	424.270785	127.162185
5/15/1993	1330	1353	36,800	1.41	61.51	598.276703	122.005085
5/16/1993	1353	1367	22,400	1.34	56.98	393.120393	113.01983
5/17/1993	1367	1388	33,600	1.43	62.77	535.287558	124.504295
5/18/1993	1388	1411	36,800	1.46	64.71	568.691083	128.352285
5/19/1993	1411	1428	27,200	1.19	47.86	568.324279	94.93031
5/20/1993	1428	1445	27,200	1.27	52.72	515.933232	104.57012
5/21/1993	1445	1462	27,200	1.10	42.69	637.151558	84.675615
5/22/1993	1462	1481	30,400	1.11	43.26	702.727693	85.80621
5/23/1993	1481	1495	22,400	1.17	46.62	480.48048	92.47077
5/24/1993	1495	1512	27,200	1.20	48.43	561.63535	96.060905
5/25/1993	1512	1530	28,800	1.15	45.47	633.384649	90.189745
5/26/1993	1530	1547	27,200	1.15	45.47	598.196613	90.189745
5/27/1993	1547	1565	28,800	1.17	46.62	617.760618	92.47077
5/28/1993	1565	1582	27,200	1.16	46.05	590.662324	91.340175
5/29/1993	1582	1601	30,400	1.23	50.25	604.975124	99.670875
5/30/1993	1601	1620	30,400	1.39	60.24	504.648074	119.48604
5/31/1993	1620	1638	28,800	1.39	60.24	478.087649	119.48604
6/1/1993	1638	1659	33,600	1.40	60.84	552.268245	120.67614
6/2/1993	1659	1680	33,600	1.31	55.07	610.132559	109.231345
6/3/1993	1680	1702	35,200	1.47	65.39	538.30861	129.701065
6/4/1993	1702	1725	36,800	1.48	66.07	556.985016	131.049845
6/5/1993	1725	1751	41,600	1.50	67.41	617.119122	133.707735
6/6/1993	1751	1772	33,600	1.49	66.65	504.126032	132.200275
6/7/1993	1772	1792	32,000	1.48	66.07	484.334796	131.049845
6/8/1993	1792	1815	36,800	1.48	66.07	556.985016	131.049845
6/9/1993	1815	1837	35,200	1.47	65.39	538.30861	129.701065
6/10/1993	1837	1861	38,400	1.49	66.65	576.144036	132.200275
6/11/1993	1861	1885	38,400	1.49	66.65	576.144036	132.200275
6/12/1993	1885	1908	36,800	1.48	66.07	556.985016	131.049845
6/13/1993	1908	1931	36,800	1.48	66.07	556.985016	131.049845
6/14/1993	1931	1948	27,200	1.16	46.05	590.662324	91.340175
6/15/1993	1948	1965	27,200	1.16	46.05	590.662324	91.340175
6/16/1993	1965	1981	25,600	1.16	46.05	555.917481	91.340175
6/17/1993	1981	2002	33,600	1.39	60.24	557.768924	119.48604
6/18/1993	2002	2021	30,400	1.25	51.48	590.520591	102.11058
6/19/1993	2021	2039	28,800	1.17	46.62	617.760618	92.47077
6/20/1993	2039	2056	27,200	1.00	37.02	734.737979	73.42917
6/21/1993	2056	2070	22,400	0.99	36.46	614.371914	72.31841
6/22/1993	2070	2083	20,800	1.10	42.69	487.233544	84.675615
6/23/1993	2083	2098	24,000	1.00	37.02	648.298217	73.42917
6/24/1993	2098	2114	25,600	1.19	47.86	534.893439	94.93031
6/25/1993	2114	2132	28,800	1.13	44.32	649.819495	87.90872

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/26/1993	2132	2147	24,000	0.94	33.81	709.849157	67.062135
6/27/1993	2147	2159	19,200	0.94	33.81	567.879326	67.062135
6/28/1993	2159	2171	19,200	1.00	37.02	518.638574	73.42917
6/29/1993	2171	2184	20,800	0.97	35.41	587.404688	70.235735
6/30/1993	2184	2198	22,400	0.98	35.89	624.129284	71.187815
7/1/1993	2198	2211	20,800	0.90	31.67	656.772971	62.817445
7/2/1993	2211	2222	17,600	0.90	31.67	555.730976	62.817445
7/3/1993	2222	2236	22,400	1.09	42.03	532.952653	83.366505
7/4/1993	2236	2250	22,400	1.09	42.03	532.952653	83.366505
7/5/1993	2250	2263	20,800	1.20	48.43	429.485856	96.060905
7/6/1993	2263	2275	19,200	0.98	35.89	534.967958	71.187815
7/7/1993	2275	2287	19,200	0.88	30.72	625	60.93312
7/8/1993	2287	2299	19,200	0.87	30.16	636.604775	59.82236
7/9/1993	2299	2309	16,000	0.79	26.17	611.387084	51.908195
7/10/1993	2309	2318	14,400	0.79	26.17	550.248376	51.908195
7/11/1993	2318	2325	11,200	0.66	20.03	559.161258	39.729505
7/12/1993	2325	2334	14,400	0.79	26.17	550.248376	51.908195
7/13/1993	2334	2344	16,000	0.85	29.14	549.073439	57.79919
7/14/1993	2344	2354	16,000	0.84	28.67	558.074642	56.866945
7/15/1993	2354	2364	16,000	0.84	28.67	558.074642	56.866945
7/16/1993	2364	2376	19,200	0.90	31.67	606.251973	62.817445
7/17/1993	2376	2379	4,800	0.42	10.22	469.667319	20.27137
7/18/1993	2379	2391	19,200	0.89	31.11	617.164899	61.706685
7/19/1993	2391	2402	17,600	1.60	75.35	233.576642	149.456725
7/20/1993	2402	2415	20,800	0.90	31.67	656.772971	62.817445
7/21/1993	2415	2428	20,800	1.14	44.97	462.530576	89.197995
7/22/1993	2428	2441	20,800	1.09	42.03	494.884606	83.366505
7/23/1993	2441	2447	9,600	1.23	50.25	191.044776	99.670875
7/24/1993	2447	2469	35,200	1.47	65.39	538.30861	129.701065
7/25/1993	2469	2486	27,200	1.40	60.84	447.074293	120.67614
7/26/1993	2486	2508	35,200	1.41	61.51	572.264672	122.005085
7/27/1993	2508	2527	30,400	1.32	55.72	545.585068	110.52062
7/28/1993	2527	2548	33,600	1.14	44.97	747.164777	89.197995
7/29/1993	2548	2562	22,400	1.00	37.02	605.078336	73.42917
7/30/1993	2562	2573	17,600	0.94	33.81	520.556049	67.062135
7/31/1993	2573	2584	17,600	0.94	33.81	520.556049	67.062135
8/1/1993	2584	2595	17,600	0.97	35.41	497.034736	70.235735
8/2/1993	2595	2609	22,400	1.19	47.86	468.031759	94.93031
8/3/1993	2609	2625	25,600	1.18	47.28	541.455161	93.77988
8/4/1993	2625	2640	24,000	0.97	35.41	677.77464	70.235735
8/5/1993	2640	2655	24,000	1.14	44.97	533.689126	89.197995
8/6/1993	2655	2671	25,600	1.20	48.43	528.597976	96.060905
8/7/1993	2671	2686	24,000	1.20	48.43	495.560603	96.060905
8/8/1993	2686	2703	27,200	1.16	46.05	590.662324	91.340175
8/9/1993	2703	2721	28,800	1.30	54.56	527.859238	108.21976
8/10/1993	2721	2739	28,800	1.28	53.31	540.236353	105.740385
8/11/1993	2739	2754	24,000	1.15	45.47	527.820541	90.189745
8/12/1993	2754	2770	25,600	1.10	42.69	599.672054	84.675615
8/13/1993	2770	2787	27,200	1.16	46.05	590.662324	91.340175
8/14/1993	2787	2802	24,000	1.15	45.47	527.820541	90.189745
8/15/1993	2802	2813	17,600	1.17	46.62	377.520378	92.47077
8/16/1993	2813	2832	30,400	1.17	46.62	652.080652	92.47077
8/17/1993	2832	2851	30,400	1.15	45.47	668.572685	90.189745
8/18/1993	2851	2867	25,600	1.14	44.97	569.268401	89.197995
8/19/1993	2867	2883	25,600	1.16	46.05	555.917481	91.340175
8/20/1993	2883	2897	22,400	0.96	34.86	642.570281	69.14481
8/21/1993	2897	2909	19,200	0.94	33.81	567.879326	67.062135
8/22/1993	2909	2924	24,000	1.15	45.47	527.820541	90.189745
8/23/1993	2924	2939	24,000	1.25	51.48	466.200466	102.11058

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Date	Beginnig Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/24/1993	2939	2956	27,200	0.97	35.41	768.144592	70.235735
8/25/1993	2956	2969	20,800	1.04	39.20	530.612245	77.7532
8/26/1993	2969	2985	25,600	1.12	43.83	584.074835	86.936805
8/27/1993	2985	3002	27,200	1.25	51.48	528.360528	102.11058
8/28/1993	3002	3018	25,600	1.12	43.83	584.074835	86.936805
8/29/1993	3018	3033	24,000	0.98	35.89	668.709947	71.187815
8/30/1993	3033	3049	25,600	1.26	52.15	490.891659	103.439525
8/31/1993	3049	3065	25,600	1.11	43.26	591.770689	85.80621
9/1/1993	3065	3080	24,000	1.00	37.02	648.298217	73.42917
9/2/1993	3080	3093	20,800	1.01	37.59	553.338654	74.559765
9/3/1993	3093	3109	25,600	1.29	53.98	474.249722	107.06933
9/4/1993	3109	3126	27,200	1.25	51.48	528.360528	102.11058
9/5/1993	3126	3142	25,600	1.17	46.62	549.120549	92.47077
9/6/1993	3142	3159	27,200	1.33	56.39	482.355027	111.849565
9/7/1993	3159	3176	27,200	1.21	49.01	554.988778	97.211335
9/8/1993	3176	3193	27,200	0.97	35.41	768.144592	70.235735
9/9/1993	3193	3207	22,400	1.18	47.28	473.773266	93.77988
9/10/1993	3207	3223	25,600	1.33	56.39	453.981202	111.849565
9/11/1993	3223	3240	27,200	0.97	35.41	768.144592	70.235735
9/12/1993	3240	3259	30,400	1.16	46.05	660.152009	91.340175
9/13/1993	3259	3279	32,000	1.40	60.84	525.969757	120.67614
9/14/1993	3279	3300	33,600	1.30	54.56	615.835777	108.21976
9/15/1993	3300	3319	30,400	1.14	44.97	676.006226	89.197995
9/16/1993	3319	3334	24,000	1.08	41.47	578.731613	82.255745
9/17/1993	3334	3349	24,000	1.10	42.69	562.192551	84.675615
9/18/1993	3349	3366	27,200	0.97	35.41	768.144592	70.235735
9/19/1993	3366	3382	25,600	1.29	53.98	474.249722	107.06933
9/20/1993	3382	3403	33,600	1.23	50.25	668.656716	99.670875
9/21/1993	3403	3419	25,600	1.08	41.47	617.313721	82.255745
9/22/1993	3419	3433	22,400	0.94	33.81	662.52588	67.062135
9/23/1993	3433	3447	22,400	1.15	45.47	492.632505	90.189745
9/24/1993	3447	3464	27,200	1.10	42.69	637.151558	84.675615
9/25/1993	3464	3484	32,000	1.22	49.58	645.421541	98.34193
9/26/1993	3484	3496	19,200	1.20	48.43	396.448482	96.060905
9/27/1993	3496	3514	28,800	1.20	48.43	594.672724	96.060905
9/28/1993	3514	3530	25,600	1.14	44.97	569.268401	89.197995
9/29/1993	3530	3545	24,000	1.04	39.20	612.244898	77.7532
9/30/1993	3545	3557	19,200	1.00	37.02	518.638574	73.42917
10/1/1993	3557	3571	22,400	1.08	41.47	540.149506	82.255745
10/2/1993	3571	3584	20,800	1.09	42.03	494.884606	83.366505
10/3/1993	3584	3598	22,400	1.04	39.20	571.428571	77.7532
10/4/1993	3598	3612	22,400	1.18	47.28	473.773266	93.77988
10/5/1993	3612	3626	22,400	1.20	48.43	462.523229	96.060905
10/6/1993	3626	3635	14,400	0.67	20.48	703.125	40.62208
10/7/1993	3635	3641	9,600	0.43	10.65	901.408451	21.124275
10/8/1993	3641	3644	4,800	0.42	10.22	469.667319	20.27137
10/9/1993	3644	3649	8,000	0.85	29.14	274.536719	57.79919
10/10/1993	3649	3656	11,200	0.68	20.94	534.861509	41.53449
10/11/1993	3656	3664	12,800	0.72	22.77	562.143171	45.164295
10/12/1993	3664	3667	4,800	0.24	4.48	1071.42857	8.88608
10/13/1993	3667	3672	8,000	0.85	29.14	274.536719	57.79919
10/14/1993	3672	3680	12,800	0.85	29.14	439.258751	57.79919
10/15/1993	3680	3690	16,000	0.90	31.67	505.209978	62.817445
10/16/1993	3690	3702	19,200	1.20	48.43	396.448482	96.060905
10/17/1993	3702	3715	20,800	1.00	37.02	561.858455	73.42917
10/18/1993	3715	3728	20,800	1.03	38.63	538.441626	76.622605
10/19/1993	3728	3743	24,000	0.98	35.89	668.709947	71.187815
10/20/1993	3743	3756	20,800	0.97	35.41	587.404688	70.235735
10/21/1993	3756	3770	22,400	1.05	39.76	563.380282	78.86396

