



1037 NW Grebe Street
 Seal Rock, Oregon 97376
 Phone: 541.563.3529 – Fax: 541.563.4246
www.srwd.org



Seal Rock Water District

General Manager's Report:
 Board Meeting – March 14, 2024

This report serves as an executive summary for the Board meeting agenda. It provides recommendations for actions to be taken if necessary. Detailed information, staff reports, and supporting materials can be found in the full agenda packet.

PHASE-IV BEAVER CREEK SOURCE WATER PROJECT:

Water Treatment Plant (WTP) Operators continue working with Jacobs Engineers and the membrane filter skid provider, WesTech to resolve technical performance issues related to programming. Persistent issues related to the performance of backwash sequencing have been corrected by WesTech technicians during the recent onsite visit.

Water Treatment Plant operators were successful at installing another new heater rod to one of the three heater elements used in the Clean in Place (CIP) process. Several modifications have been made to the programming and performance of the WTP Filter Skids by WesTech during the week-long performance visit to the WTP.

Most of the week was spent dealing with the automation surrounding the filter skid maintenance cleans (MC) and Clean-In-Place (CIP) processes, the Neutralization processes, and the plant-level controls. Significant progress was achieved in automating the cleaning cycles and reducing the need for operator intervention to clear alarms or advance through sequence steps more fully.



Water Treatment Plant:

It appears that the plant is ready to start and stop at Clearwell level in an automated condition, as most WTPs do, and would benefit from longer run-times at lower flow rates. Many other adjustments to the treatment process were performed and performance testing and monitoring will continue for several weeks. In all the

Seal Rock Water District is an Equal Opportunity Service Provider and Employer.

Adam Denlinger, General Manager

adenlinger@srwd.org

www.srwd.org

weeklong performance testing of WesTech equipment was overwhelmingly successful. Additional system-wide modifications include:

1. Ultra Filtration (UF) skids have been modified to allow water production when the last Neutralization is happening. Previously, the skids could get stuck in a Shutdown step until the Neutralization process was completed. Now – they can enter production as soon as their flushing and backwashes are done, separately from the Neutralization process, which puts them online into Production much faster.
2. Revised the CIP programming so the flushing steps occur after the backwashing steps, which helps clear out the interconnecting piping better. The steps were previously before the backwash steps, which made the flushing less effective than it is now.



3. Added automated backwashes to the end of the CIP, which are different than the backwashes that occur as part of the CIP flushing steps.
 - a. The CIP flushing backwashes target 700 GPM and have their own tuning controls, and they direct the waste to the CIP tank.
 - b. There are now additional backwashes after all of the waste flushing has been completed, and these backwashes occur at the normal production backwash flowrate target (currently 1100 GPM) and follow the normal backwash procedure of backwash, air scour, and then forced drain. This solution goes directly to the backwash basins, so it's crucial to make sure the number of CIP flushing backwashes is appropriate to ensure the chemical residual is thoroughly flushed. These backwashes are simply used for pushing additional solids out of the modules that have loosened up during the cleaning process.
 - c. There is an operator-adjustable set-point for the number of CIP flushing backwashes, and an operator-adjustable set-point for the number of post-CIP backwashes.
4. Added automated backwashes to the end of the MC, which are different than the backwashes that occur as part of the MC flushing steps.

- a. The MC flushing backwashes target 700 GPM and have their own tuning controls, and they direct the waste to the Neutralization tank.
 - b. There are now additional backwashes after all of the waste flushing has been completed, and these backwashes occur at the normal Production backwash flowrate target (currently 1100 GPM) and follow the normal backwash procedure of backwash, air scour, and then forced drain. This solution goes directly to the backwash basins, and crucial to make sure the number of MC flushing backwashes is appropriate to ensure the chemical residual is thoroughly flushed. These backwashes are simply used for pushing additional solids out of the modules that have loosened up during the cleaning process.
 - c. There is an operator-adjustable set-point for the number of Maintenance Clean (MC) flushing backwashes and an operator-adjustable set-point for the number of post-MC backwashes.
5. The MC was forcing a shutdown of the skid when it was complete, instead of going into standby or back into Production. This has been corrected, so that the automated MC will go directly to Standby or back into Production (if there's a call for water) when the MC procedure has been completed.
 6. We have added Standby and Resume level functions to the Clearwell.
 - a. When the tank level rises to the Standby level, the UF skids will stop Production and go into a Standby state. Here, they will not resume production until the call for water returns, which happens when the Clearwell drops down to the Resume level. Also, skids in Production will go directly into Standby, but skids that are in a PDT, MC, or CIP will not be kicked out of those processes – they will be allowed to finish those, and then they will go into Standby.
 - b. When the tank level drops to the Resume level, the Ultra Filtration (UF) skids that are on Standby will enter Production.
 7. Corrected the settings on the IFM flowmeters (air scour and CIP flowrate):
 - a. The CIP flowmeter was configured for 0-100% relative range instead of an actual flow rate. This has now been properly configured for measuring water flow rate and matches the value shown on the HMI.
 - b. The air scour meters were set up properly for measuring air flow rate, but the pipe diameter was slightly off. We have corrected this, so they're measuring accurately and the value on them matches the value shown on the Human Machine Interface (HMI).
 - c. We verified all of the CIP instruments matched the values on the HMI.
 - d. We verified that the filtrate turbidimeters on the UF skids were matching the values on the HMI.
 8. Considerable time was spent troubleshooting sticking valves, which needs to happen periodically. We were able to make most of the sticking valves open smoother, resulting in better performance and less noise in the plant.

9. Calibrated the flow control valves and adjusted the CIP return positioner on Skid 2. It may have lost its configuration in a power outage, but it was set up for a linear actuator instead of a quarter-turn actuator. We corrected that setting and calibrated it and confirmed that it's working properly now.
10. We found that the lower pre-strainer flushing mechanism wasn't moving properly. Operators were instructed how to clean the filters, the orifice, and how to un-stick the mechanism. It's working for now, but may require additional service and maintenance of the flushing piston mechanism soon.

Operators continue to work with WesTech engineers and technicians to further evaluate modifications to the treatment process as we expect fine-tuning to continue for several weeks.

Other notable activities for the month include:

- Attended the Mid Coast Water Conservation Consortium Meeting.
- Attended OAWU Management and Technical Annual Conference.
- Attended the OWRD Place-Based Planning Coordinating Committee Meeting, on January 22nd.
- Met with GSI Water Solutions to review progress on MC-WPP, the Water Management and Conservation Plan, and Beaver Creek streamflow and temperature monitoring.
- Attended the Monthly Oregon Water Utility Council (OWUC) meeting, on February 22nd.
- Served as a panel member to interview candidates to fill the OWRD Director Position.
- Attended the SDAO Legislative meeting March 5, 2024.
- Submitted State Fire Marshalls 2023 Hazardous Substance Annual Report February 29th.
- Attended the OWRD 2025-2027 Budget Meeting
- Met with consultants developing Lead and Copper Rule Revision service inventory report.
- Attended Cyber Security training offered by SDAO and OAWU.