

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 01-10576
Exam Date: August 08, 2019

1. Current Owner:
NORTH SIDE CANAL COMPANY LTD (NSCC)
921 N LINCOLN AVE
JEROME ID 83338

This right is a result of splitting application for permit 01-7084A. Application for permit 01-7084A was split into 01-10575 thru 01-10592 prior to being permitted. A permit was never issued for 01-7084A. NSCC relinquished permits 01-10575 thru 01-10592 (excluding 01-10576) in October, 2019.

2. Accompanied by: Alan Hansten (NSCC Manager)
To contact Alan Hansten directly, use the following:
Phone No: (208) 324-2319
Email Address: (awh@northsidecanal.com)

3. **SOURCE:**
SNAKE RIVER

Tributary
COLUMBIA RIVER

Method of Determination: comparison of the permit with the USGS DRG imagery available in ArcMap

B. OVERLAP REVIEW

1. Other water rights with the same place of use: There are no other water rights for power use at this powerhouse.
2. Other water rights with the same point of diversion: Multiple rights are also diverted from the two (2) POD's, see POD overlap attachment for details. The capacity of the Northside canal is unknown. An overall combined rate limit is not suggested on this water right. Looking at existing water rights for irrigation and power use that utilize the same POD's as this permit, no overall combined rate limit is included in conditions (This was used to try and determine if a canal capacity was used in prior permits or licenses).

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

Water Right No.	Source	Purpose of Use	Basis
See POD overlap attachment			

C. DIVERSION AND DELIVERY SYSTEM

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

SNAKE RIVER L5 (SWNW)
SNAKE RIVER L5 (SWNW)

Sec. 28, Twp 10S, Rge 21E, JEROME County
Sec. 28, Twp 10S, Rge 21E, JEROME County

Method of Determination: The POD's were determined by aerial photography and a review of existing spatial data points. Permit 01-10576 initially listed three POD's and one POD will be removed for licensing. NSCC confirmed that the POD located at SNAKE RIVER SESE, Sec. 22, Twp 10S, Rge 21E, JEROME County, (listed on the permit) also known as the PA Lateral is not a diversion point for this right.

2. **PLACE OF USE:** POWER

Tw p	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	S W	SE	NE	NW	S W	SE	NE	NW	S W	SE	NE	NW	S W	SE	
08 S	18E	6					X L3												

Method of Determination:

The power plant is visible in aerial photography. It is located on the main canal (Northside Canal) north of the Jerome Butte.

3.

X Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable. See engineering drawings
X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be
X 1:24,000 or greater.

X Aerial Photo Attached (required for irrigation of 10+ acres).

X Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Generator Make	Hp	Generator Serial No.	Turbine Make	Turbine Serial No. or Discharge Size
Unit 1	Siemens	160 kW	UC 1410/146730803	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 2	Siemens	160 kW	UC 1410/147905502	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 3	Siemens	160 kW	UC/1410/146730801	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 4	Siemens	160 kW	UC/1410/146730805	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 5	Siemens	160 kW	UC/1410/146730802	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 6	Siemens	160 kW	UC/1410/146730804	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 7	Siemens	160 kW	UC/1410/146730901	Mavel TM10 Siphon Modular Micro Turbine	NA
Unit 8	Siemens	160 kW	UC 1410/147905501	Mavel TM10 Siphon Modular Micro Turbine	NA

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Measurements: According to instrument gages in the powerhouse, the project was generating approximately 1250 kW total on flow rate of 1262.0 cfs at the time of the exam. Unit #1 was generating ~159 kW, Unit #2 was generating ~159 kW, Unit #3 was generating ~158 kW, Unit #4 was generating ~154 kW, Unit #5 was generating ~157 kW, Unit #6 was generating ~155 kW, Unit #7 was generating ~153 kW, and Unit #8 was generating ~156 kW. See the attached photos of the gages and photo of a schematic of the plant as seen on the operator's computer.

Power generation data was provided during the development period (NCSS provided generation data from May 2015 thru April 2019, excluding flow rate data). Review of the provided power generation data shows that August 2017 was the month with the most power generated over the development period.

I requested that NSCC provide the maximum instantaneous flow for the entire system along with power generation at the same time stamp during the development period. NSCC provided (via email, attached) that on August 8, 2017, at 2:00 AM the project was producing 1,249 kW at a flow rate of 1,246.0 cfs.

E. FLOW CALCULATIONS

Additional Computation Sheets
Attached

Measured Method:

Data provided by the operator of the powerhouse show that the project is utilizing more rate than the flow rate authorized under this water permit (1200 cfs).

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: Not applicable

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

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

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

3. Volume Calculations for Other Uses:

Permit 01-10576 authorize off-stream power generation using water diverted into the North Side Main canal system for irrigation and other purposes during the irrigation season. Beneficial exam Rule 35.01.j.v exempts "on-stream, run-of-the-river, non-consumptive power generation uses" from annual volume limits. Water right licenses for off-stream power generation normally receive annual volume limits based on the beneficial use accomplished during the development period authorized by the permit.

Volume limits on off-stream hydropower rights are necessary to guard against enlargement, in this case where water is used in the off-stream hydropower plant and is not returned to the source stream. In this case, enlargement of the water diverted to the off-stream hydropower plant would injure any junior hydropower right diverted downstream from the point of diversion for the off-stream plant.

IDWR would normally impose volume limits to prevent enlargement. However, because they are limited to using only water already diverted into the canals for other purposes, such as irrigation, there is no opportunity for these power producers to enlarge their diversions from the Snake River. Adding a volume limit would provide no safeguard, and it would serve only to restrict the right holder's opportunity to generate power. Therefore, it is recommended that no volume limit be imposed on the license for water right 01-10576.

G. NARRATIVE/REMARKS/COMMENTS**Ownership**

The owner of this hydropower project is NSCC. The powerhouse and power generation equipment are currently owned and operated by NSCC.

POU

Available Jerome County tax lot data shows that the project land is owned by NSCC. The project is located on the main Northside canal. During the field exam GPS coordinates of Turbine #8 were collected (Lat 42.762589 Long -114.395614). The turbines and the powerhouse are visible in aerial photography. The Northside Main Canal branches off into the P-Canal, R-Canal, U-Canal and M-Canal (see photos). Place of Use for this permit is the powerhouse.

POD

The POD's were determined by aerial photography and a review of existing spatial data points in GIS. Review of ArcMap determined the (2) POD's to be the Northside Main Canal and the Milner-Gooding Canal. Water enters the Milner-Gooding Canal and travels approximately 1000 feet, reaching the Northside crosscut at Gooding where water from the Milner-Gooding Canal is diverted into the Northside Main Canal. Water then travels approximately 29 miles North-west along the Northside Main Canal before reaching the POU (powerhouse). See map attachment for flow path. Permit 01-10576 initially listed three POD's and one POD will be removed for licensing. NSCC confirmed that the POD located at SNAKE RIVER SESE, Sec. 22, Twp 10S, Rge 21E, JEROME County, (listed on the permit) also known as the PA Lateral is not a diversion point for this right.

Water Use

The Proof-of-Beneficial-Use statement for this permit was received at IDWR's State office on June 3, 2019. The project had been online since May 2015 and NSCC provided 5 years of power generation data to support beneficial use.