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
10/22/1993	3770	3783	20,800	1.13	44.32	469.314079	87.90872
10/23/1993	3783	3795	19,200	0.94	33.81	567.879326	67.062135
10/24/1993	3795	3807	19,200	0.94	33.81	567.879326	67.062135
10/25/1993	3807	3819	19,200	0.95	34.29	559.930009	68.014215
10/26/1993	3819	3832	20,800	0.95	34.29	606.590843	68.014215
10/27/1993	3832	3845	20,800	0.95	34.29	606.590843	68.014215
10/28/1993	3845	3858	20,800	0.98	35.89	579.548621	71.187815
10/29/1993	3858	3869	17,600	1.15	45.47	387.068397	90.189745
10/30/1993	3869	3884	24,000	0.98	35.89	668.709947	71.187815
10/31/1993	3884	3898	22,400	1.15	45.47	492.632505	90.189745
11/1/1993	3898	3914	25,600	1.12	43.83	584.074835	86.936805
11/2/1993	3914	3928	22,400	1.19	47.86	468.031759	94.93031
11/3/1993	3928	3943	24,000	1.24	50.90	471.51277	100.96015
11/4/1993	3943	3958	24,000	0.79	26.17	917.080627	51.908195
11/5/1993	3958	3961	4,800	0.15	2.25	2133.33333	4.462875
11/12/1993	3961	3964	4,800	0.63	18.67	257.096947	37.031945
11/13/1993	3964	3970	9,600	0.19	3.19	3009.40439	6.327365
MAX			41,600		75.35	552.090246	
AVE			23,918		42.55	562.057713	
MIN			4,800		2.25	2133.33333	

MAX KWH/CFS / 24 =	23.0037602
AVE KWH/CFS / 24 =	23.4190714
Min KWH/CFS / 24 =	88.8888889

Total KWH	4,640,000
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	16,670
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	16,375
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	4,314

Total Volume per CFS = Acre-feet	146,161
Kwh/af = Total KWH /total volume =	32

PLEASE NOTE: Average KWH/24 Hour CFS should be close to the 20 to 25 KWH/24hr CFS efficiency chart to fall within reasonable power making efficiency levels.

Please Note: A data set was missing from 6/26/94 to 7/9/94. Therefore, I used an average during this time period to provide an average KWH and Flow Rate during these days. The minimum values don't include those days when there were no recordings marked by a "0". The chart provided by the permit holder appears to be based on a 24 hour period, so if you divide the KWh/cfs by 24 hours matches the chart.

ALSO NOTE: The Total Volume diverted is the total volume measured by the weir. The Total Volume over the weir should be reasonably close to the (Average KWH/cfs) X 1.9835 if the power plant is operating within normal efficiency standards most of the time.

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
4/5/1994	3970	3975	8,000	0.41	9.95	804.0201005	19.735825
4/6/1994	3975	3981	9,600	0.79	26.17	366.8322507	51.908195
4/7/1994	3981	3989	12,800	0.80	26.64	480.4804805	52.84044
4/8/1994	3989	3998	14,400	0.95	34.29	419.9475066	68.014215
4/9/1994	3998	4011	20,800	0.90	31.67	656.7729713	62.817445
4/10/1994	4011	4022	17,600	1.14	44.97	391.3720258	89.197995
4/11/1994	4022	4041	30,400	1.19	47.86	635.185959	94.93031
4/12/1994	4041	4057	25,600	1.11	43.26	591.7706889	85.80621
4/13/1994	4057	4076	30,400	1.25	51.48	590.5205905	102.11058
4/14/1994	4076	4098	35,200	1.44	21.74	1619.135235	43.12129
4/15/1994	4098	4117	30,400	1.10	42.69	712.1105645	84.675615
4/16/1994	4117	4133	25,600	0.87	30.16	848.806366	59.82236
4/17/1994	4133	4144	17,600	1.14	44.97	391.3720258	89.197995
4/18/1994	4144	4154	16,000	0.81	27.18	588.6681383	53.91153
4/19/1994	4154	4165	17,600	0.73	23.23	757.6409815	46.076705
4/20/1994	4165	4172	11,200	0.91	32.22	347.61018	63.90837
4/21/1994	4172	4187	24,000	1.03	38.63	621.2787989	76.622605
4/22/1994	4187	4200	20,800	1.18	47.28	439.9323181	93.77988
4/23/1994	4200	4220	32,000	1.35	57.65	555.0737207	114.348775
4/24/1994	4220	4240	32,000	1.48	66.07	484.3347964	131.049845
4/25/1994	4240	4265	40,000	1.47	65.39	611.7143294	129.701065
4/26/1994	4265	4288	36,800	1.48	66.07	556.9850159	131.049845
4/27/1994	4288	4311	36,800	1.48	66.07	556.9850159	131.049845
4/28/1994	4311	4335	38,400	1.48	66.07	581.2017557	131.049845
4/29/1994	4335	4358	36,800	1.33	56.39	652.5979784	111.849565
4/30/1994	4358	4377	30,400	1.21	49.01	620.2815752	97.211335
5/1/1994	4377	4392	24,000	1.23	50.25	477.6119403	99.670875
5/2/1994	4392	4412	32,000	1.19	47.86	668.616799	94.93031
5/3/1994	4412	4429	27,200	1.05	39.76	684.1046278	78.86396
5/4/1994	4429	4441	19,200	0.83	28.12	682.7880512	55.77602
5/5/1994	4441	4452	17,600	0.80	26.64	660.6606607	52.84044
5/6/1994	4452	4465	20,800	0.93	33.26	625.3758268	65.97121
5/7/1994	4465	4476	17,600	0.90	31.67	555.7309757	62.817445
5/8/1994	4476	4487	17,600	0.97	35.41	497.034736	70.235735
5/9/1994	4487	4502	24,000	1.02	38.15	629.095675	75.670525
5/10/1994	4502	4513	17,600	0.78	25.62	686.9633099	50.81727
5/11/1994	4513	4521	12,800	0.69	21.39	598.4104722	42.427065
5/12/1994	4521	4526	8,000	0.42	10.22	782.778865	20.27137
5/13/1994	4526	4533	11,200	0.74	23.77	471.1821624	47.147795
5/14/1994	4533	4543	16,000	1.04	39.20	408.1632653	77.7532
5/15/1994	4543	4557	22,400	1.01	37.59	595.9031657	74.559765
5/16/1994	4557	4572	24,000	1.40	60.84	394.4773176	120.67614
5/17/1994	4572	4593	33,600	1.19	47.86	702.0476389	94.93031
5/18/1994	4593	4613	32,000	1.33	56.39	567.4765029	111.849565
5/19/1994	4613	4641	44,800	1.34	56.98	786.2407862	113.01983
5/20/1994	4641	4654	20,800	1.27	52.72	394.5371775	104.57012
5/21/1994	4654	4673	30,400	1.40	60.84	499.6712689	120.67614
5/22/1994	4673	4698	40,000	1.38	59.57	671.4789323	118.157095
5/23/1994	4698	4720	35,200	1.42	62.09	566.9189886	123.155515
5/24/1994	4720	4741	33,600	0.91	32.22	1042.83054	63.90837
5/25/1994	4741	4755	22,400	0.91	32.22	695.22036	63.90837
5/26/1994	4755	4766	17,600	0.80	26.64	660.6606607	52.84044
5/27/1994	4766	4773	11,200	0.80	26.64	420.4204204	52.84044
5/28/1994	4773	4788	24,000	1.35	57.65	416.3052905	114.348775
5/29/1994	4788	4809	33,600	1.45	64.11	524.0992045	127.162185
5/30/1994	4809	4833	38,400	1.48	66.07	581.2017557	131.049845
5/31/1994	4833	4857	38,400	1.43	62.77	611.7572089	124.504295
6/1/1994	4857	4880	36,800	1.48	66.07	556.9850159	131.049845
6/2/1994	4880	4902	35,200	1.48	66.07	532.7682761	131.049845
6/3/1994	4902	4926	38,400	1.45	64.11	598.9705194	127.162185

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginnigng Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/4/1994	4926	4951	40,000	1.40	60.84	657.4621959	120.67614
6/5/1994	4951	4970	30,400	1.33	56.39	539.1026778	111.849565
6/6/1994	4970	4991	33,600	1.25	51.48	652.6806527	102.11058
6/7/1994	4991	5007	25,600	0.98	35.89	713.2906102	71.187815
6/8/1994	5007	5021	22,400	1.10	42.69	524.7130476	84.675615
6/9/1994	5021	5037	25,600	0.96	34.86	734.3660356	69.14481
6/10/1994	5037	5053	25,600	0.99	36.46	702.1393308	72.31841
6/11/1994	5053	5067	22,400	0.90	31.67	707.2939691	62.817445
6/12/1994	5067	5077	16,000	0.89	31.11	514.3040823	61.706685
6/13/1994	5077	5090	20,800	1.00	37.02	561.8584549	73.42917
6/14/1994	5090	5102	19,200	0.87	30.16	636.6047745	59.82236
6/15/1994	5102	5114	19,200	1.00	37.02	518.6385737	73.42917
6/16/1994	5114	5128	22,400	0.93	33.26	673.4816597	65.97121
6/17/1994	5128	5139	17,600	0.93	33.26	529.1641612	65.97121
6/18/1994	5139	5151	19,200	0.97	35.41	542.2197119	70.235735
6/19/1994	5151	5164	20,800	0.82	27.65	752.2603978	54.843775
6/20/1994	5164	5176	19,200	1.03	38.63	497.0230391	76.622605
6/21/1994	5176	5188	19,200	0.79	26.17	733.6645013	51.908195
6/22/1994	5188	5195	11,200	0.87	30.16	371.3527851	59.82236
6/23/1994	5195	5205	16,000	0.85	29.14	549.0734386	57.79919
6/24/1994	5205	5214	14,400	0.68	20.94	687.6790831	41.53449
6/25/1994	5214	5222	12,800	0.87	30.16	424.403183	59.82236
6/26/1994	5222	5234	19,200	0.79	26.17	733.6645013	51.908195
6/27/1994	5234	5247	20,800	0.82	27.65	752.2603978	54.843775
6/28/1994	5247	5259	19,200	0.79	26.17	733.6645013	51.908195
6/29/1994	5259	5271	19,200	0.79	26.17	733.6645013	51.908195
6/30/1994	5271	5284	20,800	0.82	27.65	752.2603978	54.843775
7/1/1994	5284	5296	19,200	0.19	3.19	6028.257457	6.3174475
7/2/1994	5296	5308	19,200	0.79	26.17	733.6645013	51.908195
7/3/1994	5308	5321	20,800	0.82	27.65	752.2603978	54.843775
7/4/1994	5321	5333	19,200	0.79	26.17	733.6645013	51.908195
7/5/1994	5333	5345	19,200	0.79	26.17	733.6645013	51.908195
7/6/1994	5345	5358	20,800	0.82	27.65	752.2603978	54.843775
7/7/1994	5358	5370	19,200	0.79	26.17	733.6645013	51.908195
7/8/1994	5370	5382	19,200	0.79	26.17	733.6645013	51.908195
7/9/1994	5382	5395	20,800	0.82	27.65	752.2603978	54.843775
7/10/1994	5395	5412	27,200	1.24	50.90	534.3811395	100.96015
7/11/1994	5412	5423	17,600	1.10	42.69	412.2745374	84.675615
7/12/1994	5423	5439	25,600	1.10	42.69	599.6720543	84.675615
7/13/1994	5439	5455	25,600	1.07	40.89	626.0699438	81.105315
7/14/1994	5455	5470	24,000	1.02	38.15	629.095675	75.670525
7/15/1994	5470	5483	20,800	0.94	33.81	615.2026028	67.062135
7/16/1994	5483	5494	17,600	0.78	25.62	686.9633099	50.81727
7/17/1994	5494	5494	0	0.00	0.00	0	0
7/18/1994	5494	5517	36,800	0.96	34.86	1055.651176	69.14481
7/19/1994	5517	5528	17,600	0.78	25.62	686.9633099	50.81727
7/20/1994	5528	5537	14,400	0.83	28.12	512.0910384	55.77602
7/21/1994	5537	5547	16,000	0.85	29.14	549.0734386	57.79919
7/22/1994	5547	5556	14,400	0.86	29.69	485.0117885	58.890115
7/23/1994	5556	5563	11,200	0.69	21.39	523.6091632	42.427065
7/24/1994	5563	5572	14,400	0.86	29.69	485.0117885	58.890115
7/25/1994	5572	5582	16,000	0.90	31.67	505.2099779	62.817445
7/26/1994	5582	5593	17,600	0.79	26.17	672.5257929	51.908195
7/27/1994	5593	5602	14,400	0.69	21.39	673.2117812	42.427065
7/28/1994	5602	5610	12,800	0.89	31.11	411.4432658	61.706685
7/29/1994	5610	5620	16,000	0.88	30.72	520.8333333	60.93312
7/30/1994	5620	5629	14,400	0.76	24.69	583.2320778	48.972615
7/31/1994	5629	5644	24,000	1.13	44.32	541.5162455	87.90872
8/1/1994	5644	5651	11,200	1.04	39.20	285.7142857	77.7532
8/2/1994	5651	5662	17,600	0.76	24.69	712.8392062	48.972615

