



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Board Report

Operations Groups

• **January Operations Groups Monthly Activities Report - December**

Summary

This monthly report for the Operations Groups provides a summary of activities for December 2024 in the following key areas:

- Enhance Workplace Safety
- Develop Workforce and Prepare Employees for New Opportunities
- Develop New Solutions to Enhance Operational and Business Processes
- Provide Reliable Water Deliveries and Manage Storage
- Manage Power Resources and Energy Use in a Sustainable Manner
- Protect Source Waters and Ensure Water Quality Compliance
- Optimize Water Treatment and Distribution
- Protect Infrastructure and Optimize Maintenance
- Ensure Power and Environmental Regulatory Compliance
- Enhance Emergency Preparedness and Response
- Advance Education and Outreach Initiatives
- Engage with Member Agencies and Other Stakeholders on Technical Matters

Purpose

Informational by the Operations Groups on a summary of key activities for the month of December 2024.

Attachments

Attachment 1: Detailed Report –Operations Groups’ Monthly Activities for December 2024

Operations



Operations Groups

Core Business Objectives

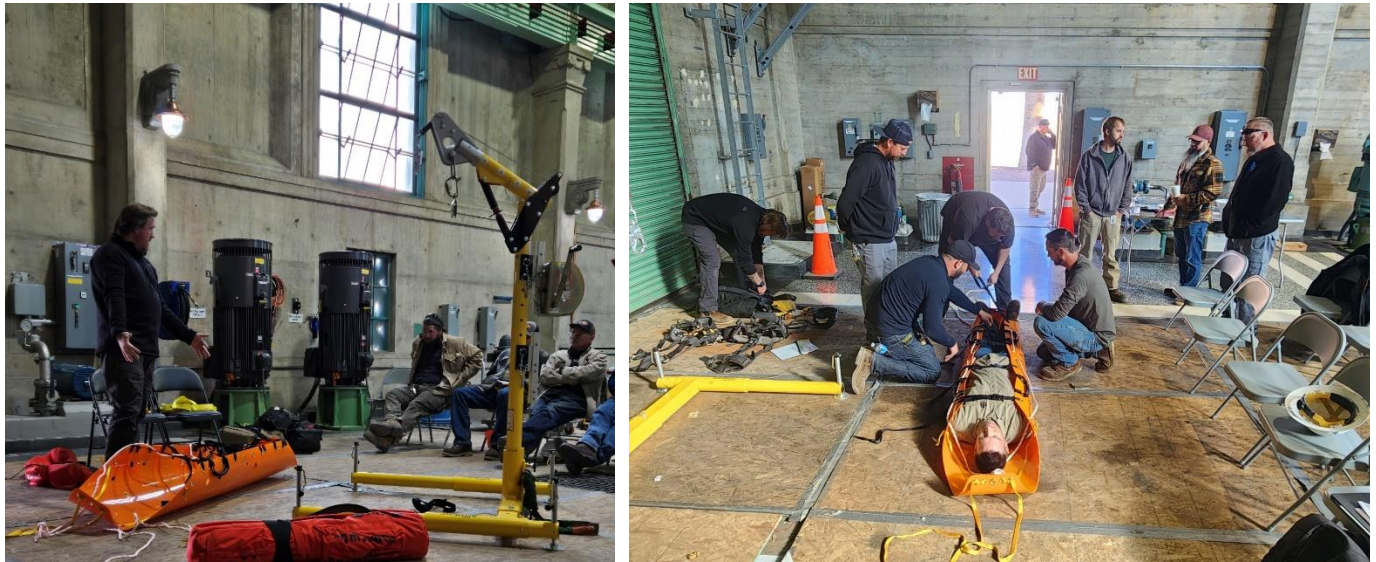
Enhance Workforce Safety

Weymouth staff made modified the plant rejection structure isolation gates to increase site security. The modifications included a door stop fastened to the interior wall, which can be removed only from within the structure. This will prevent unauthorized entry to the rejection structure from downstream flood control facilities. The new door was secured to the frame with oversized hardware, making it increasingly difficult to cut through.