According to instrument gages in the powerhouse, the project was generating approximately 1250 kW total with a flow rate of 1262.0 cfs at the time of the field exam.

Operation strategy

No storage for power is authorized by this permit. No water is released through the Northside Main Canal or Milner-Gooding Canal solely for the purpose of generating electricity. The power plant utilizes releases for irrigation to generate electricity.

Rate

It is recommended that 1200 cfs be the maximum diversion rate for this license. This recommendation is based on the review of 5 years of power generation data (2015 to 2019) provided by NSCC (confirming beneficial use), and the email from NSCC (providing the maximum instantaneous flow and power generation data for the project during the development period) stating on August 8, 2017, at 2:00 AM the project was producing 1,249 kW at a flow rate of 1,246.0 cfs.

According to operators, the project needs approximately 300-400 cfs to begin generating power. Flows below 300 cfs would be considered spill if a calculation for volume was needed for licensing. Also, when total gate flow is achieved the project is always spilling water. At a minimum, approximately 50 cfs is always spilling, and 200 cfs has to be spilling to turn on an additional turbine.

Volume

IDWR would normally impose volume limits to prevent enlargement. However, because they are limited to using only water already diverted into the canals for other purposes, such as irrigation, there is no opportunity for these power producers to enlarge their diversions from the Snake River. Adding a volume limit would provide no safeguard, and it would serve only to restrict the right holder's opportunity to generate power. Therefore, it is recommended that no volume limit be imposed on license 01-10576.

SOU

Permit 01-10576 authorized SOU of 3/15 - 11/15. A SOU for irrigation season (3/15 thru 11/15) will appear on the license and is consistent with power generation incidental to releases for irrigation.

Conditions

It was found that the project was being operated in compliance with the conditions of the permit.

Permit condition 4 (01J):

Prior to diversion of water under this right, the right holder shall install and maintain a measuring device and lockable controlling works of a type acceptable to the Department as part of the diverting works at the Snake River. In addition, the right holder shall install a measuring device that can be used to determine the instantaneous rate of flow of water used to generate power, or the right holder shall provide to the department a flow rate measurement or computation made by a certified water right examiner in accordance with actual system design and operation.

In a letter from NSCC to IDWR received on June 03, 2019 NSCC stated that a measuring device and lockable controlling works already exists at Milner Dam where the water that supplies the hydro plant is diverted from the Snake River.

Flow data is available using the Department's Water Rights Accounting Resource for site 130870000, Northside Twin Falls Canal at Milner (satisfies flow data at one POD for permit 01-10576) and at the Bureau of Reclamation Hydromet website for Upper Snake River Basin Canal Data site MIII, Milner-Gooding Canal below N.S. X-cut (satisfies flow data at the second POD for permit 01-10576).

Condition 4 (01J) will be removed and replaced with R43 at licensing.

Permit condition 5 (027), 7 (025), 9 (004), 11 (R05), 14 (915) and 15 will be carried over to licensing.

Permit Condition 6 (17H) will be removed and replaced with R22 at licensing.

Permit Condition 8 (08A), and 10 (26A) will be removed at licensing.

Permit Condition 12:

This right does not convey any authority to require or demand the diversion of water into the North Side Canal, Milner Gooding Canal, or the PA Lateral, and only authorizes an additional use of water which has been diverted into those canals under other existing water rights. This condition will be carried over to licensing but the PA Lateral verbiage will be removed.

Permit condition 13 (E52):

The rights listed below are limited to a total combined diversion rate of 3200 cfs for power generation. Combined Right Nos.: 1-7084B, 1-7084C, 1-10575, 1-10576, 1-10577, 1-10578, 1-10579, 1-10580, 1-10581, 1-10582, 1-10583, 1-10584, 1-10585, 1-10586, 1-10587, 1-10588, 1-10589, 1-10590, 1-10591, and 1-10592

This condition will be modified at licensing. The permits listed above that have been relinquished by NSCC will be removed from the condition. The condition will state: Rights 1-7084B, 1-7084C, and 1-10576 when combined shall not exceed a total diversion rate of 3,200 cfs for power generation.

Permit Condition 15:

This condition details the name of the Project and will be carried over to licensing.

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	3/15 to 11/15	1200 CFS	N/A

Totals:

1200 CFS

N/A

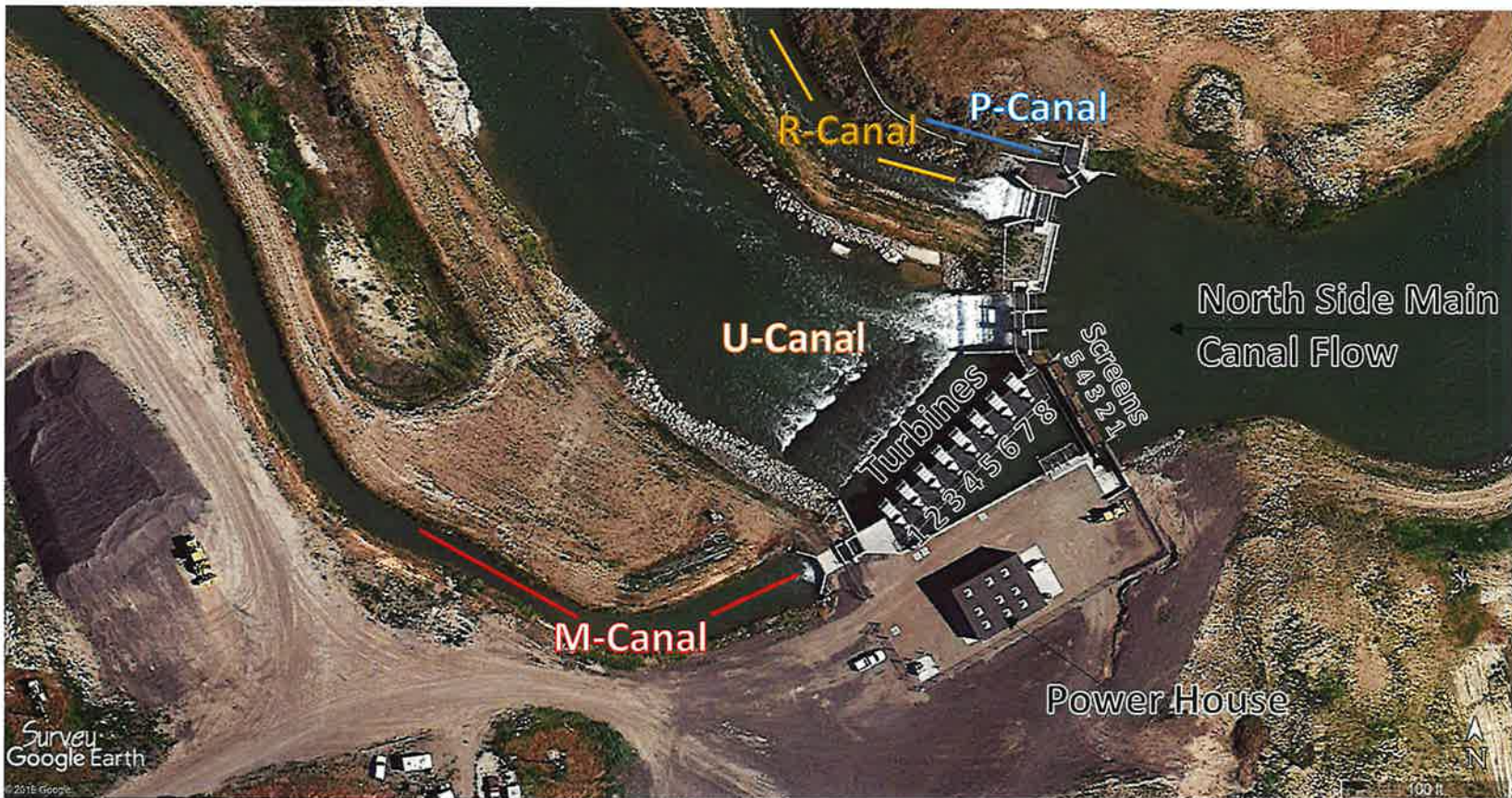
2. Recommended Amendments

☐ 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 ☒ Other

I. AUTHENTICATION Ashley M Ritter

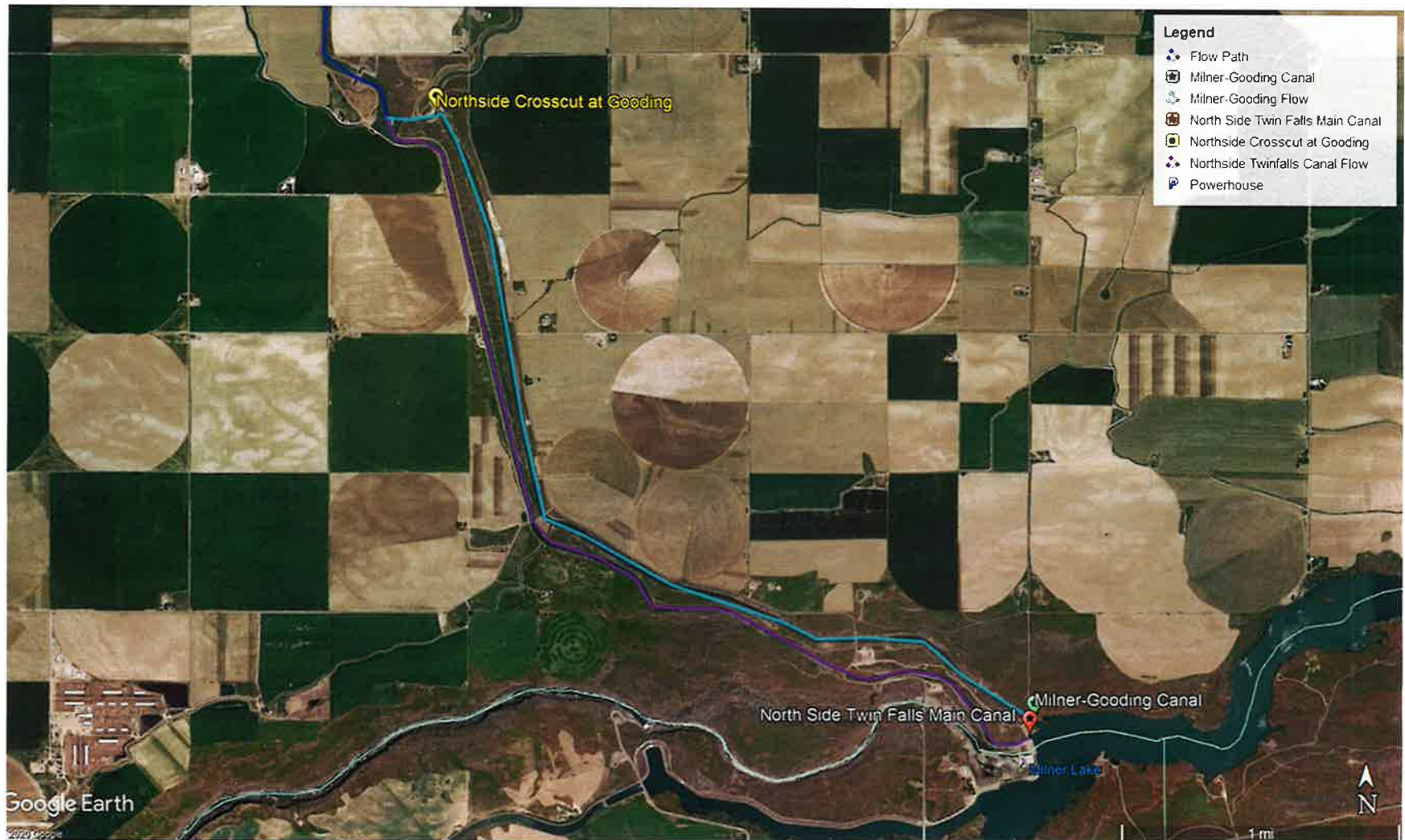
Field Examiner's Name Ashley M. Ritter Date 01/20/2021Reviewer Angela M. Ginn Date 1/22/2021



