

PROVO RIVER WATER USERS ASSOCIATION
System Operator
Job Description

Last Update: January 2020
Supervisor: Operations & Engineering Manager

Responsibilities

- A) Distribute water to Provo River and Salt Lake Aqueduct
1. Record orders from river commissioner, watermaster or operators from other entities regarding water changes to the river and/or aqueducts
 2. Coordinate water changes through turbines to aqueduct
 3. Operate spillway gates, bypass valves, intake gates, aqueduct, etc.
 4. Monitor river flow meter and Salt Lake Aqueduct meter
 5. Maintain river and aqueduct flows to ensure minimum fishery flows and to deliver proper amounts of water to customers downstream
 6. Compute water changes on a 24-hour basis
 7. Converse with river commissioner, watermaster, Operations & Engineering Manager and others about water level and dam releases
 8. Observe water levels in reservoir and monitor severe storms that could compromise the reservoir elevation.
 9. Record reservoir elevation at 6-hour intervals
- B) Maintain records and files and prepare reports
1. Maintain accurate and accessible filing system
 2. Record water changes for Provo River, Salt Lake Aqueduct and all canal systems
 3. Compute and record daily, weekly and monthly power generation and water reports
 4. Prepare power generation and water flow reports
 5. Record temperature and precipitation information for weather service
 6. Forward reports to appropriate agencies including the US Bureau of Reclamation (Reclamation), Association main office, National Weather Service, Central Utah Project and Metropolitan Water District of Salt Lake & Sandy (MWDSLS)
 7. Ensure work orders are completed in the system and be able to evaluate and create new work orders depending on necessity and demand

8. Take well readings monthly for Reclamation and relay readings via email

C) Operate MWDSLS aqueduct diversion and pipeline

1. Monitor MWDSLS computer to ensure safe and normal operation of system
2. Make changes on aqueduct intake to accommodate the needs of the Little Cottonwood treatment plant
3. Check and run screen rake system daily
4. Monitor backup diesel generator daily, make sure all breakers are closed and operational
5. Clean screen rake transporter to clear rock, gravel, fish and debris from channel daily
6. Empty debris trailer as needed
7. Check lights, heaters, and doors daily for proper functioning
8. Take readings daily from SCADA system
9. Make adjustments on tail race gates to manage elevation and proper head to allow adequate water flow to the aqueduct and water users

D) Monitor, operate and maintain power generators and components

1. Operate two 2450 KW hydroelectric generators in a safe and efficient manner
2. Monitor and record critical information regarding generator condition, temperature, pressure, etc. every four hours
3. Operate high pressure 72-inch penstock gates for normal power generation
4. Adjust equipment for efficient, safe operation
5. Maintain backup power through battery bank chargers
6. Diagnose outages and determine procedures to restart generators
7. Light maintenance of both generators, e.g. grease levels, oil levels, water levels and pressures, and back flushing all water lines
8. Clean and inspect both generators and governors and report problems to supervisor
9. Conduct seasonal training on generator starting and stopping procedures in case of emergencies or normal power outages
10. Exercise wicket gates on both units weekly from 20% to 80% to maintain smooth operation of grease system

E) Maintain security and monitor safety of Deer Creek Dam and Power Plant as part of a team that provides full time monitoring 24 hours a day

1. Inspect perimeter fence and gates for integrity

2. Verify that phones, radio, cell phone are operational for daily and emergency use
3. Monitor grounds for unauthorized persons or vehicles
4. Inform supervisor and/or proper authorities in the event of intruders, accidents or emergencies
5. Initiate emergency action plan (EAP) according to Reclamation guidelines if warranted
6. Determine if any further action is warranted in the event of an emergency
7. Monitor facilities for potential threat to downstream life and property
8. Estimate extent of damage to dam, power plant, and other structures in the event of an earthquake or terrorist act
9. Transmit information to General Manager, Operations & Engineering Manager and local authorities in the event of damage to the dam or other structures
10. Monitor grounds via camera system
11. Travel to crest and top of the dam structure to visually inspect the dam, spillway and possible problems with the facility; make sure all signs, gates and locks are intact and functioning

F) Maintain power plant buildings, equipment and yard to provide a clean, safe workplace and environment