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/3/1994	5662	5669	11,200	0.76	24.69	453.6249494	48.972615
8/4/1994	5669	5677	12,800	0.44	11.08	1155.234657	21.97718
8/5/1994	5677	5678	1,600	1.01	37.59	42.56451184	74.559765
8/6/1994	5678	5687	14,400	0.64	19.12	753.1380753	37.92452
8/7/1994	5687	5689	3,200	0.34	7.55	423.8410596	14.975425
8/8/1994	5689	5696	11,200	0.80	26.64	420.4204204	52.84044
8/9/1994	5696	5703	11,200	0.66	20.03	559.1612581	39.729505
8/10/1994	5703	5710	11,200	0.66	20.03	559.1612581	39.729505
8/11/1994	5710	5717	11,200	0.76	24.69	453.6249494	48.972615
8/12/1994	5717	5727	16,000	0.83	28.12	568.9900427	55.77602
8/13/1994	5727	5737	16,000	0.78	25.62	624.5120999	50.81727
8/14/1994	5737	5747	16,000	0.77	25.24	633.9144216	50.06354
8/15/1994	5747	5757	16,000	0.88	30.72	520.8333333	60.93312
8/16/1994	5757	5766	14,400	0.70	21.85	659.0389016	43.339475
8/17/1994	5766	5774	12,800	0.72	22.77	562.1431708	45.164295
8/18/1994	5774	5785	17,600	0.88	30.72	572.9166667	60.93312
8/19/1994	5785	5797	19,200	0.91	32.22	595.9031657	63.90837
8/20/1994	5797	5804	11,200	0.89	31.11	360.0128576	61.706685
8/21/1994	5804	5816	19,200	1.00	37.02	518.6385737	73.42917
8/22/1994	5816	5829	20,800	1.00	37.02	561.8584549	73.42917
8/23/1994	5829	5841	19,200	0.87	30.16	636.6047745	59.82236
8/24/1994	5841	5852	17,600	0.89	31.11	565.7344905	61.706685
8/25/1994	5852	5864	19,200	0.95	34.29	559.9300087	68.014215
8/26/1994	5864	5876	19,200	0.97	35.41	542.2197119	70.235735
8/27/1994	5876	5889	20,800	0.97	35.41	587.4046879	70.235735
8/28/1994	5889	5902	20,800	0.99	36.46	570.4882063	72.31841
8/29/1994	5902	5915	20,800	0.96	34.86	596.6724039	69.14481
8/30/1994	5915	5928	20,800	0.93	33.26	625.3758268	65.97121
8/31/1994	5928	5939	17,600	0.90	31.67	555.7309757	62.817445
9/1/1994	5939	5951	19,200	0.93	33.26	577.269994	65.97121
9/2/1994	5951	5963	19,200	0.90	31.67	606.2519735	62.817445
9/3/1994	5963	5974	17,600	0.84	28.67	613.8821067	56.866945
9/4/1994	5974	5989	24,000	1.08	41.47	578.7316132	82.255745
9/5/1994	5989	5998	14,400	1.08	41.47	347.2389679	82.255745
9/6/1994	5998	6010	19,200	1.00	37.02	518.6385737	73.42917
9/7/1994	6010	6024	22,400	1.00	37.02	605.078336	73.42917
9/8/1994	6024	6036	19,200	0.90	31.67	606.2519735	62.817445
9/9/1994	6036	6046	16,000	0.72	22.77	702.6789635	45.164295
9/10/1994	6046	6053	11,200	0.85	29.14	384.351407	57.79919
9/11/1994	6053	6063	16,000	0.90	31.67	505.2099779	62.817445
9/12/1994	6063	6076	20,800	1.10	42.69	487.2335442	84.675615
9/13/1994	6076	6090	22,400	0.99	36.46	614.3719144	72.31841
9/14/1994	6090	6104	22,400	0.96	34.86	642.5702811	69.14481
9/15/1994	6104	6117	20,800	1.04	39.20	530.6122449	77.7532
9/16/1994	6117	6129	19,200	0.89	31.11	617.1648987	61.706685
9/17/1994	6129	6139	16,000	0.86	29.69	538.9019872	58.890115
9/18/1994	6139	6149	16,000	0.86	29.69	538.9019872	58.890115
9/19/1994	6149	6159	16,000	0.90	31.67	505.2099779	62.817445
9/20/1994	6159	6166	11,200	0.74	23.77	471.1821624	47.147795
9/21/1994	6166	6175	14,400	0.86	29.69	485.0117885	58.890115
9/22/1994	6175	6185	16,000	0.83	28.12	568.9900427	55.77602
9/23/1994	6185	6194	14,400	0.79	26.17	550.248376	51.908195
9/24/1994	6194	6204	16,000	0.85	29.14	549.0734386	57.79919
9/25/1994	6204	6213	14,400	0.71	22.31	645.4504706	44.251885
9/26/1994	6213	6223	16,000	0.86	29.69	538.9019872	58.890115
9/27/1994	6223	6234	17,600	0.83	28.12	625.8890469	55.77602
9/28/1994	6234	6244	16,000	0.79	26.17	611.3870844	51.908195
9/29/1994	6244	6254	16,000	0.93	33.26	481.0583283	65.97121
9/30/1994	6254	6268	22,400	0.94	33.81	662.5258799	67.062135
10/1/1994	6268	6284	25,600	1.24	50.90	502.9469548	100.96015

Permit 36-8310 Daily Totals 1994

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginnigng Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
10/2/1994	6284	6302	28,800	1.16	46.05	724.3460765	78.86396
10/3/1994	6302	6318	25,600	0.94	33.81	757.1724342	67.062135
10/4/1994	6318	6331	20,800	1.05	39.76	523.138833	78.86396
10/5/1994	6331	6348	27,200	1.05	39.76	684.1046278	78.86396
10/6/1994	6348	6362	22,400	0.97	35.41	632.5896639	70.235735
10/7/1994	6362	6374	19,200	0.90	31.67	606.2519735	62.817445
10/8/1994	6374	6383	14,400	0.88	30.72	468.75	60.93312
10/9/1994	6383	6383	0	0.00	0.00	0	0
10/10/1994	6383	6399	25,600	0.82	27.65	925.8589512	54.843775
10/11/1994	6399	6408	14,400	0.74	23.77	605.8056374	47.147795
10/12/1994	6408	6417	14,400	0.75	23.23	619.8880758	46.076705
10/13/1994	6417	6428	17,600	0.90	31.67	555.7309757	62.817445
10/14/1994	6428	6440	19,200	0.94	33.81	567.8793256	67.062135
10/15/1994	6440	6456	25,600	1.10	42.69	599.6720543	84.675615
10/16/1994	6456	6471	24,000	1.13	44.32	541.5162455	87.90872
10/17/1994	6471	6488	27,200	1.17	46.62	583.4405834	92.47077
10/18/1994	6488	6505	27,200	1.18	47.28	575.2961083	93.77988
10/19/1994	6505	6522	27,200	1.14	44.97	604.8476762	89.197995
10/20/1994	6522	6539	27,200	1.15	45.47	598.1966132	90.189745
10/21/1994	6539	6556	27,200	1.18	47.28	575.2961083	93.77988
10/22/1994	6556	6573	27,200	1.14	44.97	604.8476762	89.197995
10/23/1994	6573	6583	16,000	0.79	26.17	611.3870844	51.908195

MAX	44,800		66.07	678.07
AVE	20,697		35.26	587.0133408
MIN	1,600		3.19	502.3547881

MAX KWH/CFS / 24 =	28.25286312
AVE KWH/CFS / 24 =	24.4588892
Min KWH/CFS / 24 =	20.9314495

Total KWH	4,180,800
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	12,230
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	14,127
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	16,507

Total Volume per CFS = Acre-feet	14,114
Kwh/af = Total KWH /total volume =	296

PLEASE NOTE: Average KWH/24 Hour CFS should be close to the 20 to 25 KWH/24hr CFS efficiency chart to fall within reasonable power making efficiency levels.

Please Note: A data set was missing from 6/26/94 to 7/9/94. Therefore, I used an average during this time period to provide an average KWH and Flow Rate during these days. The minimum values don't include those days when there were no recordings marked by a "0". The chart provided by the permit holder appears to be based on a 24 hour period, so if you divide the KWh/cfs by 24 hours matches the chart.

ALSO NOTE: The Total Volume diverted is the total volume measured by the weir. The Total Volume over the weir should be reasonably close to the (Average KWH/cfs) X 1.9835 if the power plant is operating within normal efficiency standards most

Permit 36-8310 Daily Totals 1995

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
4/19/1995	6583	6604	33,600	1.40	60.84	552.2682446	120.67614
4/20/1995	6604	6626	35,200	1.45	64.11	549.0563095	127.162185
4/21/1995	6626	6650	38,400	1.41	61.51	624.2887335	122.005085
4/22/1995	6650	6671	33,600	1.24	50.90	660.1178782	100.96015
4/23/1995	6671	6687	25,600	1.00	37.02	691.5180983	73.42917
4/24/1995	6687	6706	30,400	1.33	59.39	511.8706853	117.800065
4/25/1995	6706	6723	27,200	0.97	35.41	768.1445919	70.235735
4/26/1995	6723	6741	28,800	1.34	56.98	505.4405054	113.01983
4/27/1995	6741	6762	33,600	1.27	52.72	637.3292868	104.57012
4/28/1995	6762	6781	30,400	0.97	35.41	858.5145439	70.235735
4/29/1995	6781	6797	25,600	1.00	37.02	691.5180983	73.42917
4/30/1995	6797	6815	28,800	1.30	54.56	527.8592375	108.21976
5/1/1995	6815	6838	36,800	1.41	61.51	598.276703	122.005085
5/2/1995	6838	6859	33,600	1.43	62.77	535.2875578	124.504295
5/3/1995	6859	6884	40,000	1.48	66.07	605.4184955	131.049845
5/4/1995	6884	6907	36,800	1.50	67.41	545.9130693	133.707735
5/5/1995	6907	6931	38,400	1.50	67.41	569.6484201	133.707735
5/6/1995	6931	6956	40,000	1.50	67.41	593.383771	133.707735
5/7/1995	6956	6978	35,200	1.50	67.41	522.1777184	133.707735
5/8/1995	6978	7003	40,000	1.50	67.41	593.383771	133.707735
5/9/1995	7003	7027	38,400	1.46	64.71	593.4167826	128.352285
5/10/1995	7027	7051	38,400	1.44	63.37	605.9649677	125.694395
5/11/1995	7051	7075	38,400	1.39	60.24	637.4501992	119.48604
5/12/1995	7075	7098	36,800	1.40	60.84	604.8652202	120.67614
5/13/1995	7098	7120	35,200	1.42	62.09	566.9189886	123.155515
5/14/1995	7120	7143	36,800	1.40	60.84	604.8652202	120.67614
5/15/1995	7143	7165	35,200	1.42	62.09	566.9189886	123.155515
5/16/1995	7165	7189	38,400	1.34	56.98	673.9206739	113.01983
5/17/1995	7189	7208	30,400	1.19	47.86	635.185959	94.93031
5/18/1995	7208	7227	30,400	1.34	56.98	533.5205335	113.01983
5/19/1995	7227	7248	33,600	1.27	52.72	637.3292868	104.57012
5/20/1995	7248	7269	33,600	1.29	53.98	622.4527603	107.06933
5/21/1995	7269	7288	30,400	1.25	51.48	590.5205905	102.11058
5/22/1995	7288	7311	36,800	1.48	66.07	556.9850159	131.049845
5/23/1995	7311	7335	38,400	1.50	67.41	569.6484201	133.707735
5/24/1995	7335	7360	40,000	1.50	67.41	593.383771	133.707735
5/25/1995	7360	7385	40,000	1.50	67.41	593.383771	133.707735
5/26/1995	7385	7408	36,800	1.50	67.41	545.9130693	133.707735
5/27/1995	7408	7432	38,400	1.50	67.41	569.6484201	133.707735
5/28/1995	7432	7455	36,800	1.50	67.41	545.9130693	133.707735
5/29/1995	7455	7480	40,000	1.50	67.41	593.383771	133.707735
5/30/1995	7480	7500	32,000	1.35	57.65	555.0737207	114.348775
5/31/1995	7500	7513	20,800	1.39	60.24	345.2855246	119.48604
6/1/1995	7513	7534	33,600	1.41	61.51	546.2526418	122.005085
6/2/1995	7534	7558	38,400	1.45	64.11	598.9705194	127.162185
6/3/1995	7558	7582	38,400	1.46	64.71	593.4167826	128.352285
6/4/1995	7582	7604	35,200	1.47	65.39	538.3086099	129.701065
6/5/1995	7604	7629	40,000	1.46	64.71	618.1424818	128.352285
6/6/1995	7629	7651	35,200	1.45	64.11	549.0563095	127.162185
6/7/1995	7651	7674	36,800	1.48	66.07	556.9850159	131.049845
6/8/1995	7674	7699	40,000	1.47	65.39	611.7143294	129.701065
6/9/1995	7699	7722	36,800	1.47	65.39	562.7771831	129.701065
6/10/1995	7722	7745	36,800	1.47	65.39	562.7771831	129.701065
6/11/1995	7745	7764	30,400	1.47	65.39	464.9028904	129.701065
6/12/1995	7764	7778	22,400	0.80	26.64	840.8408408	52.84044
6/13/1995	7778	7788	16,000	0.80	26.64	600.6006006	52.84044
6/14/1995	7788	7793	8,000	0.42	10.22	782.778865	20.27137
6/15/1995	7793	7800	11,200	0.90	31.67	353.6469845	62.817445
6/16/1995	7800	7813	20,800	0.97	35.41	587.4046879	70.235735