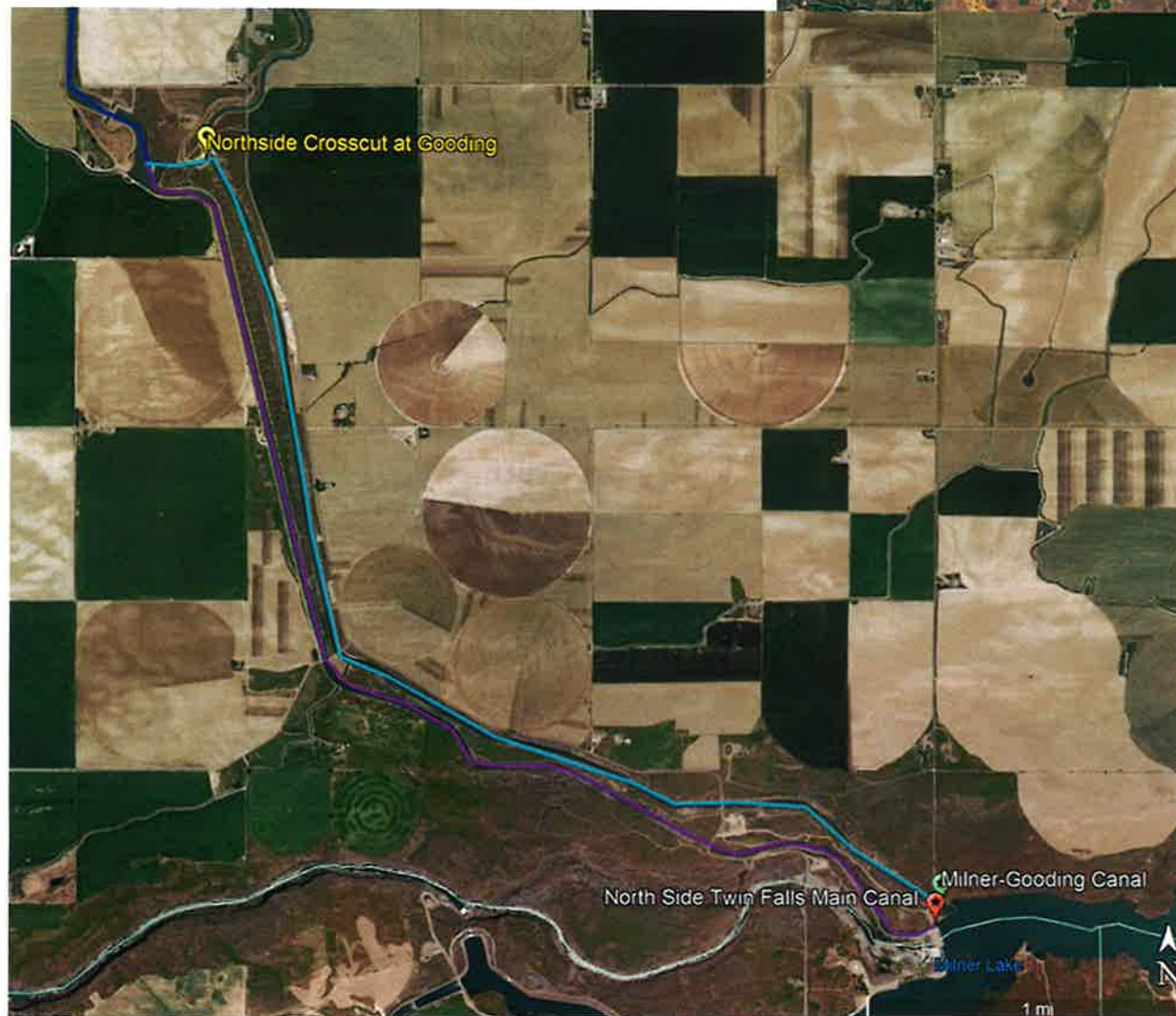
Power House System Diagram

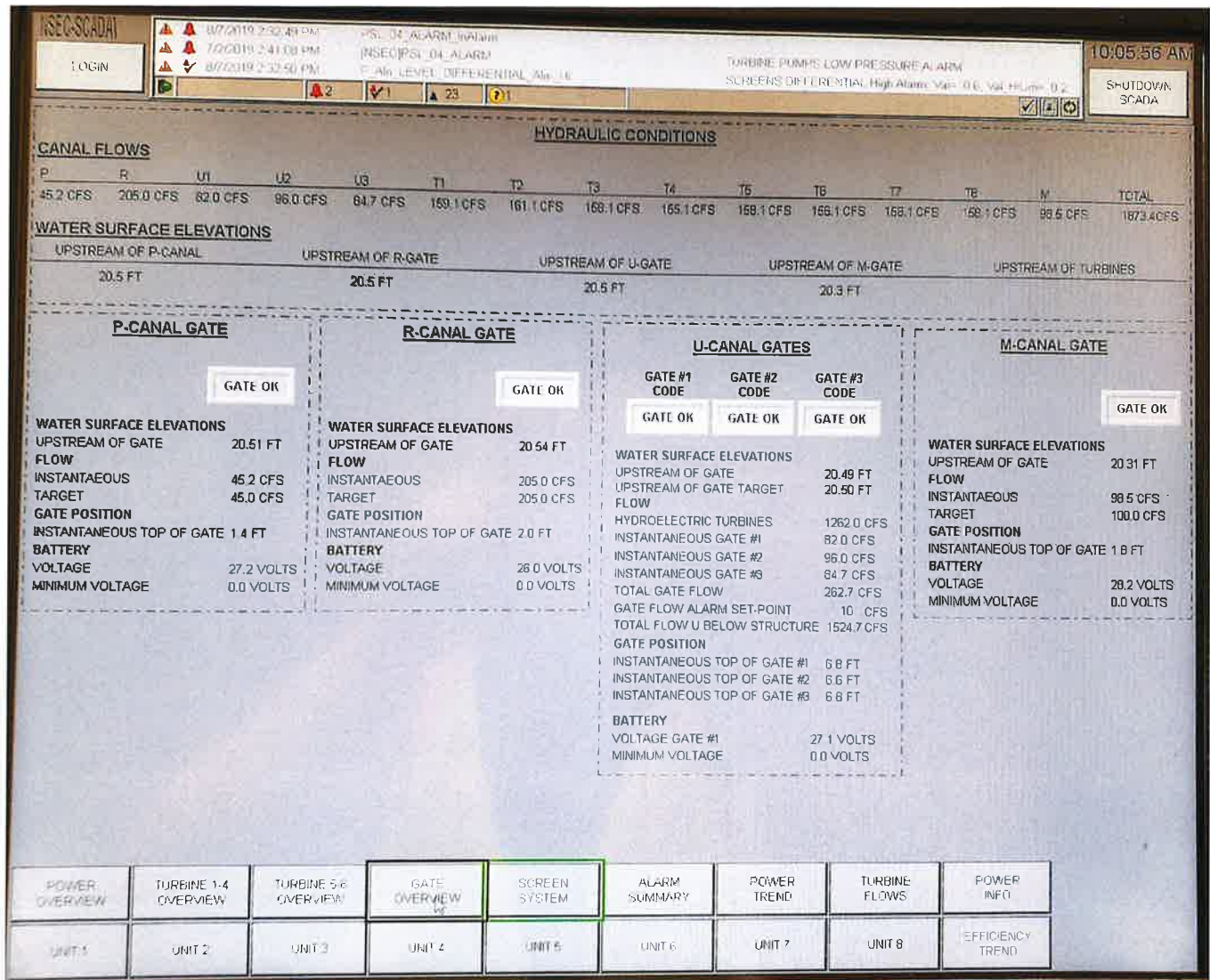


Flow path from (2) POD's to POU (Powerhouse)