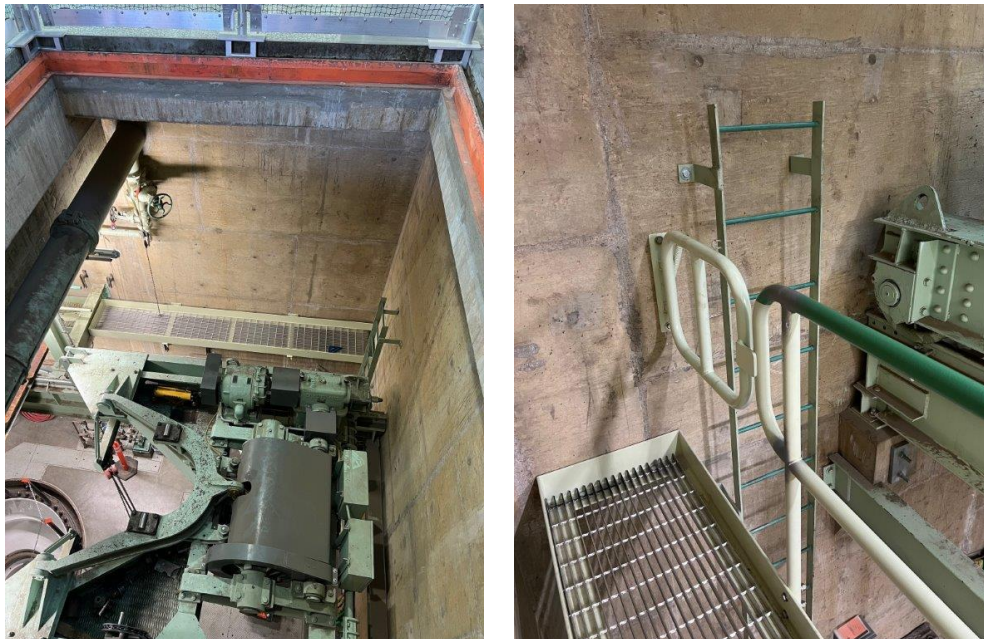
Weymouth rejection structure new door stop (left) and oversized hardware (right)

Safety training on the use of personnel rescue extraction equipment was provided to Desert personnel by an outside vendor. This four-hour training class provided actual, real-world rescue scenarios to equip staff with practical knowledge on using new emergency rescue equipment acquired for the five CRA pumping plants.



Rescue training at Gene Pumping Plant (left) including securing a person in a rescue stretcher (right)

Desert staff installed an extended catwalk, handrails, and self-closing gate to improve safe access to equipment at Eagle pumping plant. This allows staff to safely access piping, valves, and associated instrumentation.



Extended catwalk for safer access to equipment (left) and self-closing gate for improved fall protection (right)

Staff collaborated with an outside vendor to install security badge readers on all exterior doors of the La Verne Shops. Access to the shops is unrestricted (with appropriate personal protective equipment) during normal business hours; however, shop access will now be controlled and limited to authorized staff with a demonstrated need to enter the facility after hours. Badge access control will ensure that the safety and security of all Metropolitan staff and shop equipment is maintained.

Develop Workforce and Prepare Employees for New Opportunities

Three staff members completed a test preparation course and took the International Society of Automation Certified Control Systems Technician Level II (ISA CCST II) examination onsite at the Weymouth plant. As stated by ISA, “Becoming an ISA Certified Control Systems Technician® (CCST®) is a mark of career excellence that affirms your commitment to quality and demonstrates your expertise and knowledge of automation and control systems. It provides a non-biased, third-party, objective assessment and confirmation of your skills as a control systems technician.” Congratulations to all who participated and earned their certification, advancing both their knowledge and professional credentials.

Develop New Solutions to Enhance Operational and Business Processes

During December, staff continued baseline monitoring for tertiary membrane bioreactor nitrification-denitrification testing, following a diurnal flow pattern at the Pure Water Southern California Napolitano Innovation Center demonstration plant. Additionally, staff provided ongoing support for the Los Angeles County Sanitation Districts (LACSD) reverse osmosis concentrate testing. This testing aims to investigate previous anomalous toxicity test results to ensure that a future full-scale advanced water treatment facility will meet all discharge permit conditions. Also, the oxidant used for the UV/AOP system was switched from hydrogen peroxide to sodium hypochlorite, while the carbon dosage was increased to achieve a reduced nitrate target. Metropolitan and LACSD staff also participated in joint safety training provided by Metropolitan’s Safety, Regulatory, and Training section.