Permit 36-8310 Daily Totals 1995

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/17/1995	7813	7827	22,400	0.97	35.41	632.5896639	70.235735
6/18/1995	7827	7841	22,400	0.97	35.41	632.5896639	70.235735
6/19/1995	7841	7855	22,400	0.97	35.41	632.5896639	70.235735
6/20/1995	7855	7875	32,000	1.27	52.72	606.9802731	104.57012
6/21/1995	7875	7896	33,600	1.32	55.72	603.0150754	110.52062
6/22/1995	7896	7919	36,800	1.44	63.37	580.7164273	125.694395
6/23/1995	7919	7941	35,200	1.34	56.98	617.7606178	113.01983
6/24/1995	7941	7962	33,600	1.29	53.98	622.4527603	107.06933
6/25/1995	7962	7984	35,200	1.11	43.26	813.6846972	85.80621
6/26/1995	7984	7995	17,600	1.00	37.02	475.4186926	73.42917
6/27/1995	7995	8005	16,000	0.78	26.62	601.0518407	52.80077
6/28/1995	8005	8013	12,800	0.61	17.77	720.3151379	35.246795
6/29/1995	8013	8023	16,000	0.93	33.26	481.0583283	65.97121
6/30/1995	8023	8036	20,800	0.97	35.41	587.4046879	70.235735
7/1/1995	8036	8050	22,400	0.94	33.81	662.5258799	67.062135
7/2/1995	8050	8062	19,200	0.91	32.22	595.9031657	63.90837
7/3/1995	8062	8077	24,000	1.09	42.03	571.0206995	83.366505
7/4/1995	8077	8095	28,800	1.15	45.47	633.3846492	90.189745
7/5/1995	8095	8111	25,600	1.06	40.33	634.7632036	79.994555
7/6/1995	8111	8127	25,600	0.97	35.41	722.9596159	70.235735
7/7/1995	8127	8138	17,600	0.76	24.69	712.8392062	48.972615
7/8/1995	8138	8150	19,200	0.90	31.67	606.2519735	62.817445
7/9/1995	8150	8160	16,000	0.82	27.65	578.6618445	54.843775
7/10/1995	8160	8172	19,200	0.93	33.26	577.269994	65.97121
7/11/1995	8172	8185	20,800	0.90	31.67	656.7729713	62.817445
7/12/1995	8185	8202	27,200	1.10	42.69	637.1515577	84.675615
7/13/1995	8202	8219	27,200	1.21	49.01	554.9887778	97.211335
7/14/1995	8219	8237	28,800	1.04	39.20	734.6938776	77.7532
7/15/1995	8237	8250	20,800	1.04	39.20	530.6122449	77.7532
7/16/1995	8250	8263	20,800	0.90	31.67	656.7729713	62.817445
7/17/1995	8263	8278	24,000	0.95	34.29	699.9125109	68.014215
7/18/1995	8278	8290	19,200	1.06	40.33	476.0724027	79.994555
7/19/1995	8290	8302	19,200	0.79	26.17	733.6645013	51.908195
7/20/1995	8302	8312	16,000	0.87	30.16	530.5039788	59.82236
7/21/1995	8312	8323	17,600	0.89	31.11	565.7344905	61.706685
7/22/1995	8323	8334	17,600	1.00	37.02	475.4186926	73.42917
7/23/1995	8334	8347	20,800	0.90	31.67	656.7729713	62.817445
7/24/1995	8347	8361	22,400	0.96	34.86	642.5702811	69.14481
7/25/1995	8361	8375	22,400	1.02	38.15	587.1559633	75.670525
7/26/1995	8375	8388	20,800	0.96	34.86	596.6724039	69.14481
7/27/1995	8388	8400	19,200	1.00	37.02	518.6385737	73.42917
7/28/1995	8400	8412	19,200	0.95	34.29	559.9300087	68.014215
7/29/1995	8412	8425	20,800	0.91	32.22	645.5617629	63.90837
7/30/1995	8425	8440	24,000	1.34	56.98	421.2004212	113.01983
7/31/1995	8440	8453	20,800	1.18	47.28	439.9323181	93.77988
8/1/1995	8453	8472	30,400	1.08	41.66	729.7167547	82.63261
8/2/1995	8472	8486	22,400	0.99	36.46	614.3719144	72.31841
8/3/1995	8486	8500	22,400	0.99	36.46	614.3719144	72.31841
8/4/1995	8500	8514	22,400	0.96	34.86	642.5702811	69.14481
8/5/1995	8514	8524	16,000	0.73	23.23	688.7645286	46.076705
8/6/1995	8524	8536	19,200	0.89	31.11	617.1648987	61.706685
8/7/1995	8536	8545	14,400	0.93	33.26	432.9524955	65.97121
8/8/1995	8545	8556	17,600	0.84	28.67	613.8821067	56.866945
8/9/1995	8556	8566	16,000	0.85	29.14	549.0734386	57.79919
8/10/1995	8566	8578	19,200	0.91	32.22	595.9031657	63.90837
8/11/1995	8578	8589	17,600	0.84	28.67	613.8821067	56.866945
8/12/1995	8589	8599	16,000	0.74	23.77	673.1173748	47.147795
8/13/1995	8599	8607	12,800	0.78	26.62	480.8414726	52.80077
8/14/1995	8607	8619	19,200	1.01	37.59	510.7741421	74.559765

Permit 36-8310 Daily Totals 1995

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/15/1995	8619	8632	20,800	0.92	32.78	634.533252	65.01913
8/16/1995	8632	8644	19,200	0.91	32.22	595.9031657	63.90837
8/17/1995	8644	8656	19,200	0.91	32.22	595.9031657	63.90837
8/18/1995	8656	8668	19,200	0.93	33.26	577.269994	65.97121
8/19/1995	8668	8681	20,800	0.87	30.16	689.6551724	59.82236
8/20/1995	8681	8691	16,000	0.85	29.14	549.0734386	57.79919
8/21/1995	8691	8701	16,000	0.85	29.14	549.0734386	57.79919
8/22/1995	8701	8701	0	0.00	0.00	0	0
8/23/1995	8701	8715	22,400	0.70	21.85	1025.171625	43.339475
8/24/1995	8715	8724	14,400	0.82	27.65	520.79566	54.843775
8/25/1995	8724	8737	20,800	0.92	32.78	634.533252	65.01913
8/26/1995	8737	8751	22,400	1.05	39.76	563.3802817	78.86396
8/27/1995	8751	8765	22,400	0.99	36.46	614.3719144	72.31841
8/28/1995	8765	8780	24,000	1.00	37.02	648.2982172	73.42917
8/29/1995	8780	8792	19,200	0.90	31.67	606.2519735	62.817445
8/30/1995	8792	8804	19,200	0.95	34.29	559.9300087	68.014215
8/31/1995	8804	8818	22,400	1.01	37.59	595.9031657	74.559765
9/1/1995	8818	8832	22,400	1.09	42.03	532.9526529	83.366505
9/2/1995	8832	8846	22,400	0.92	32.78	683.3435021	65.01913
9/3/1995	8846	8857	17,600	0.84	28.67	613.8821067	56.866945
9/4/1995	8857	8869	19,200	0.94	33.81	567.8793256	67.062135
9/5/1995	8869	8882	20,800	0.99	36.46	570.4882063	72.31841
9/6/1995	8882	8897	24,000	1.02	38.15	629.095675	75.670525
9/7/1995	8897	8912	24,000	1.00	37.02	648.2982172	73.42917
9/8/1995	8912	8922	16,000	0.55	15.25	1049.180328	30.248375
9/9/1995	8922	8927	8,000	0.42	10.22	782.778865	20.27137
9/10/1995	8927	8936	14,400	0.78	26.62	540.9466566	52.80077
9/11/1995	8936	8945	14,400	0.84	28.67	502.2671782	56.866945
9/12/1995	8945	8955	16,000	0.77	25.24	633.9144216	50.06354
9/13/1995	8955	8964	14,400	0.88	30.72	468.75	60.93312
9/14/1995	8964	8972	12,800	0.76	24.69	518.4285136	48.972615
9/15/1995	8972	8979	11,200	0.60	17.48	640.7322654	34.67158
9/16/1995	8979	8985	9,600	0.62	18.29	524.876982	36.278215
9/17/1995	8985	8991	9,600	0.75	24.23	396.2030541	48.060205
9/18/1995	8991	8999	12,800	0.85	29.14	439.2587509	57.79919
9/19/1995	8999	9011	19,200	0.89	31.11	617.1648987	61.706685
9/20/1995	9011	9023	19,200	0.88	30.72	625	60.93312
9/21/1995	9023	9033	16,000	0.88	30.72	520.8333333	60.93312
9/22/1995	9033	9044	17,600	0.91	32.22	546.2445686	63.90837
9/23/1995	9044	9058	22,400	0.96	34.86	642.5702811	69.14481
9/24/1995	9058	9069	17,600	0.85	29.14	603.9807824	57.79919
9/25/1995	9069	9080	17,600	0.85	29.14	603.9807824	57.79919
9/26/1995	9080	9090	16,000	0.74	23.77	673.1173748	47.147795
9/27/1995	9090	9097	11,200	0.64	19.12	585.7740586	37.92452
9/28/1995	9097	9102	8,000	0.62	18.29	437.397485	36.278215
9/29/1995	9102	9109	11,200	0.66	20.03	559.1612581	39.729505
9/30/1995	9109	9117	12,800	0.88	30.72	416.6666667	60.93312
10/1/1995	9117	9130	20,800	1.00	37.02	561.8584549	73.42917
10/2/1995	9130	9146	25,600	1.12	43.83	584.0748346	86.936805
10/3/1995	9146	9159	20,800	0.89	31.11	668.595307	61.706685
10/4/1995	9159	9170	17,600	1.05	39.76	442.6559356	78.86396
10/5/1995	9170	9186	25,600	1.18	47.28	541.4551607	93.77988
10/6/1995	9186	9204	28,800	1.19	47.86	601.7551191	94.93031
10/7/1995	9204	9221	27,200	1.08	41.66	652.9044647	82.63261
10/8/1995	9221	9232	17,600	0.90	31.67	555.7309757	62.817445
10/9/1995	9232	9243	17,600	0.90	31.67	555.7309757	62.817445
10/10/1995	9243	9255	19,200	1.03	38.63	497.0230391	76.622605
10/11/1995	9255	9268	20,800	0.64	19.12	1087.866109	37.92452
10/12/1995	9268	9273	8,000	0.80	26.64	300.3003003	52.84044

Permit 36-8310 Daily Totals 1995

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diverslon Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
10/13/1995	9273	9283	16,000	0.93	33.26	481.0583283	65.97121
10/14/1995	9283	9299	25,600	1.20	48.43	528.5979765	96.060905
10/15/1995	9299	9315	25,600	1.20	48.43	528.5979765	96.060905
10/16/1995	9315	9333	28,800	1.16	46.05	594.6727235	96.060905
10/17/1995	9333	9352	30,400	1.16	46.05	660.1520087	91.340175
10/18/1995	9352	9370	28,800	1.20	48.43	594.6727235	96.060905
10/19/1995	9370	9385	24,000	1.09	42.03	571.0206995	83.366505
10/20/1995	9385	9400	24,000	1.05	39.76	603.6217304	78.86396
10/21/1995	9400	9416	25,600	1.00	37.02	691.5180983	73.42917
10/22/1995	9416	9432	25,600	1.00	37.02	691.5180983	73.42917
10/23/1995	9432	9449	27,200	1.20	48.43	561.63535	96.060905
10/24/1995	9449	9466	27,200	1.15	45.47	598.1966132	90.189745
10/25/1995	9466	9481	24,000	1.09	42.03	571.0206995	83.366505
10/26/1995	9481	9499	28,800	1.07	40.89	704.3286867	81.105315
10/27/1995	9499	9513	22,400	1.06	40.33	555.4178031	79.994555
10/28/1995	9513	9529	25,600	1.06	40.33	634.7632036	79.994555
10/29/1995	9529	9544	24,000	1.08	41.66	576.0921747	82.63261
10/30/1995	9544	9560	25,600	1.10	42.69	599.6720543	84.675615
10/31/1995	9560	9577	27,200	1.13	44.32	613.7184116	87.90872
11/1/1995	9577	9591	22,400	0.97	35.41	632.5896639	70.235735
11/2/1995	9591	9601	16,000	0.90	31.67	505.2099779	62.817445
11/3/1995	9601	9612	17,600	0.79	26.17	672.5257929	51.908195
11/4/1995	9612	9622	16,000	0.44	11.08	1444.043321	21.97718
11/5/1995	9622	9628	9,600	0.34	7.55	1271.523179	14.975425

MAX	40,000		67.41	593.38
AVE	24,360		41.23	590.7932296
MIN	8,000		7.55	1059.602649

MAX KWH/CFS / 24 =	24.72432379
AVE KWH/CFS / 24 =	24.61638457
Min KWH/CFS / 24 =	44.15011038

Total KWH	4,872,000
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	16,286
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	16,357
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	9,120

Total Volume per CFS = Acre-feet	16,362
Kwh/af = Total KWH /total volume =	298

PLEASE NOTE: Average KWH/24 Hour CFS should be close to the 20 to 25 KWH/24hr CFS efficiency chart to fall within reasonable power making efficiency levels.