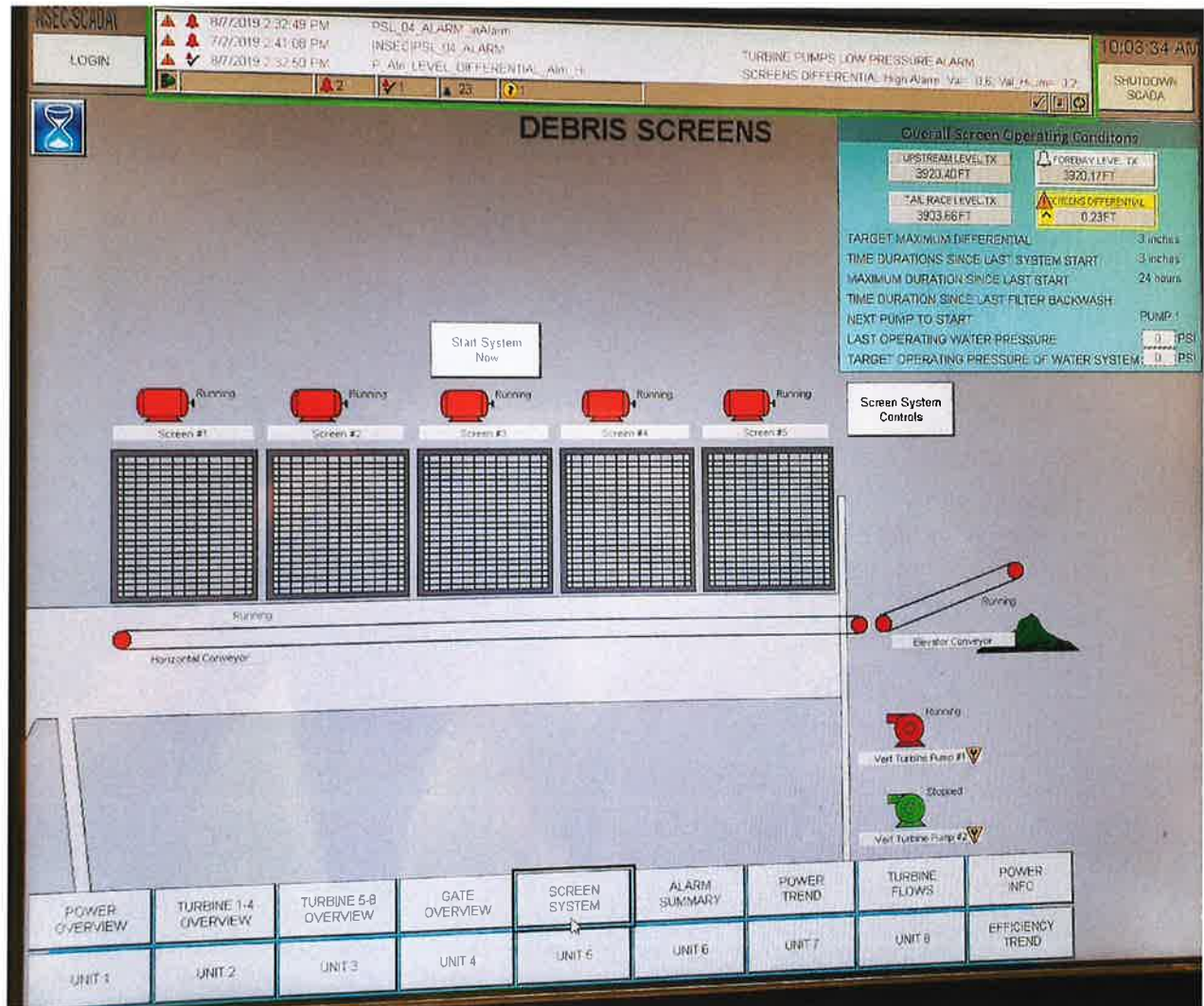


Flow path of Milner-Gooding Canal to Northside Crosscut at Gooding

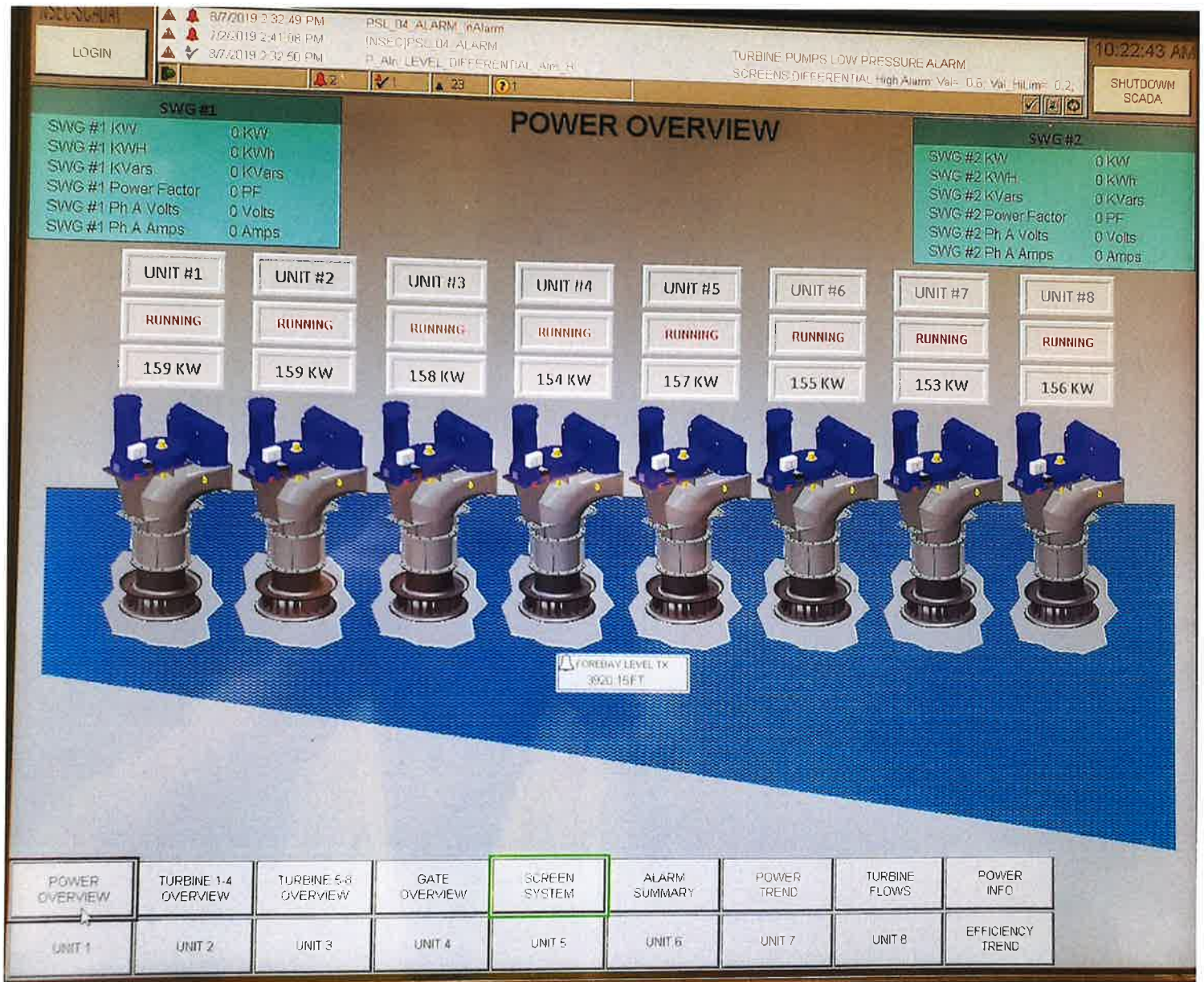




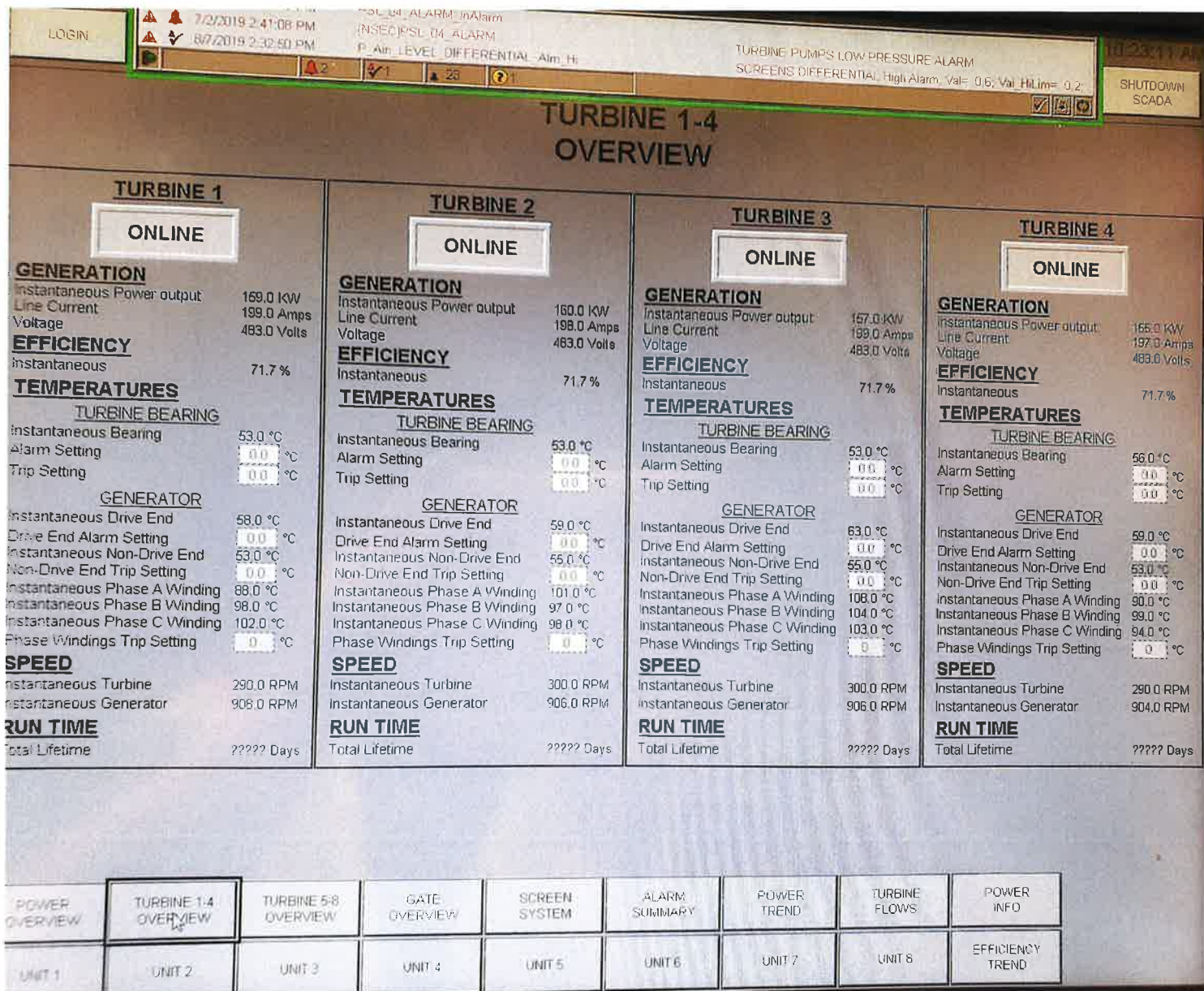
SCADA System Display: P-Canal, R-Canal, U Canal, and M-Canal