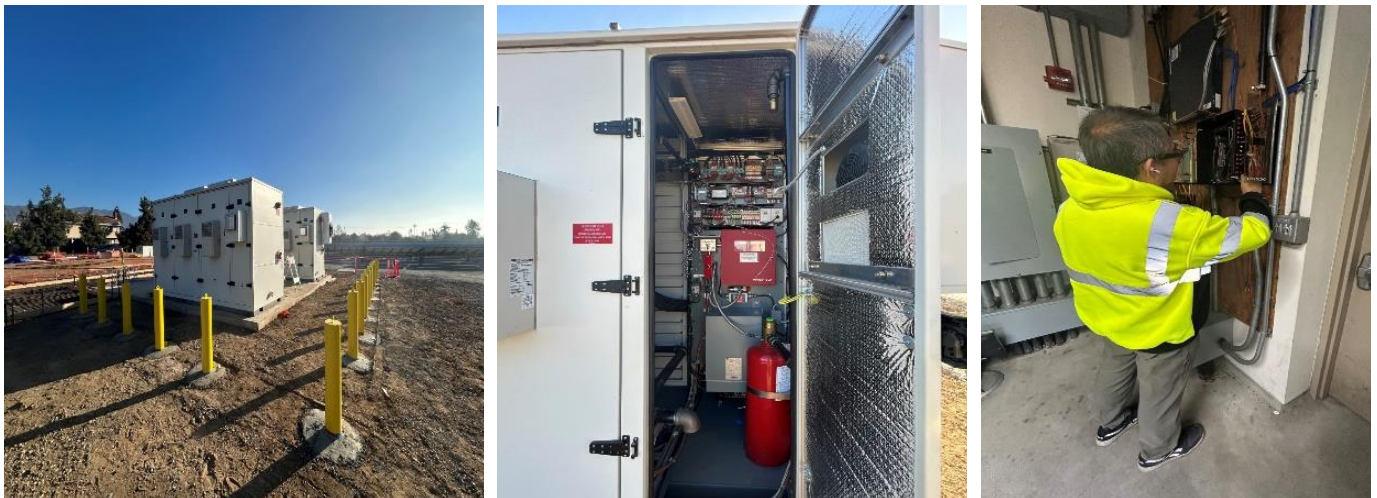
Provide Reliable Water Deliveries and Manage Storage

Metropolitan member agency water deliveries were 134,200 acre-feet (AF) for December with an average of 4,300 AF per day, which was about 400 AF per day higher than in November. Metropolitan continued delivering water to the Cyclic and Conjunctive Use Programs through the end of the calendar year. Treated water deliveries were 1,000 AF lower than November for a total of 57,400 AF, or 43 percent of total deliveries for the month. The Colorado River Aqueduct (CRA) pumped a total of 100,000 AF in December. State Water Project (SWP) imports averaged 2,200 AF per day, totaling about 68,500 AF for the month. The target SWP blend is 0 percent for Skinner, Weymouth, and Diemer plants.

Metropolitan has sufficient SWP and Colorado River supplies to meet demands in 2024. Water continues to be managed according to Water Surplus and Drought Management (WSDM) principles and operational objectives with an emphasis to position SWP supplies to meet future demands in the SWP-dependent area. Metropolitan ramped down deliveries to Desert Water Agency and Coachella Valley Water District in early December. The California Department of Water Resources made an initial 5 percent State Water Project Allocation for 2025 and it was recently increased to 15 percent. Metropolitan is continuing to minimize the use of Table A supplies this year to improve SWP carryover storage for next year. Metropolitan is targeting around 400,000 AF in carryover storage and a nearly full Diamond Valley Lake at the end of 2025.

Manage Power Resources and Energy Use in a Sustainable Manner

Weymouth plant staff completed fiber installations, point-to-point testing, and input/output verification on the Battery Energy Storage System (BESS) capital project. System commissioning is in progress and is expected to be completed this month. The BESS will enable the Weymouth plant to store surplus energy generated by the solar farm in a dedicated battery bank. When energy pricing is at its peak or during times when supplemental energy is needed, the battery bank can provide power to portions of the Weymouth plant—improving energy efficiency and lower operating costs.



BESS near Weymouth plant solar farm (left), BESS control panel (middle), and staff interfacing BESS to SCADA network (right)

Protect Source Waters and Ensure Water Quality Compliance

Metropolitan complied with all water quality regulations and primary drinking water standards during November 2024.