Please Note: The minimum values don't include those days when there wee no recordings marked by a "0" . The chart provided by the permit holder appears be based on a 24 hour period, so if you devide the KWh/cfs by 24 hours matches the chart.

ALSO NOTE: The Total Volume diverted is the total volume measured by the weir. The Total Volume over the weir should be reasonably close to the (Average KWH/cfs) X 1.9835 if the power plant is operating within normal efficiency standards most of the time.

Permit 36-8310 Daily Totals 1996

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
4/13/1996	9622	9628	9,600	0.55	15.25	629.5081967	30.248375
4/14/1996	9628	9633	8,000	0.78	25.62	312.25605	50.81727
4/15/1996	9633	9649	25,600	1.02	38.15	671.0353866	75.670525
4/16/1996	9649	9672	36,800	1.15	45.47	809.3248296	90.189745
4/17/1996	9672	9695	36,800	1.05	39.76	925.5533199	78.86396
4/18/1996	9695	9718	36,800	1.05	39.76	925.5533199	78.86396
4/19/1996	9718	9741	36,800	1.00	37.02	994.0572663	73.42917
4/20/1996	9741	9764	36,800	1.05	39.76	925.5533199	78.86396
4/21/1996	9764	9788	38,400	1.05	39.76	965.7947686	78.86396
4/22/1996	9788	9811	36,800	1.05	39.76	925.5533199	78.86396
4/23/1996	9811	9834	36,800	0.97	35.41	1039.254448	70.235735
4/24/1996	9834	9854	32,000	1.00	37.02	864.3976229	73.42917
4/25/1996	9854	9880	41,600	1.00	37.02	1123.71691	73.42917
4/26/1996	9880	9903	36,800	1.05	39.76	925.5533199	78.86396
4/27/1996	9903	9926	36,800	1.05	39.76	925.5533199	78.86396
4/28/1996	9926	9946	32,000	1.04	39.20	816.3265306	77.7532
4/29/1996	9946	9970	38,400	1.04	39.20	979.5918367	77.7532
4/30/1996	9970	9994	38,400	1.03	38.63	994.0460782	76.622605
5/1/1996	9994	10018	38,400	0.91	32.22	1191.806331	63.90837
5/2/1996	10018	10037	30,400	0.95	34.29	886.5558472	68.014215
5/3/1996	10037	10061	38,400	0.95	34.29	1119.860017	68.014215
5/4/1996	10061	10083	35,200	1.03	38.63	911.208905	76.622605
5/5/1996	10083	10107	38,400	1.04	39.20	979.5918367	77.7532
5/6/1996	10107	10130	36,800	1.04	39.20	938.7755102	77.7532
5/7/1996	10130	10153	36,800	0.95	34.29	1073.199183	68.014215
5/8/1996	10153	10175	35,200	0.97	35.41	994.0694719	70.235735
5/9/1996	10175	10199	38,400	0.99	36.46	1053.208996	72.31841
5/10/1996	10199	10219	32,000	0.95	34.29	933.2166812	68.014215
5/11/1996	10219	10244	40,000	1.00	37.02	1080.497029	73.42917
5/12/1996	10244	10265	33,600	0.95	34.29	979.8775153	68.014215
5/13/1996	10265	10288	36,800	1.00	37.02	994.0572663	73.42917
5/14/1996	10288	10310	35,200	0.98	35.89	980.774589	71.187815
5/15/1996	10310	10333	36,800	0.96	34.86	1055.651176	69.14481
5/16/1996	10333	10355	35,200	1.00	37.02	950.8373852	73.42917
5/17/1996	10355	10379	38,400	1.04	39.20	979.5918367	77.7532
5/18/1996	10379	10401	35,200	1.04	39.20	897.9591837	77.7532
5/19/1996	10401	10430	46,400	1.06	40.33	1150.508306	79.994555
5/20/1996	10430	10449	30,400	1.06	40.33	753.7813042	79.994555
5/21/1996	10449	10472	36,800	1.06	40.33	912.4721051	79.994555
5/22/1996	10472	10495	36,800	1.06	40.33	912.4721051	79.994555
5/23/1996	10495	10519	38,400	1.06	40.33	952.1448054	79.994555
5/24/1996	10519	10542	36,800	1.06	40.33	912.4721051	79.994555
5/25/1996	10542	10571	46,400	1.06	40.33	1150.508306	79.994555
5/26/1996	10571	10592	33,600	1.06	40.33	833.1267047	79.994555
5/27/1996	10592	10613	33,600	1.06	40.33	833.1267047	79.994555
5/28/1996	10613	10635	35,200	1.06	40.33	872.7994049	79.994555
5/29/1996	10635	10659	38,400	1.06	40.33	952.1448054	79.994555
5/30/1996	10659	10682	36,800	1.06	40.33	912.4721051	79.994555
5/31/1996	10682	10705	36,800	1.05	39.76	925.5533199	78.86396
6/1/1996	10705	10728	36,800	1.05	39.76	925.5533199	78.86396
6/2/1996	10728	10751	36,800	1.00	37.02	994.0572663	73.42917
6/3/1996	10751	10773	35,200	1.00	37.02	950.8373852	73.42917
6/4/1996	10773	10792	30,400	0.74	23.77	1278.923012	47.147795
6/5/1996	10792	10811	30,400	0.93	33.26	914.0108238	65.97121
6/6/1996	10811	10836	40,000	1.04	39.20	1020.408163	77.7532
6/7/1996	10836	10857	33,600	1.05	39.76	845.0704225	78.86396
6/8/1996	10857	10879	35,200	1.01	37.59	936.4192604	74.559765
6/9/1996	10879	10903	38,400	1.00	37.02	1037.277147	73.42917
6/10/1996	10903	10927	38,400	1.00	37.02	1037.277147	73.42917
6/11/1996	10927	10950	36,800	1.00	37.02	994.0572663	73.42917

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/12/1996	10950	10973	36,800	0.96	34.86	1055.651176	69.14481
6/13/1996	10973	10995	35,200	0.93	33.26	1058.328322	65.97121
6/14/1996	10995	11016	33,600	0.88	30.72	1093.75	60.93312
6/15/1996	11016	11037	33,600	0.92	32.78	1025.015253	65.01913
6/16/1996	11037	11059	35,200	0.96	34.86	1009.753299	69.14481
6/17/1996	11059	11081	35,200	0.96	34.86	1009.753299	69.14481
6/18/1996	11081	11103	35,200	0.88	30.72	1145.833333	60.93312
6/19/1996	11103	11123	32,000	0.85	29.14	1098.146877	57.79919
6/20/1996	11123	11142	30,400	0.78	25.62	1186.57299	50.81727
6/21/1996	11142	11161	30,400	0.92	32.78	927.3947529	65.01913
6/22/1996	11161	11184	36,800	1.01	37.59	978.9837723	74.559765
6/23/1996	11184	11206	35,200	0.98	35.89	980.774589	71.187815
6/24/1996	11206	11229	36,800	0.93	33.26	1106.434155	65.97121
6/25/1996	11229	11251	35,200	0.91	32.22	1092.489137	63.90837
6/26/1996	11251	11274	36,800	0.90	31.67	1161.982949	62.817445
6/27/1996	11274	11295	33,600	0.98	35.89	936.1939259	71.187815
6/28/1996	11295	11317	35,200	0.93	33.26	1058.328322	65.97121
6/29/1996	11317	11340	36,800	0.93	33.26	1106.434155	65.97121
6/30/1996	11340	11360	32,000	0.89	31.11	1028.608165	61.706685
7/1/1996	11360	11382	35,200	0.93	33.26	1058.328322	65.97121
7/2/1996	11382	11400	28,800	0.85	29.14	988.3321894	57.79919
7/3/1996	11400	11417	27,200	1.22	49.58	548.6083098	98.34193
7/4/1996	11417	11435	28,800	0.79	26.17	1100.496752	51.908195
7/5/1996	11435	11435	0	0.00	0.00	0	0
7/6/1996	11435	11444	14,400	1.10	42.69	337.3155306	84.675615
7/7/1996	11444	11462	28,800	1.20	48.43	594.6727235	96.060905
7/8/1996	11462	11479	27,200	1.13	44.32	613.7184116	87.90872
7/9/1996	11479	11498	30,400	1.31	55.07	552.0246958	109.231345
7/10/1996	11498	11517	30,400	1.16	46.05	660.1520087	91.340175
7/11/1996	11517	11534	27,200	1.10	42.69	637.1515577	84.675615
7/12/1996	11534	11550	25,600	1.05	39.76	643.8631791	78.86396
7/13/1996	11550	11566	25,600	1.05	39.76	643.8631791	78.86396
7/14/1996	11566	11582	25,600	1.10	42.69	599.6720543	84.675615
7/15/1996	11582	11600	28,800	1.18	47.28	609.1370558	93.77988
7/16/1996	11600	11617	27,200	1.08	41.47	655.8958283	82.255745
7/17/1996	11617	11636	30,400	1.20	48.43	627.710097	96.060905
7/18/1996	11636	11655	30,400	1.17	46.62	652.0806521	92.47077
7/19/1996	11655	11675	32,000	1.22	49.58	645.4215409	98.34193
7/20/1996	11675	11695	32,000	1.25	54.48	587.3715125	108.06108
7/21/1996	11695	11716	33,600	1.30	54.56	615.8357771	108.21976
7/22/1996	11716	11736	32,000	1.30	54.56	586.5102639	108.21976
7/23/1996	11736	11756	32,000	1.19	47.86	668.616799	94.93031
7/24/1996	11756	11775	30,400	1.27	52.72	576.6312595	104.57012
7/25/1996	11775	11794	30,400	1.24	50.90	597.2495088	100.96015
7/26/1996	11794	11812	28,800	1.15	45.47	633.3846492	90.189745
7/27/1996	11812	11830	28,800	1.15	45.47	633.3846492	90.189745
7/28/1996	11830	11846	25,600	1.16	46.05	555.917481	91.340175
7/29/1996	11846	11865	30,400	1.25	54.48	558.0029369	108.06108
7/30/1996	11865	11884	30,400	1.23	50.25	604.9751244	99.670875
7/31/1996	11884	11904	32,000	1.20	48.43	660.7474706	96.060905
8/1/1996	11904	11924	32,000	1.17	46.62	686.4006864	92.47077
8/2/1996	11924	11941	27,200	1.00	37.02	734.7379795	73.42917
8/3/1996	11941	11958	27,200	1.27	52.72	515.9332322	104.57012
8/4/1996	11958	11978	32,000	1.31	55.07	581.0786272	109.231345
8/5/1996	11978	12000	35,200	1.42	62.09	566.9189886	123.155515
8/6/1996	12000	12023	36,800	1.33	56.39	652.5979784	111.849565
8/7/1996	12023	12041	28,800	1.06	40.33	714.108604	79.994555
8/8/1996	12041	12057	25,600	0.94	33.81	757.1724342	67.062135
8/9/1996	12057	12070	20,800	0.93	33.26	625.3758268	65.97121
8/10/1996	12070	12083	20,800	0.96	34.86	596.6724039	69.14481