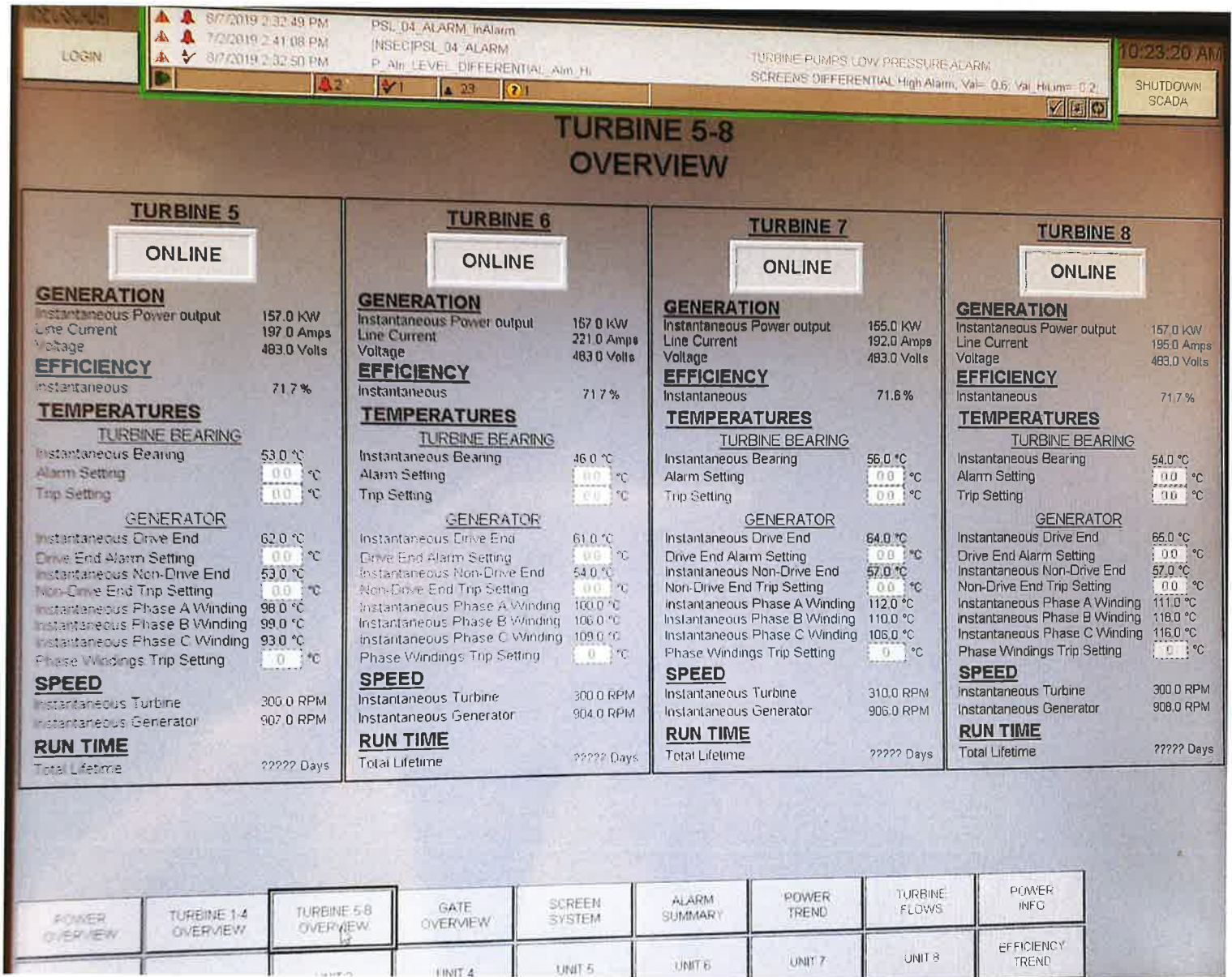
SCADA System Display: Debris Screens



SCADA System Display: Power Overview



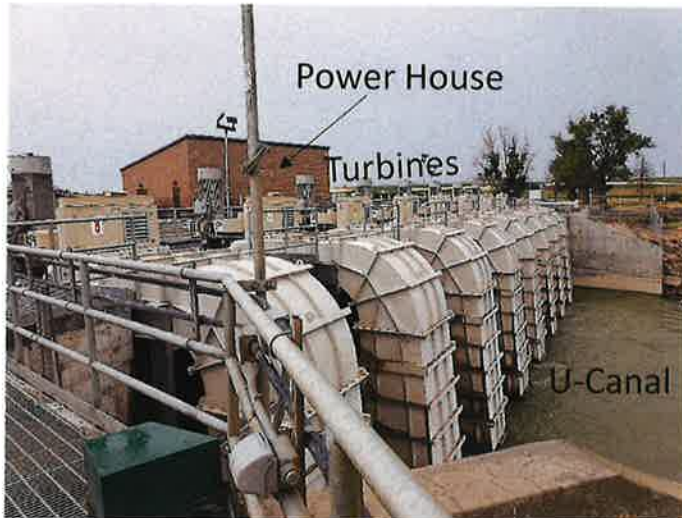
SCADA System Display: Turbine 1-4 Overview