Optimize Water Treatment and Distribution

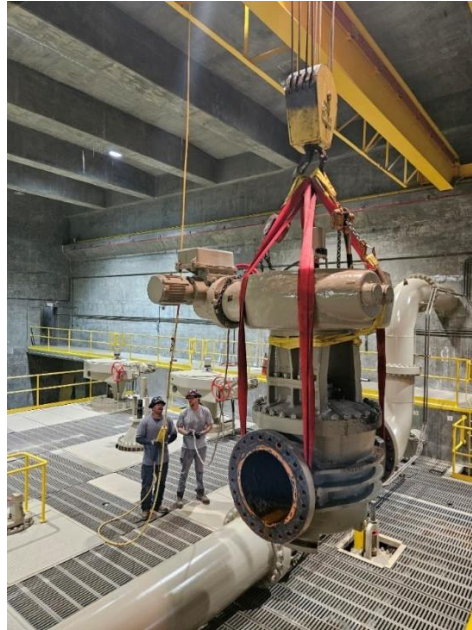
The State Water Project (SWP) target blend entering the Weymouth and Diemer plants increased from 25 percent to 50 percent before decreasing to zero percent in November. The SWP blend entering Lake Skinner decreased from 25 percent to zero percent. Flow-weighted running annual averages for total dissolved solids from September 2023 through August 2024 for Metropolitan’s treatment plants capable of receiving a blend of supplies from the SWP and the CRA were 497, 571, and 508 mg/L for the Weymouth, Diemer, and Skinner plants, respectively.

Skinner plant staff began the process of removing the horizontal supports for the sedimentation basin launders at the washwater reclamation plant, as the existing launders are at the end of their service life and undergoing replacement. The launders collect and direct clarified water from the reclamation plant sedimentation basin to the pump back, where the reclaimed washwater re-enters the treatment process to ultimately become treated water.



Staff working from utility basket to replace launders at Skinner washwater reclamation plant

Staff dewatered and removed approximately seven miles of the 78-inch diameter Second Lower Feeder from service. This outage allows a contractor to replace three 42-inch diameter sectionalizing valves at the Second Lower Feeder/Sepulveda Feeder Interconnection and to steel reline approximately 1.4 miles of the pipeline, which is expected to be completed in April 2025. Metropolitan staff took this opportunity to inspect five miles of previously relined pipe and replace several faulty valves at the Oak Street Pressure Control Structure (PCS) and service connection WB-40. These repairs ensure enhanced reliability under a range of future operating conditions.



Staff removing a conical plug valve at Oak Street PCS for repair

Protect Infrastructure and Optimize Maintenance

The San Diego Pipelines 1 and 2 shutdown was scheduled from December 8 through 17 to allow San Diego County Water Authority to perform repairs and maintenance within their jurisdiction. Metropolitan staff used this opportunity to inspect and make repairs inside the Rainbow Tunnel and perform an inspection on San Diego Pipeline 1. Staff sealed various water intrusion locations using high-pressure hydrophilic sealant to fill small cracks in the aging concrete.



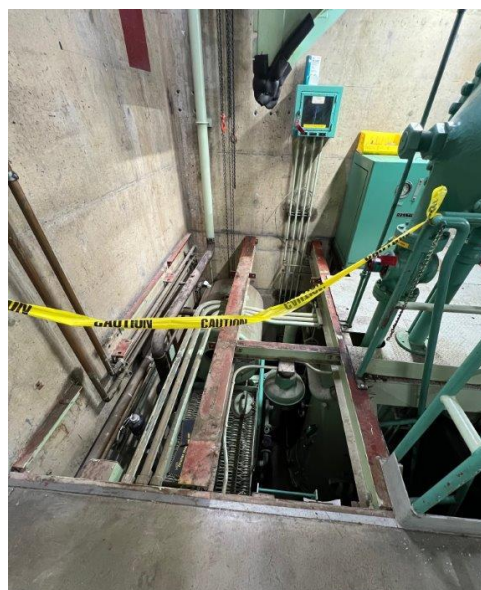
Water intrusion (left) and staff performing repairs (right) inside Rainbow Tunnel

Desert staff disassembled a pump unit at Intake pumping plant to repair a water leak. Cooling water is used to keep the bearing and lubrication oil for the main pumps cool during operation. The copper cooling coils can fail over time, which leads to water contamination of the oil. Staff must repair the cooling water coils to maintain oil integrity needed to preserve reliable pump operations.



Removing pump unit cooling coil for repair

Desert staff continues work on repairing a pump unit at Eagle pumping plant. In addition to motor testing and repair, an inspection of the lubrication system revealed failing coating in the oil sump tank. Staff removed the sump tank and transported it to the La Verne Shops for repair.