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Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/11/1996	12083	12102	30,400	1.25	54.48	558.0029369	108.06108
8/12/1996	12102	12116	22,400	1.19	47.86	468.0317593	94.93031
8/13/1996	12116	12133	27,200	1.12	43.83	620.5795117	86.936805
8/14/1996	12133	12150	27,200	1.11	43.26	628.7563569	85.80621
8/15/1996	12150	12168	28,800	1.14	44.97	640.4269513	89.197995
8/16/1996	12168	12185	27,200	1.08	41.47	655.8958283	82.255745
8/17/1996	12185	12202	27,200	1.11	43.26	628.7563569	85.80621
8/18/1996	12202	12220	28,800	1.18	47.28	609.1370558	93.77988
8/19/1996	12220	12238	28,800	1.26	52.15	552.253116	103.439525
8/20/1996	12238	12257	30,400	1.16	46.05	660.1520087	91.340175
8/21/1996	12257	12275	28,800	1.13	44.32	649.8194946	87.90872
8/22/1996	12275	12291	25,600	1.02	38.15	671.0353866	75.670525
8/23/1996	12291	12303	19,200	0.90	31.67	606.2519735	62.817445
8/24/1996	12303	12315	19,200	0.85	29.14	658.8881263	57.79919
8/25/1996	12315	12325	16,000	0.90	31.67	505.2099779	62.817445
8/26/1996	12325	12338	20,800	0.92	32.78	634.533252	65.01913
8/27/1996	12338	12352	22,400	0.99	36.46	614.3719144	72.31841
8/28/1996	12352	12365	20,800	0.95	34.29	606.5908428	68.014215
8/29/1996	12365	12379	22,400	1.09	42.03	532.9526529	83.366505
8/30/1996	12379	12394	24,000	1.00	37.02	648.2982172	73.42917
8/31/1996	12394	12408	22,400	1.00	37.02	605.078336	73.42917
9/1/1996	12408	12422	22,400	1.10	42.69	524.7130476	84.675615
9/2/1996	12422	12441	30,400	1.24	50.90	597.2495088	100.96015
9/3/1996	12441	12460	30,400	1.14	44.97	676.0062264	89.197995
9/4/1996	12460	12478	28,800	1.16	46.05	625.4071661	91.340175
9/5/1996	12478	12493	24,000	1.13	44.32	541.5162455	87.90872
9/6/1996	12493	12511	28,800	1.29	53.98	533.5309374	107.06933
9/7/1996	12511	12534	36,800	1.40	60.84	604.8652202	120.67614
9/8/1996	12534	12556	35,200	1.41	61.51	572.2646724	122.005085
9/9/1996	12556	12577	33,600	1.43	62.77	535.2875578	124.504295
9/10/1996	12577	12600	36,800	1.24	50.90	722.9862475	100.96015
9/11/1996	12600	12618	28,800	1.27	52.72	546.2822458	104.57012
9/12/1996	12618	12638	32,000	1.28	53.31	600.2626149	105.740385
9/13/1996	12638	12658	32,000	1.25	54.48	587.3715125	108.06108
9/14/1996	12658	12677	30,400	1.30	54.56	557.1847507	108.21976
9/15/1996	12677	12697	32,000	1.36	58.23	549.5449081	115.499205
9/16/1996	12697	12717	32,000	1.43	62.77	509.797674	124.504295
9/17/1996	12717	12740	36,800	1.43	62.77	586.2673252	124.504295
9/18/1996	12740	12762	35,200	1.34	56.98	617.7606178	113.01983
9/19/1996	12762	12784	35,200	1.36	58.23	604.4993989	115.499205
9/20/1996	12784	12805	33,600	1.30	54.56	615.8357771	108.21976
9/21/1996	12805	12821	25,600	1.05	39.76	643.8631791	78.86396
9/22/1996	12821	12834	20,800	0.96	34.86	596.6724039	69.14481
9/23/1996	12834	12847	20,800	0.96	34.86	596.6724039	69.14481
9/24/1996	12847	12862	24,000	1.08	41.47	578.7316132	82.255745
9/25/1996	12862	12875	20,800	0.95	34.29	606.5908428	68.014215
9/26/1996	12875	12889	22,400	1.08	41.47	540.1495057	82.255745
9/27/1996	12889	12904	24,000	1.03	38.63	621.2787989	76.622605
9/28/1996	12904	12919	24,000	1.02	38.15	629.095675	75.670525
9/29/1996	12919	12933	22,400	1.03	38.63	579.8602123	76.622605
9/30/1996	12933	12947	22,400	1.04	39.20	571.4285714	77.7532
10/1/1996	12947	12961	22,400	0.91	32.22	695.22036	63.90837
10/2/1996	12961	12972	17,600	0.87	30.16	583.5543767	59.82236
10/3/1996	12972	12985	20,800	0.82	27.65	752.2603978	54.843775
10/4/1996	12985	12992	11,200	0.91	32.22	347.61018	63.90837
10/5/1996	12992	13002	16,000	0.78	25.62	624.5120999	50.81727
10/6/1996	13002	13012	16,000	0.90	31.67	505.2099779	62.817445
10/7/1996	13012	13023	17,600	0.90	31.67	555.7309757	62.817445
10/8/1996	13023	13033	16,000	0.90	31.67	505.2099779	62.817445
10/9/1996	13033	13046	20,800	0.93	33.26	625.3758268	65.97121

Permit 36-8310 Daily Totals 1996

Date	Beginnlgng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate In cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
10/10/1996	13046	13057	17,600	0.91	32.22	397.1119134	87.90872
10/11/1996	13057	13073	25,600	1.30	54.56	469.2082111	108.21976
10/12/1996	13073	13090	27,200	1.13	44.32	613.7184116	87.90872
10/13/1996	13090	13108	28,800	1.15	45.47	633.3846492	90.189745
10/14/1996	13108	13127	30,400	1.25	54.48	558.0029369	108.06108
10/15/1996	13127	13147	32,000	1.24	50.90	628.6836935	100.96015
10/16/1996	13147	13164	27,200	1.18	47.28	575.2961083	93.77988
10/17/1996	13164	13181	27,200	1.09	42.03	647.1567928	83.366505
10/18/1996	13181	13197	25,600	1.12	43.83	584.0748346	86.936805
10/19/1996	13197	13215	28,800	1.20	48.43	594.6727235	96.060905
10/20/1996	13215	13233	28,800	1.20	48.43	594.6727235	96.060905
10/21/1996	13233	13252	30,400	1.27	52.72	576.6312595	104.57012
10/22/1996	13252	13272	32,000	1.28	53.31	600.2626149	105.740385
10/23/1996	13272	13291	30,400	1.25	54.48	558.0029369	108.06108
10/24/1996	13291	13305	22,400	1.05	39.76	563.3802817	78.86396
10/25/1996	13305	13321	25,600	1.02	38.15	671.0353866	75.670525
10/26/1996	13321	13333	19,200	0.87	30.16	636.6047745	59.82236
10/27/1996	13333	13345	19,200	0.87	30.16	636.6047745	59.82236
10/28/1996	13345	13355	16,000	0.85	29.14	549.0734386	57.79919
10/29/1996	13355	13366	17,600	0.85	29.14	603.9807824	57.79919
10/30/1996	13366	13377	17,600	0.87	30.16	583.5543767	59.82236
10/31/1996	13377	13388	17,600	0.89	31.11	565.7344905	61.706685
11/1/1996	13388	13399	17,600	0.89	31.11	565.7344905	61.706685
11/2/1996	13399	13411	19,200	0.92	32.78	585.7230018	65.01913
11/3/1996	13411	13423	19,200	0.92	32.78	585.7230018	65.01913
11/4/1996	13423	13435	19,200	0.92	32.78	585.7230018	65.01913

MAX	46,400	62.77	739.21
AVE	29,760	40.78	729.8271135
MIN	8,000	15.25	524.5901639

MAX KWH/CFS / 24 =	30.80027614
AVE KWH/CFS / 24 =	30.40946306
Min KWH/CFS / 24 =	21.8579235

Total KWH	6,100,800
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	16,370
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	16,581
Volume = (Total KWH / Min Kwh/cfs) X 1.9835 = af	23,067

Total Volume per CFS = Acre-feet	16,605
Kwh/af = Total KWH /total volume =	367

PLEASE NOTE: Average KWH/24 Hour CFS should be close to the 20 to 25 KWH/24hr CFS efficiency chart to fall within reasonable power making efficiency levels.

Please Note: The minimum values don't include those days when there were no recordings marked by a "0". The chart provided by the permit holder appears to be based on a 24 hour period, so if you divide the KWH/cfs by 24 hours matches the chart.

ALSO NOTE: The Total Volume diverted is the total volume measured by the weir. The Total Volume over the weir should be reasonably close to the (Average KWH/cfs) X 1.9835 if the power plant is operating within normal efficiency standards most of the time.

Permit 36-8310 Daily Totals 1997

Date	Beginnigng Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
4/8/1997	13435	13438	4,800	0.42	10.22	469.667319	20.27137
4/10/1997	13438	13439	1,600	0.42	10.22	156.555773	20.27137
4/11/1997	13439	13441	3,200	0.42	10.22	313.111546	20.27137
4/12/1997	13441	13458	27,200	1.10	42.69	637.1515577	84.675615
4/13/1997	13458	13479	33,600	1.30	54.56	615.8357771	108.21976
4/14/1997	13479	13503	38,400	1.39	60.24	637.4501992	119.48604
4/15/1997	13503	13526	36,800	1.40	60.84	604.8652202	120.67614
4/16/1997	13526	13548	35,200	1.45	64.11	549.0563095	127.162185
4/17/1997	13548	13572	38,400	1.39	60.24	637.4501992	119.48604
4/18/1997	13572	13593	33,600	1.30	54.56	615.8357771	108.21976
4/19/1997	13593	13613	32,000	1.19	47.86	668.616799	94.93031
4/20/1997	13613	13631	28,800	1.10	42.69	674.6310611	84.675615
4/21/1997	13631	13647	25,600	1.26	52.15	490.8916587	103.439525
4/22/1997	13647	13668	33,600	1.23	50.25	668.6567164	99.670875
4/23/1997	13668	13685	27,200	1.05	39.76	684.1046278	78.86396
4/24/1997	13685	13705	32,000	1.43	62.77	509.797674	124.504295
4/25/1997	13705	13728	36,800	1.47	65.39	562.7771831	129.701065
4/26/1997	13728	13752	38,400	1.38	59.57	644.6197751	118.157095
4/27/1997	13752	13771	30,400	1.39	60.24	504.6480744	119.48604
4/28/1997	13771	13790	30,400	1.43	62.77	484.3077903	124.504295
4/29/1997	13790	13814	38,400	1.34	56.98	673.9206739	113.01983
4/30/1997	13814	13835	33,600	1.32	55.72	603.0150754	110.52062
5/1/1997	13835	13857	35,200	1.40	60.84	578.5667324	120.67614
5/2/1997	13857	13879	35,200	1.45	64.11	549.0563095	127.162185
5/3/1997	13879	13902	36,800	1.47	65.39	562.7771831	129.701065
5/4/1997	13902	13924	35,200	1.30	54.56	645.1612903	108.21976
5/5/1997	13924	13945	33,600	1.35	57.65	582.8274068	114.348775
5/6/1997	13945	13967	35,200	1.29	53.98	652.0933679	107.06933
5/7/1997	13967	13985	28,800	1.41	61.51	468.2165502	122.005085
5/8/1997	13985	14008	36,800	1.42	62.09	592.6880335	123.155515
5/9/1997	14008	14030	35,200	1.31	55.07	639.1864899	109.231345
5/10/1997	14030	14050	32,000	1.28	53.31	600.2626149	105.740385
5/11/1997	14050	14069	30,400	1.39	60.24	504.6480744	119.48604
5/12/1997	14069	14089	32,000	1.44	63.37	504.9708064	125.694395
5/13/1997	14089	14111	35,200	1.34	56.98	617.7606178	113.01983
5/14/1997	14111	14131	32,000	1.24	50.90	628.6836935	100.96015
5/15/1997	14131	14149	28,800	1.15	45.47	633.3846492	90.189745
5/16/1997	14149	14166	27,200	1.09	42.03	647.1567928	83.366505
5/17/1997	14166	14179	20,800	1.09	42.03	494.8846062	83.366505
5/18/1997	14179	14198	30,400	1.30	54.56	557.1847507	108.21976
5/19/1997	14198	14218	32,000	1.38	59.57	537.1831459	118.157095
5/20/1997	14218	14241	36,800	1.36	58.23	631.9766443	115.499205
5/21/1997	14241	14261	32,000	1.35	57.65	555.0737207	114.348775
5/22/1997	14261	14284	36,800	1.37	58.90	624.7877759	116.82815
5/23/1997	14284	14305	33,600	1.29	53.98	622.4527603	107.06933
5/24/1997	14305	14325	32,000	1.39	60.24	531.2084993	119.48604
5/25/1997	14325	14358	52,800	1.46	64.71	815.948076	128.352285
5/26/1997	14358	14371	20,800	1.48	66.07	314.8176177	131.049845
5/27/1997	14371	14392	33,600	1.31	55.07	610.1325586	109.231345
5/28/1997	14392	14413	33,600	1.24	50.90	660.1178782	100.96015
5/29/1997	14413	14433	32,000	1.35	57.65	555.0737207	114.348775
5/30/1997	14433	14456	36,800	1.37	58.90	624.7877759	116.82815
5/31/1997	14456	14475	30,400	1.21	49.01	620.2815752	97.211335
6/1/1997	14475	14491	25,600	0.99	36.46	702.1393308	72.31841
6/2/1997	14491	14507	25,600	1.05	39.76	643.8631791	78.86396
6/3/1997	14507	14522	24,000	0.95	34.29	699.9125109	68.014215
6/4/1997	14522	14536	22,400	1.07	40.89	547.8112008	81.105315
6/5/1997	14536	14552	25,600	1.18	47.28	541.4551607	93.77988
6/6/1997	14552	14571	30,400	1.21	49.01	620.2815752	97.211335
6/7/1997	14571	14594	36,800	1.50	67.41	545.9130693	133.707735
6/8/1997	14594	14628	54,400	1.45	64.11	848.5415692	127.162185
6/9/1997	14628	14641	20,800	1.46	64.71	321.4340906	128.352285
6/10/1997	14641	14665	38,400	1.40	60.84	631.1637081	120.67614