SCADA System Display: Turbine 5-8 Overview

SWGR 1 KW= 0		HEAD OF THE U HYDROELECTRIC PROJECT		SWGR 2 KW= 0	
SWGR 1 KVars= 0		CANAL FOREBAY ELEVATION = 3920.15		SWGR 2 KVars= 0	
SWGR 1 PF= 0.00				SWGR 2 PF= 0.00	
SWGR 1 PhA V= 0 V				SWGR 2 PhA V= 0 V	
SWGR 1 PhA A= 0 A				SWGR 2 PhA A= 0 A	
KW= 159				KW= 156	
KVars= 43				KVars= 44	
PF= 0.96				PF= 0.96	
PhA V= 484 V TURB RPM=290				PhA V=483 V TURB RPM=300	
PhA A= 200 A GEN RPM= 905				PhA A= 196 A GEN RPM=906	
STATUS= ON-LINE				STATUS= ON-LINE	
UNIT 1		UNIT 5			
PhA DegC= 88		PhA DegC= 98			
PhB DegC= 98		PhB DegC= 99			
PhC DegC= 102		PhC DegC= 93			
NDE DegC= 53		NDE DegC= 53			
DE DegC= 58		DE DegC= 62			
TRB DegC= 53		TRB DegC= 53			
KW= 159				KW= 158	
KVars= 52				KVars= 96	
PF= 0.96				PF= 0.85	
PhA V=484 V TURB RPM=300				PhA V=483 V TURB RPM=300	
PhA A= 198 A GEN RPM=909				PhA A= 222A GEN RPM= 905	
STATUS= ON-LINE				STATUS= ON-LINE	
UNIT 2		UNIT 6			
PhA DegC= 101		PhA DegC= 100			
PhB DegC= 97		PhB DegC= 106			
PhC DegC= 98		PhC DegC= 109			
NDE DegC= 55		NDE DegC= 54			
DE DegC= 59		DE DegC= 62			
TRB DegC= 53		TRB DegC= 46			
KW= 158				KW= 155	
KVars= 52				KVars= 43	
PF= 0.94				PF= 0.96	
PhA V=483 V TURB RPM=300				PhA V=483 V TURB RPM= 290	
PhA A= 201A GEN RPM=906				PhA A= 193A GEN RPM= 906	
STATUS= ON-LINE				STATUS= ON-LINE	
UNIT 3		UNIT 7			
PhA DegC= 108		PhA DegC= 112			
PhB DegC= 104		PhB DegC= 110			
PhC DegC= 103		PhC DegC= 106			
NDE DegC= 55		NDE DegC= 57			
DE DegC= 63		DE DegC= 64			
TRB DegC= 52		TRB DegC= 56			
KW= 153				KW= 157	
KVars= 51				KVars= 43	
PF= 0.94				PF= 0.96	
PhA V=483 V TURB RPM=290				PhA V=484 V TURB RPM= 290	
PhA A= 195A GEN RPM=905				PhA A= 196A GEN RPM= 905	
STATUS= ON-LINE				STATUS= ON-LINE	
UNIT 4		UNIT 8			
PhA DegC= 90		PhA DegC= 111			
PhB DegC= 99		PhB DegC= 118			
PhC DegC= 94		PhC DegC= 115			
NDE DegC= 53		NDE DegC= 57			
DE DegC= 59		DE DegC= 65			
TRB DegC= 56		TRB DegC= 54			

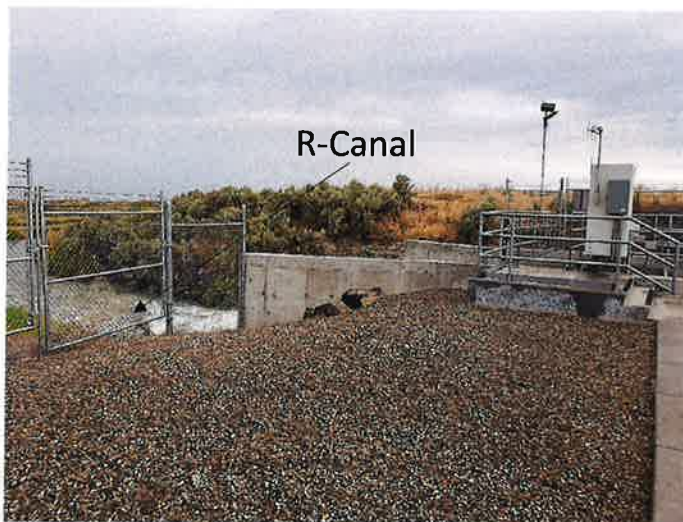
Generator Display for entire System



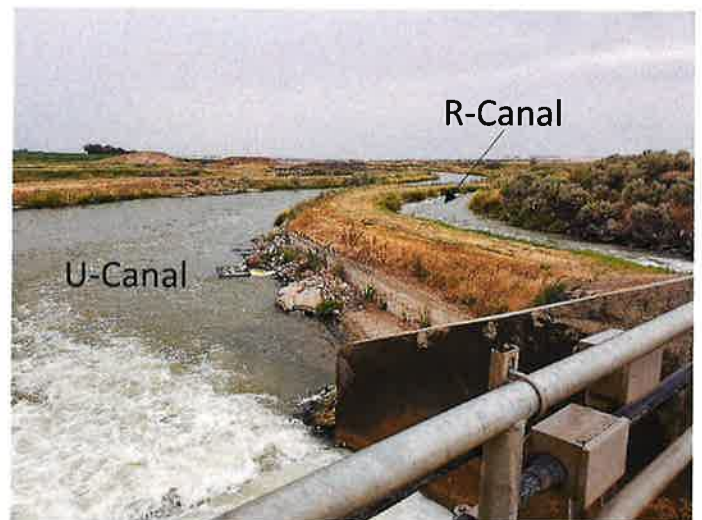
Turbines and Powerhouse with downstream side of U-Canal in view



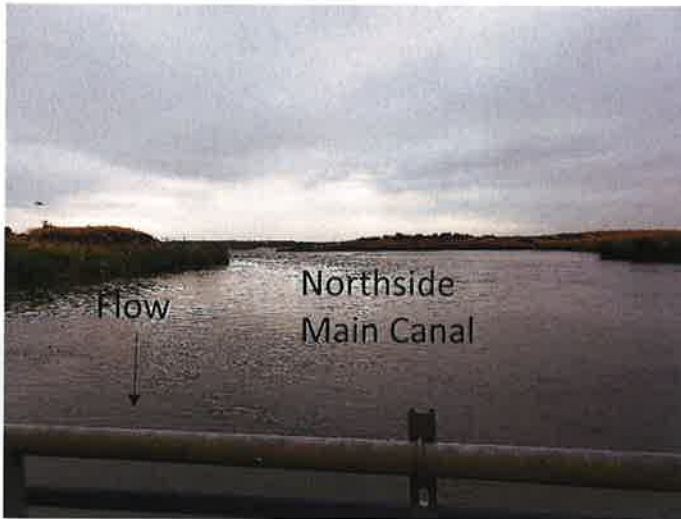
U-Canal, downstream view, Northwest direction