Pump unit repair at Eagle pumping plant

Desert staff made repairs and refurbished the machine shop water jet machine located at the Gene facility. This unit is vital for manufacturing components not readily available for purchase, an increasingly common occurrence as the CRA systems continue operation past their useful life. These water jet machine units require periodic maintenance such as tub coating and support web replacement.



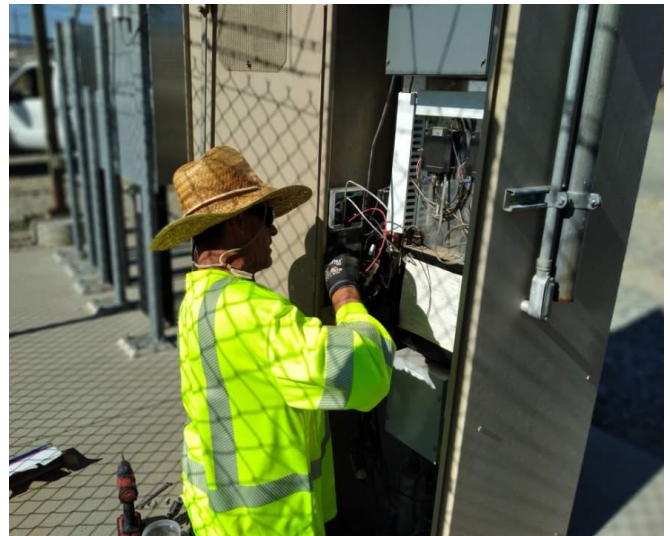
Empty tub (left), tub recoating completed (center), and water jet tub repairs completed (right)

Desert staff identified and replaced leaking high-voltage electrical bushings on the Gene-Peddler transmission line. These devices isolate high voltage within transformers and allow for connection points to the device.



Gene-Peddler Line electrical testing and bushing replacement

Numerous remote structures throughout Metropolitan’s service area depend on outdated copper wiring for alarms and communication. These lines are being upgraded to new fiber optic cable, which will provide higher bandwidth, enhanced security capabilities, and improved reliability in areas that have historically experienced communication issues. Recently, a crew completed work at the CB-14 Service Connection structure on the Rialto Feeder (and will proceed to other locations within the Orange County region).



Staff modifying cabinets for the new communication equipment

Staff began the replacement of a 16-inch diameter lubricated plug valve and a 24-inch check valve at the Oak Street Pressure Control Structure located on the Second Lower Feeder. As part of this work, staff removed a pipe section and transported it to the La Verne Shops for modification. Upon completion, staff will reassemble the piping with a new restrained coupling to fit new valve installations.



Staff dismantling pipe section (left) and hoisting pipe section out of Oak Street PCS (right)

Ensure Power and Environmental Regulatory Compliance

Staff applied arc flash hazard labels to electrical equipment throughout the Skinner plant. The labels indicate the hazard present at each point in the electrical distribution system, as modeled by computer analysis using data points from electrical devices such as transformers, circuit breakers, and cables. The labels allow electrical workers to identify inherent dangers and determine the appropriate level and type of personal protective equipment needed to stay safe in the event of an arc flash event.



Staff adhering arc flash hazard labeling to electrical equipment at the Skinner solar facility

Enhance Emergency Preparedness and Response

Staff continued construction for the Diemer Helicopter Hydrant Facility. The helicopter hydrant consists of an open-top tank and supporting infrastructure, allowing helicopters to quickly collect water to fight nearby fires. Metropolitan collaborated with Yorba Linda Water District (YLWD) to develop a project that would benefit both agencies. YLWD will provide up to \$500,000 in grant funding, technical support during design and construction, and coordination with the California Department of Forestry and Fire Protection and Orange County Fire Authority. Metropolitan will own and operate the facility after construction is completed.



Staff compacting base rock for the helipad at the Diemer plant

Advance Education and Outreach Initiatives

Tours of the Water Quality Laboratory were provided for the Council on Watershed Health on December 4 and staff from the City of San Diego on December 6.

Engage with Member Agencies and Other Stakeholders on Technical Matters

On December 18, Metropolitan hosted its regular quarterly meeting with the State Water Resources Control Board's Division of Drinking Water. Discussion topics included updates on regulations and emerging disinfection byproducts, capital projects, and treatment and distribution system water quality. Staff also met with representatives of the state's Environmental Laboratory Accreditation Program to discuss expectations and requirements for maintaining Metropolitan's laboratory certification during the Water Quality Laboratory building improvement project (currently in preliminary design) and temporary relocation of laboratory functions during construction.