Permit 36-8310 Daily Totals 1997

Date	Beginnign Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
6/11/1997	14665	14687	35,200	1.46	64.71	543.965384	128.352285
6/12/1997	14687	14710	36,800	1.48	66.07	556.9850159	131.049845
6/13/1997	14710	14732	35,200	1.48	66.07	532.7682761	131.049845
6/14/1997	14732	14758	41,600	1.48	66.07	629.6352354	131.049845
6/15/1997	14758	14779	33,600	1.31	55.07	610.1325586	109.231345
6/16/1997	14779	14800	33,600	1.31	55.07	610.1325586	109.231345
6/17/1997	14800	14821	33,600	1.19	47.86	702.0476389	94.93031
6/18/1997	14821	14835	22,400	0.92	32.78	683.3435021	65.01913
6/19/1997	14835	14852	27,200	1.02	38.15	712.9750983	75.670525
6/20/1997	14852	14865	20,800	0.97	35.41	587.4046879	70.235735
6/21/1997	14865	14880	24,000	1.12	43.83	547.5701574	86.936805
6/22/1997	14880	14896	25,600	1.06	40.33	634.7632036	79.994555
6/23/1997	14896	14914	28,800	1.18	47.28	609.1370558	93.77988
6/24/1997	14914	14931	27,200	1.17	46.62	583.4405834	92.47077
6/25/1997	14931	14948	27,200	1.06	40.33	674.4359038	79.994555
6/26/1997	14948	14963	24,000	0.98	35.89	668.7099471	71.187815
6/27/1997	14963	14978	24,000	1.07	40.89	586.9405723	81.105315
6/28/1997	14978	14994	25,600	1.04	39.20	653.0612245	77.7532
6/29/1997	14994	15010	25,600	1.04	39.20	653.0612245	77.7532
6/30/1997	15010	15026	25,600	1.11	43.26	591.7706889	85.80621
7/1/1997	15026	15042	25,600	1.17	46.62	549.1205491	92.47077
7/2/1997	15042	15061	30,400	1.16	46.05	660.1520087	91.340175
7/3/1997	15061	15080	30,400	1.22	49.58	613.1504639	98.34193
7/4/1997	15080	15100	32,000	1.18	47.28	676.8189509	93.77988
7/5/1997	15100	15121	33,600	1.29	53.98	622.4527603	107.06933
7/6/1997	15121	15138	27,200	1.07	40.89	665.1993152	81.105315
7/7/1997	15138	15154	25,600	1.08	41.47	617.3137208	82.255745
7/8/1997	15154	15172	28,800	1.10	42.69	674.6310611	84.675615
7/9/1997	15172	15188	25,600	1.05	39.76	643.8631791	78.86396
7/10/1997	15188	15203	24,000	1.28	53.31	450.1969612	105.740385
7/11/1997	15203	15223	32,000	1.20	48.43	660.7474706	96.060905
7/12/1997	15223	15243	32,000	1.23	50.25	636.8159204	99.670875
7/13/1997	15243	15270	43,200	1.44	63.37	681.7105886	125.694395
7/14/1997	15270	15286	25,600	1.43	62.77	407.8381392	124.504295
7/15/1997	15286	15310	38,400	1.23	50.25	764.1791045	99.670875
7/16/1997	15310	15325	24,000	1.19	47.86	501.4625992	94.93031
7/17/1997	15325	15344	30,400	1.15	45.47	668.5726853	90.189745
7/18/1997	15344	15362	28,800	1.26	52.15	552.253116	103.439525
7/19/1997	15362	15383	33,600	1.44	63.37	530.2193467	125.694395
7/20/1997	15383	15406	36,800	1.44	63.37	580.7164273	125.694395
7/21/1997	15406	15429	36,800	1.40	60.84	604.8652202	120.67614
7/22/1997	15429	15452	36,800	1.29	53.98	681.7339755	107.06933
7/23/1997	15452	15470	28,800	1.16	46.05	625.4071661	91.340175
7/24/1997	15470	15489	30,400	1.27	52.72	576.6312595	104.57012
7/25/1997	15489	15509	32,000	1.17	46.62	686.4006864	92.47077
7/26/1997	15509	15528	30,400	1.24	50.90	597.2495088	100.96015
7/27/1997	15528	15547	30,400	1.29	53.98	563.171545	107.06933
7/28/1997	15547	15566	30,400	1.35	57.65	527.3200347	114.348775
7/29/1997	15566	15588	35,200	1.25	51.48	683.7606838	102.11058
7/30/1997	15588	15609	33,600	1.43	62.77	535.2875578	124.504295
7/31/1997	15609	15631	35,200	1.35	57.65	610.5810928	114.348775
8/1/1997	15631	15651	32,000	1.30	54.56	586.5102639	108.21976
8/2/1997	15651	15672	33,600	1.29	53.98	622.4527603	107.06933
8/3/1997	15672	15699	43,200	1.20	48.43	892.0090853	96.060905
8/4/1997	15699	15712	20,800	1.19	47.86	434.6009193	94.93031
8/5/1997	15712	15728	25,600	1.19	47.86	534.8934392	94.93031
8/6/1997	15728	15746	28,800	1.11	43.26	665.742025	85.80621
8/7/1997	15746	15763	27,200	1.13	44.32	613.7184116	87.90872
8/8/1997	15763	15779	25,600	1.03	38.63	662.6973855	76.622605
8/9/1997	15779	15794	24,000	0.99	36.46	658.2556226	72.31841
8/10/1997	15794	15811	27,200	1.24	50.90	534.3811395	100.96015
8/11/1997	15811	15830	30,400	1.40	60.84	499.6712689	120.67614
8/12/1997	15830	15851	33,600	1.11	43.26	776.6990291	85.80621

Permit 36-8310 Daily Totals 1997

Date	Beginnign Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head In Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
8/13/1997	15851	15866	24,000	1.10	42.69	562.1925509	84.675615
8/14/1997	15866	15884	28,800	1.18	47.28	609.1370558	93.77988
8/15/1997	15884	15898	22,400	1.04	39.20	571.4285714	77.7532
8/16/1997	15898	15914	25,600	1.18	47.28	541.4551607	93.77988
8/17/1997	15914	15933	30,400	1.25	51.48	590.5205905	102.11058
8/18/1997	15933	15953	32,000	1.32	55.72	574.3000718	110.52062
8/19/1997	15953	15972	30,400	1.21	49.01	620.2815752	97.211335
8/20/1997	15972	15991	30,400	1.17	46.62	652.0806521	92.47077
8/21/1997	15991	16008	27,200	1.12	43.83	620.5795117	86.936805
8/22/1997	16008	16025	27,200	1.14	44.97	604.8476762	89.197995
8/23/1997	16025	16041	25,600	1.09	42.03	609.0887461	83.366505
8/24/1997	16041	16058	27,200	1.14	44.97	604.8476762	89.197995
8/25/1997	16058	16076	28,800	1.19	47.86	601.7551191	94.93031
8/26/1997	16076	16094	28,800	1.10	42.69	674.6310611	84.675615
8/27/1997	16094	16109	24,000	1.07	40.89	586.9405723	81.105315
8/28/1997	16109	16127	28,800	1.17	46.62	617.7606178	92.47077
8/29/1997	16127	16144	27,200	1.14	44.97	604.8476762	89.197995
8/30/1997	16144	16163	30,400	1.26	52.15	582.9338447	103.439525
8/31/1997	16163	16192	46,400	1.37	58.90	787.7758913	116.82815
9/1/1997	16192	16205	20,800	1.45	64.11	324.4423647	127.162185
9/2/1997	16205	16227	35,200	1.39	60.24	584.3293493	119.48604
9/3/1997	16227	16250	36,800	1.43	62.77	586.2673252	124.504295
9/4/1997	16250	16274	38,400	1.45	64.11	598.9705194	127.162185
9/5/1997	16274	16297	36,800	1.45	64.11	574.0134144	127.162185
9/6/1997	16297	16323	41,600	1.48	66.07	629.6352354	131.049845
9/7/1997	16323	16347	38,400	1.45	64.11	598.9705194	127.162185
9/8/1997	16347	16369	35,200	1.45	64.11	549.0563095	127.162185
9/9/1997	16369	16390	33,600	1.24	50.90	660.1178782	100.96015
9/10/1997	16390	16408	28,800	1.10	42.69	674.6310611	84.675615
9/11/1997	16408	16425	27,200	1.14	44.97	604.8476762	89.197995
9/12/1997	16425	16446	33,600	1.46	64.71	519.2396847	128.352285
9/13/1997	16446	16468	35,200	1.46	64.71	543.965384	128.352285
9/14/1997	16468	16492	38,400	1.45	64.11	598.9705194	127.162185
9/15/1997	16492	16516	38,400	1.44	63.37	605.9649677	125.694395
9/16/1997	16516	16538	35,200	1.45	64.11	549.0563095	127.162185
9/17/1997	16538	16562	38,400	1.43	62.77	611.7572089	124.504295
9/18/1997	16562	16585	36,800	1.31	55.07	668.2404213	109.231345
9/19/1997	16585	16606	33,600	1.30	54.56	615.8357771	108.21976
9/20/1997	16606	16626	32,000	1.31	55.07	581.0786272	109.231345
9/21/1997	16626	16648	35,200	1.44	63.37	555.467887	125.694395
9/22/1997	16648	16671	36,800	1.47	65.39	562.7771831	129.701065
9/23/1997	16671	16694	36,800	1.47	65.39	562.7771831	129.701065
9/24/1997	16694	16719	40,000	1.39	60.24	664.0106242	119.48604
9/25/1997	16719	16739	32,000	1.21	49.01	652.9279739	97.211335
9/26/1997	16739	16756	27,200	1.18	47.28	575.2961083	93.77988
9/27/1997	16756	16774	28,800	1.16	46.05	625.4071661	91.340175
9/28/1997	16774	16792	28,800	1.18	47.28	609.1370558	93.77988
9/29/1997	16792	16810	28,800	1.21	49.01	587.6351765	97.211335
9/30/1997	16810	16827	27,200	1.12	43.83	620.5795117	86.936805
10/1/1997	16827	16843	25,600	1.11	43.26	591.7706889	85.80621
10/2/1997	16843	16860	27,200	1.11	43.26	628.7563569	85.80621
10/3/1997	16860	16876	25,600	1.20	48.43	528.5979765	96.060905
10/4/1997	16876	16893	27,200	1.20	48.43	561.63535	96.060905
10/5/1997	16893	16911	28,800	1.23	50.25	573.1343284	99.670875
10/6/1997	16911	16929	28,800	1.26	52.15	777.9578606	103.439525
10/7/1997	16929	16946	27,200	0.86	29.69	916.1333782	58.890115
10/8/1997	16946	16958	19,200	1.00	37.02	518.6385737	73.42917
10/9/1997	16958	16972	22,400	1.06	40.33	555.4178031	79.994555
10/10/1997	16972	16988	25,600	1.20	48.43	528.5979765	96.060905
10/11/1997	16988	17006	28,800	1.34	56.98	505.4405054	113.01983
10/12/1997	17006	17027	33,600	1.39	60.24	557.7689243	119.48604
10/13/1997	17027	17048	33,600	1.40	60.84	552.2682446	120.67614
10/14/1997	17048	17071	36,800	1.35	57.65	638.3347788	114.348775

Permit 36-8310 Daily Totals 1997

Date	Beginning Power Meter Reading	Ending Power Meter Reading	Kwh = (Ending Meter Reading - Beginning Meter Reading) X 1600	Head in Feet Over Weir	Diversion Rate in cfs. Per Weir Table and Feet of Head	Average KWH/cfs	Volume based on Diversion Rate CFS X 1.9835 = AF
10/15/1997	17071	17093	35,200	1.40	60.84	578.5667324	120.67614
10/16/1997	17093	17113	32,000	1.39	60.24	531.2084993	119.48604
10/17/1997	17113	17135	35,200	1.38	59.57	590.9014605	118.157095
10/18/1997	17135	17164	46,400	1.36	58.23	796.8401168	115.499205
10/19/1997	17164	17184	32,000	1.35	57.65	555.0737207	114.348775
10/20/1997	17184	17200	25,600	1.40	60.84	420.7758054	120.67614
10/21/1997	17200	17224	38,400	1.41	61.51	624.2887335	122.005085
10/22/1997	17224	17246	35,200	1.43	62.77	560.7774415	124.504295
10/23/1997	17246	17270	38,400	1.44	63.37	605.9649677	125.694395
10/24/1997	17270	17292	35,200	1.43	62.77	560.7774415	124.504295
10/25/1997	17292	17323	49,600	1.45	64.11	773.6702543	127.162185
10/26/1997	17323	17347	38,400	1.45	64.11	598.9705194	127.162185
10/27/1997	17347	17364	27,200	1.45	64.11	424.2707846	127.162185
10/28/1997	17364	17387	36,800	1.45	64.11	574.0134144	127.162185
10/29/1997	17387	17409	35,200	1.45	64.11	549.0563095	127.162185
10/30/1997	17409	17432	36,800	1.45	64.11	574.0134144	127.162185
10/31/1997	17432	17456	38,400	1.45	64.11	598.9705194	127.162185
11/1/1997	17456	17480	38,400	1.44	63.37	605.9649677	125.694395
11/2/1997	17480	17502	35,200	0.73	23.23	1515.281963	46.076705
11/3/1997	17502	17504	3,200	0.88	30.72	104.1666667	60.93312
11/4/1997	17504	17515	17,600	0.88	30.72	572.9166667	60.93312
11/5/1997	17515	17524	14,400	0.71	22.31	645.4504706	44.251885
11/6/1997	17524	17526	3,200	0.17	2.70	1185.185185	5.35545
11/12/1997	17526	17527	1,600	0.17	2.70	592.5925926	5.35545