R-Canal, downstream view



U-Canal and R-Canal, downstream view,



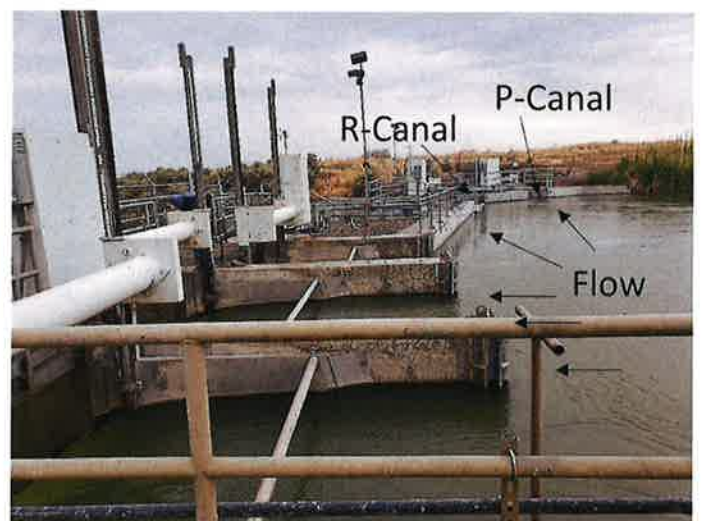
Northside Main Canal, upstream view,
Eastern direction



Northside Main Canal, upstream side,
with debris screens and view of power
house



Entrance to M-Canal



Entrance to P-Canal and R-Canal



View of Turbines looking Northeast



Turbine 8 looking East

POD Overlap Attachment

MILNER GOODING CANAL																	
Basin	Sequence	Suffix	Process	Basis	Status	Draft	RightID	Priority Date	Diversion Rate	Source List	Tributary List	Water Use List	Current Owner	Acre Limit	Volume	Water District	Admin by WD
1	210		Water Right	Decreed	Active	N	585908	10/11/1900	400.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	31,843.0		01 - Upper Snake River	Yes
1	212		Water Right	Decreed	Active	N	585913	10/7/1905	2,250.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	120,000.0		01 - Upper Snake River	Yes
1	213		Water Right	Decreed	Active	N	585916	6/16/1908	350.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	5		Water Right	Decreed	Active	N	554505	12/23/1915	300.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	16		Water Right	Decreed	Active	N	585903	8/6/1920	832.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	6		Water Right	Decreed	Active	N	585717	3/30/1921	1,700.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	UNITED STATES OF AMERICA ACTING THROUGH	62,361.0		01 - Upper Snake River	Yes
1	7010	B	Water Right	License	Active	N	640526	3/30/1977	3,000.00	SNAKE RIVER		POWER	NORTH SIDE ENERGY COMPANY INC		905,000.0	01 - Upper Snake River	Yes
1	7010	D	Water Right	License	Active	N	674675	3/30/1977	3,000.00	SNAKE RIVER	COLUMBIA RIVER	POWER	HAZELTON WILSON JOINT VENTURE		817,300.0	01 - Upper Snake River	Yes
1	7086		Water Right	License	Active	N	6680	3/23/1981	54.00	BIG WOOD RIVER, SNAKE RIVER	COLUMBIA RIVER, MALAD RIVER	POWER	FAULKNER BROTHERS HYDRO INC		22,520.0	01 - Upper Snake River	Yes
37	7891		Water Right	License	Active	N	639509	3/23/1981	54.00	BIG WOOD RIVER, SNAKE RIVER	COLUMBIA RIVER, MALAD RIVER	POWER	FAULKNER BROTHERS HYDRO INC		22,520.0	01 - Upper Snake River	Yes
1	10488		Water Right	Decreed	Active	N	598020	3/17/1987	82.66	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	4,133.0		TBD - To Be Determined	No
1	7124		Water Right	License	Active	N	674255	9/1/1993	1,300.00	SNAKE RIVER	COLUMBIA RIVER	POWER	AMERICAN FALLS RESERVOIR DISTRICT #2		346,000.0	01 - Upper Snake River	Yes
1	10632		Water Permit		Active	N	673722	2/17/2015	200.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SNAKE GROUND WATER DISTRICT	16,000.0		01 - Upper Snake River	Yes
Total Irrigation									6,114.660								

NORTHSIDE MAIN CANAL																	
Basin	Sequence	Suffix	Process	Basis	Status	Draft	RightID	Priority Date	Diversion Rate	Source List	Tributary List	Water Use List	Current Owner	Acre Limit	Volume	Water District	Admi n by WD
1	210		Water Right	Decreed	Active	N	585908	10/11/1900	400.000	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	31,843.0		01 - Upper Snake River	Yes
1	10509		Water Right	Decreed	Active	N	607891	3/1/1905		SNAKE RIVER	COLUMBIA RIVER	IRRIGATION FROM STORAGE, IRRIGATION	NORTH SIDE CANAL CO LTD; TWIN FALLS CANAL CO		24,400.0	01 - Upper Snake River	Yes
1	212		Water Right	Decreed	Active	N	585913	10/7/1905	2,250.000	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	120,000.0		01 - Upper Snake River	Yes
1	213		Water Right	Decreed	Active	N	585916	6/16/1908	350.000	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	5		Water Right	Decreed	Active	N	554505	12/23/1915	300.000	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	16		Water Right	Decreed	Active	N	585903	8/6/1920	832.000	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD			01 - Upper Snake River	Yes
1	7010	B	Water Right	License	Active	N	640526	3/30/1977	3,000.000	SNAKE RIVER		POWER	NORTH SIDE ENERGY COMPANY INC		905,000.0	01 - Upper Snake River	Yes
1	7010	D	Water Right	License	Active	N	674675	3/30/1977	3,000.000	SNAKE RIVER	COLUMBIA RIVER	POWER	HAZELTON WILSON JOINT VENTURE		817,300.0	01 - Upper Snake River	Yes
1	7084	B	Water Right	License	Active	N	32550	12/3/1984	3,200.000	SNAKE RIVER	COLUMBIA RIVER	POWER	NORTH SIDE ENERGY COMPANY INC		1,742,400.0	01 - Upper Snake River	Yes
1	7084	C	Water Right	License	Active	N	32783	12/3/1984	3,200.000	SNAKE RIVER	COLUMBIA RIVER	POWER	HAZELTON WILSON JOINT VENTURE		811,000.0	01 - Upper Snake River	Yes
1	10488		Water Right	Decreed	Active	N	598020	3/17/1987	82.660	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SIDE CANAL CO LTD	4,133.0		TBD - To Be Determined	No
1	10632		Water Permit		Active	N	673722	2/17/2015	200.00	SNAKE RIVER	COLUMBIA RIVER	IRRIGATION	NORTH SNAKE GROUND WATER DISTRICT	16,000.0		01 - Upper Snake River	Yes
Total Irrigation									4,414.660								