1. Maintain a workplace which is safe for employees and attractive to visitors
2. Inform supervisor of unsafe conditions
3. Determine supplies needed and inform supervisor
4. Store all solvents, paint and cleaning supplies in cabinet to avoid spills and water contamination
5. Maintain lawns, shrubs, trees and flowers by watering, weeding, fertilizing, mowing, pruning, etc.
6. Operate and maintain the 4x4 truck and plow to clean snow from access road and parking areas
7. Diagnose and repair minor equipment problems on a daily basis
8. Assist Association maintenance personnel and Reclamation personnel with major maintenance of equipment
9. Maintain inside of all buildings by cleaning, sweeping, waxing, dusting, checking and replacing lights as necessary
10. Make weekly visit to the spillway structure and run backup generator
11. Make daily inspection to gate chamber to ensure stability of tunnel and outlet works

- G) Operate Association SCADA system from the Deer Creek Dam and Power Plant
1. Maintain written and electronic log books for changes, problems, information for other Association staff and other operators
 2. Monitor all SCADA pages on computer screen
 3. Diagnose problems on the system quickly and notify proper personnel
 4. Make changes on SCADA system at the request of the watermaster and river commissioners
 5. Attend SCADA training quarterly and as the need arises
 6. Maintain close communication with SCADA Field Technician and all water agency personnel
 7. Make bi-annual visits to canal systems for on-site training sessions to become familiar with changes on the system

Position Qualifications

Education/Experience

Required:

High school diploma or equivalent.

Preferred:

System Operator work experience

Licenses and Certifications

Required:

- Valid Utah Driver's License
- Utah Water Operator Certification – Distribution (within 12 months of hire)

Preferred

- Utah Water Operator Certification – Distribution (current incumbent)

Knowledge, Skills and Abilities

Required:

- A. Must be able to operate specific mechanical equipment such as mechanical screens, head gates and valves.
- B. Must be able to operate 4-wheel-drive truck, snowmobile, snow cat and 4-wheeler (ATV) over long distances, rough and remote terrain and in extreme weather conditions.
- C. Must be able to use computers for word processing, spreadsheet development and data research and storage.
- D. Must be able to use electronic devices such as air monitoring equipment, flow meters and gauges.
- E. Must have basic mathematics skills.
- F. Must be able to operate office machines such as copier, printers and fax.
- G. Must be able to learn Association's water delivery system.
- H. Must be able to independently diagnose problems, provide recommendations for solutions, follow instructions and direct the work of vendors and contractors.
- I. Must be able to work alone for hours at a time and also interact well in an office environment.
- J. Will be expected to work 24-hour shifts and extra hours when necessary.

- K. Communication Skills: Expected to comprehend memos, letters and correspondence, and share information in one-on-one and group situations.
- L. Problem Solving: Must have the ability to apply common sense, collect and analyze data and interpret results yielding varying outcomes. Such work might include working with contractors, equipment suppliers and engineers.
- M. Cooperative Interaction: Must be able to coordinate with contractors, vendors, shareholder agencies, governmental agencies and fellow employees

Physical Demands

While performing the duties of this job, the employee is regularly required to: sit, talk, hear, feel the attributes of objects, grasp, push, stand, walk, drive, reach with arms or hands, stoop, kneel, crouch, crawl, and perform repetitive wrist, hand and/or finger movements.

The employee is frequently required to: climb or balance; sit and stand for periods up to one hour; hike over rough terrain at high elevations carrying up to 50 pounds; work at heights up to or greater than 50 feet possibly over and near water; work in aqueducts; climb tall ladders, antenna support structures using appropriate safety devices to access communications equipment; work safely in pipelines, subterranean vaults and other confined spaces; work at night as required.

The employee must lift weight or exert force as follows:

Regularly:	up to 25 pounds
Frequently:	26 to 50 pounds
Occasionally:	51 to 80 pounds
Rarely:	81 to 100+ pounds

Specific vision abilities include: Clarity of vision at 20 feet or more and 20 inches or less. Three-dimensional vision (ability to judge distance and space relationships). Identify and distinguish colors and adjust the eye to bring an object into sharp focus and to see up and down or to the right or left while fixed on a point. Must have good hand-eye coordination and be able to distinguish colors.

Working Environment

Regular exposure to office, meeting or conference environment, outdoor weather conditions in mountainous areas year-round in all manner of extreme conditions, risk of electrical shock, wet or humid conditions, work in confined spaces. Must be able to safely climb and descend stairs, tall ladders, and traverse uneven and rough terrain.

Frequent exposure to vibration, work in high and dangerous places, work near moving mechanical parts, and work in hazardous traffic conditions.

Noise level: Ranges from quiet to very loud.

Directly Supervises: None