MAX	54,400	67.41	807.00
AVE	30,738	51.61	595.5389158
MIN	1,600	2.70	592.5925926

MAX KWH/CFS / 24 =	33.62508035
AVE KWH/CFS / 24 =	24.81412149
Min KWH/CFS / 24 =	24.69135802

Total KWH	6,547,200
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	16,092
Volume = (Total KWH / AVE Kwh/cfs) X 1.9835 = af	21,806
Volume = (Total KWH / Max Kwh/cfs) X 1.9835 = af	21,915

Total Volume per CFS = Acre-feet	21,806
Kwh/af = Total KWH /total volume =	300

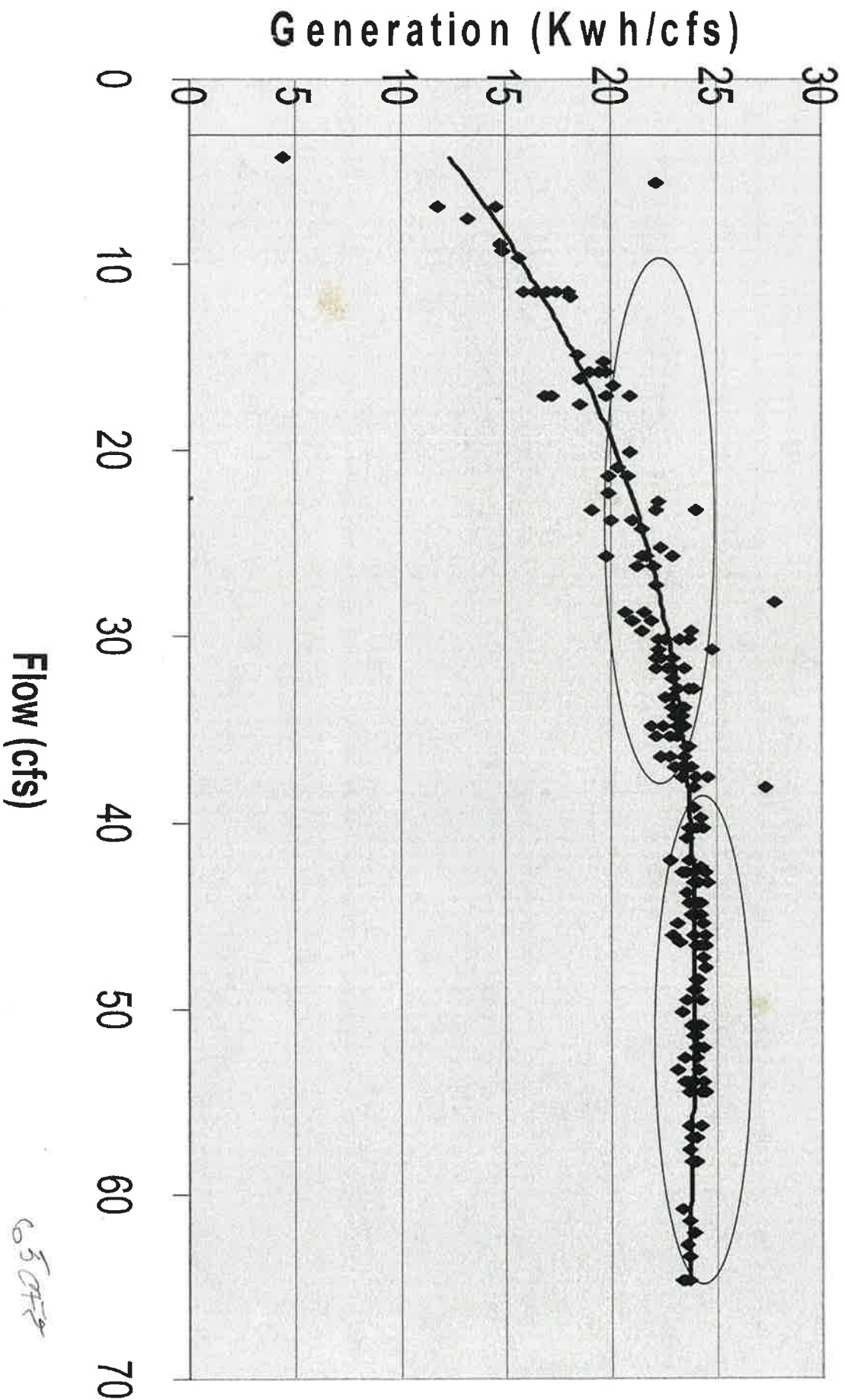
PLEASE NOTE: Average KWH/24 Hour CFS should be close to the 20 to 25 KWH/24hr CFS efficiency chart to fall within reasonable power making efficiency levels.

Please Note: The minimum values don't include those days when there were no recordings marked by a "0". The chart provided by the permit holder appears to be based on a 24 hour period, so if you divide the KWH/cfs by 24 hours matches the chart.

ALSO NOTE: The Total Volume diverted is the total volume measured by the weir. The Total Volume over the weir should be reasonably close to the (Average KWH/cfs) X 1.9835 if the power plant is operating within normal efficiency standards most of the time.

**PLEASE SEE FILE #2 FOR RAW DATA SUPPLIED
BY THE PERMIT HOLDER. THIS DATA
CONTAINS THE DAILY HAND WRITTEN
RECORDS FOR EACH DAY THAT THE FACILITY
WAS IN OPERATION.**

BC Hydro Efficiency Curve



PERMIT 36-8310 EFFICIENCY RATING CURVE FOR TURBINE

Head (ft.)	For each additional foot of crest		Total Flow in cfs	For each additional foot of crest		Total Flow in cfs
	Crest Length 4.0'	Flow in cubic feet per second in excess of 4'		Crest Length 4.0'	Flow in cubic feet per second in excess of 4'	
0.10	0.427	0.108	1.237	0.47	4.180	1.060
0.11	0.491	0.124	1.421	0.48	4.320	1.100
0.12	0.559	0.141	1.617	0.49	4.450	1.130
0.13	0.629	0.159	1.822	0.50	4.580	1.160
0.14	0.701	0.177	2.029	0.51	4.720	1.200
0.15	0.776	0.196	2.246	0.52	4.860	1.240
0.16	0.854	0.216	2.474	0.53	4.990	1.280
0.17	0.934	0.236	2.704	0.54	5.130	1.300
0.18	1.020	0.257	2.948	0.55	5.270	1.330
0.19	1.100	0.278	3.185	0.56	5.420	1.380
0.20	1.190	0.303	3.463	0.57	5.560	1.410
0.21	1.280	0.326	3.725	0.58	5.700	1.440
0.22	1.370	0.350	3.995	0.59	5.850	1.490
0.23	1.460	0.370	4.235	0.60	6.000	1.530
0.24	1.550	0.390	4.475	0.61	6.140	1.550
0.25	1.650	0.420	4.800	0.62	6.290	1.600
0.26	1.750	0.440	5.050	0.63	6.440	1.630
0.27	1.850	0.470	5.375	0.64	6.590	1.670
0.28	1.950	0.490	5.625	0.65	6.750	1.720
0.29	2.050	0.520	5.950	0.66	6.900	1.750
0.30	2.160	0.550	6.285	0.67	7.050	1.790
0.31	2.260	0.570	6.535	0.68	7.210	1.830
0.32	2.370	0.600	6.870	0.69	7.360	1.870
0.33	2.480	0.620	7.130	0.70	7.520	1.910
0.34	2.600	0.660	7.550	0.71	7.680	1.950
0.35	2.710	0.690	7.885	0.72	7.840	1.990
0.36	2.820	0.371	5.603	0.73	8.000	2.030
0.37	2.940	0.740	8.490	0.74	8.170	2.080
0.38	3.060	0.780	8.910	0.75	8.330	2.120
0.39	3.180	0.810	9.255	0.76	8.490	2.160
0.40	3.300	0.840	9.600	0.77	8.660	2.210
0.41	3.420	0.870	9.945	0.78	8.820	2.240
0.42	3.540	0.890	10.215	0.79	8.990	2.290
0.43	3.670	0.930	10.645	0.80	9.160	2.330
0.44	3.800	0.970	11.075	0.81	9.330	2.380
0.45	3.930	1.000	11.430	0.82	9.500	2.420
0.46	4.050	1.020	11.700	0.83	9.670	2.460

36-8310 - Weir Rating Table showing Flow Rate per Feet of Head over the Weir Blade

Head (ft.)	For each additional foot of crest		Total Flow in cfs
	Crest Length	Flow in cubic feet per second	
	4.0'	in excess of 4'	
0.84	9.840	2.510	28.665
0.85	10.010	2.550	29.135
0.86	10.190	2.600	29.690
0.87	10.360	2.640	30.160
0.88	10.540	2.690	30.715
0.89	10.710	2.720	31.110
0.90	10.890	2.770	31.665
0.91	11.070	2.820	32.220
0.92	11.250	2.870	32.775
0.93	11.430	2.910	33.255
0.94	11.610	2.960	33.810
0.95	11.790	3.000	34.290
0.96	11.980	3.050	34.855
0.97	12.160	3.100	35.410
0.98	12.340	3.140	35.890
0.99	12.530	3.190	36.455
1.00	12.720	3.240	37.020
1.01	12.910	3.290	37.585
1.02	13.100	3.340	38.150
1.03	13.280	3.380	38.630
1.04	13.470	3.430	39.195
1.05	13.660	3.480	39.760
1.06	13.850	3.530	40.325
1.07	14.040	3.580	40.890
1.08	14.240	3.630	41.465
1.09	14.430	3.680	42.030
1.10	14.640	3.740	42.690
1.11	14.830	3.790	43.255
1.12	15.030	3.840	43.830
1.13	15.220	3.880	44.320
1.14	15.420	3.940	44.970
1.15	15.620	3.980	45.470
1.16	15.820	4.030	46.045
1.17	16.020	4.080	46.620
1.18	16.230	4.140	47.280
1.19	16.430	4.190	47.855
1.20	16.630	4.240	48.430
1.21	16.830	4.290	49.005

Head (ft.)	For each additional foot of crest		Total Flow in cfs
	Crest Length	Flow in cubic feet per second	
	4.0'	in excess of 4'	
1.22	17.030	4.340	49.580
1.23	17.250	4.400	50.250
1.24	17.450	4.460	50.900
1.25	17.650	4.510	51.475
1.26	17.870	4.570	52.145
1.27	18.070	4.620	52.720
1.28	18.280	4.670	53.305
1.29	18.500	4.730	53.975
1.30	18.710	4.780	54.560
1.31	18.920	4.820	55.070
1.32	19.120	4.880	55.720
1.33	19.340	4.940	56.390
1.34	19.550	4.990	56.975
1.35	19.770	5.050	57.645
1.36	19.980	5.100	58.230
1.37	20.200	5.160	58.900
1.38	20.420	5.220	59.570
1.39	20.640	5.280	60.240
1.40	20.860	5.330	60.835
1.41	21.080	5.390	61.505
1.42	21.290	5.440	62.090
1.43	21.520	5.500	62.770
1.44	21.740	5.550	63.365
1.45	21.960	5.620	64.110
1.46	22.180	5.670	64.705
1.47	22.410	5.730	65.385
1.48	22.640	5.790	66.065
1.49	22.850	5.840	66.650
1.50	23.080	5.910	67.405

Permit - 36-8310

PHOTOGRAPHER AND DATE OF PHOTOS Dan Nelson 6/19/2020

FILE NUMBER 36-8310

These photos show the name plate of the generator and turbine for this power plant.



PHOTOGRAPHER AND DATE OF PHOTOS Dan Nelson 6/19/2020

FILE NUMBER 36-8310\



The photo above shows the diversion in Cedar Draw Creek / S Coulee at the end of the settlement pond.



The Photos above shows the diversion from the pond into the power ditch/canal. The photo below shows the weir and the screens used to remove the trash from the weir.



PHOTOGRAPHER AND DATE OF PHOTOS Dan Nelson 6/19/2020

FILE NUMBER 36-8310

This photo shows the 12 foot cement collection boxes that divert the water into the penstock. As you can see, the penstock is completely underground, so no measurement of the penstock could be taken. You can also see the screens collecting trash and debris in the farthest right side (west) of the photo.



PHOTOGRAPHER AND DATE OF PHOTOS Dan Nelson 6/19/2020

FILE NUMBER 36-8310



The photo above shows the Turbine and Generator.

The photo below left shows one of the power panels. This panel shows the generator output at 1500 Kw, 2500 volts, and 330 amps.

The photo below right shows the outflow to the Snake River.

