



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Board Report

Water System Operations Group

• Operations Monthly Activities for February 2024

Summary

This monthly report for the Water System Operations Group provides a summary of activities for February 2024 in the following key areas:

- Manage Business Operations, Budget, and Staffing
- Ensure Accurate Billing and Support Revenue Generation
- Provide Reliable Water Deliveries and Manage Storage
- Develop New Supplies and Optimize System Flexibility
- 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
- Prepare for Future Legislation and Regulations
- Advance Education and Outreach Initiatives
- Engage with Member Agencies and Other Stakeholders on Technical Matters

Purpose

Informational by the Water System Operations Group on a summary of key activities for the month of February 2024

Attachments

Attachment 1: Detailed Report—Water System Operations Group's Monthly Activities for February 2024

Operations

Water System Operations

Core Business Objectives

Manage Business Operations, Budget, and Staffing

WSO filled two vacancies in February.

Ensure Accurate Billing and Support Revenue Generation

Staff completed preventative maintenance on Metropolitan's Automated Meter Reading (AMR) systems in the San Fernando Valley, Los Angeles, and La Verne distribution areas. Metropolitan maintains approximately 460 service connections across the service area. Billing flow meters are calibrated at least once every six months to ensure accurate billing.



Automated Meter Reading (AMR) billing meter cabinet

Provide Reliable Water Deliveries and Manage Storage

Metropolitan member agency water deliveries were 58,200 acre-feet (AF) for February, with an average of 2,010 AF per day, about 250 AF per day lower than in January. Metropolitan has suspended Cyclic and Conjunctive Use Program deliveries to preserve State Water Project supplies. Treated water deliveries were 8,200 AF lower than in January, for a total of 28,500 AF or 49 percent of total deliveries for the month. The Colorado River Aqueduct (CRA)



pumped a total of 39,000 AF in February. Metropolitan maintained a three-pump flow along the CRA for most of the month. State Water Project (SWP) imports averaged 520 AF per day, totaling about 15,200 AF for the month. The target SWP blend is 0 percent for the Weymouth, Diemer, and Skinner plants.

On February 21, the Department of Water Resources (DWR) increased the SWP Allocation for 2024 from 10 to 15 percent. The 15 percent SWP Allocation, when combined with Colorado River supplies, does not provide the region with sufficient water to meet demands, and Metropolitan will need to rely on stored supplies. However, recent wet conditions may result in increases to the SWP Allocation later this season. Water continues to be managed according to Water Surplus and Drought Management (WSDM) principles and operational objectives with an emphasis to maintain storage supplies to meet future demands in the SWP dependent area. Metropolitan suspended deliveries to Desert Water Agency and Coachella Valley Water District. With the current low SWP Allocation, Metropolitan is minimizing its use of Table A supplies early this year and will adapt as conditions change. Metropolitan has reduced blends at its treatment plants to preserve SWP supplies and use more Colorado River water.

Develop New Supplies and Optimize System Flexibility

During February, staff began baseline testing for tertiary membrane bioreactor nitrification-denitrification (tMBR NdN) testing at the Napolitano Innovation Center demonstration facility in Carson. Staff finalized and began implementing the test plan for tMBR NdN operations. SCADA staff modified the chemical dosing system to allow more automated operation of the carbon dosing system, optimizing chemical usage to meet MBR filtrate nitrate targets.



Dissolved oxygen measurement in the NIC demonstration facility bioreactors



Training for LACSD staff on microbial sample processing at the Napolitano Innovation Center



Sample pump installation for routine monitoring of biological tanks at the NIC demonstration facility

Manage Power Resources and Energy Use in a Sustainable Manner

Energy markets in February were generally within seasonal norms. Natural gas prices were in the \$5-10 per Metric Million British Thermal Unit (MMBtu) range, with electricity prices in the CAISO market following suit, averaging in the \$40-60 per megawatt-hour (MWh) range. No significant energy pricing events occurred in the western US or nationwide.

CRA pumping averaged around three pumps in February as the system began ramping down for the CRA shutdown scheduled for March. Reduced demand and nearly full storage levels at Lake Mathews continued to keep CRA pumping costs trending below budget. CRA pumping costs for February were about \$3 million. The CRA energy cost budget for fiscal year 2023/24 is \$82.6 million; the current cost forecast for fiscal year 2023/24 is significantly lower at \$49 million due to reduced pumping and lower forward cost curves. Monthly costs are forecast to increase after the scheduled CRA shutdown in March as the aqueduct returns to a higher scheduled flow and energy prices increase in anticipation of summer.

Daily generation output from Metropolitan's small hydroelectric plants (HEPs) averaged around 6 megawatts during February, for a total energy output of about 4,600 MWh. Metropolitan's solar facilities, totaling 5.4 megawatts of capacity, generated approximately 500 MWh in February.

Protect Source Waters and Ensure Water Quality Compliance

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

On February 7 and 8, Metropolitan participated in onsite stakeholder meetings for the Topock Chromium-6 Groundwater Remediation Project in Lake Havasu City, AZ. The Department of Toxic Substances Control led a discussion on developing an orientation workshop for Topock Tribal Governments and stakeholders to improve communications and understanding of project technical and regulatory information. Pacific Gas and Electric also led a site walk to review groundwater remedy structures installed to date and discuss proposed modifications to enhance chromium-6 removal in the East Ravine area along the Colorado River. Start-up of the full groundwater remedy is anticipated to begin in 2027.



Topock site-walk included viewing culturally sensitive areas that could be impacted by infrastructure associated with a modified remediation approach

Optimize Water Treatment and Distribution

The State Water Project (SWP) target blend entering the Diemer and Weymouth plants remained at zero percent until February 25, when the SWP target blend was gradually increased to target 100 percent SWP by March 11 to accommodate the Lake Mathews shutdown. The SWP target entering Lake Skinner remained at zero percent in February, and the SWP blend leaving the lake was approximately 20 percent. Flow-weighted running annual averages for total dissolved solids from January 2023 through December 2023 for Metropolitan's treatment plants capable of receiving a blend of supplies from the SWP and the Colorado River Aqueduct were 357, 433, and 477 milligrams per liter (mg/L) for the Weymouth, Diemer, and Skinner plants, respectively.

Weymouth plant staff provided project support for the Weymouth Administrative Building Seismic Upgrades and Building Improvements capital project. Staff relocated critical chlorine ejector feed lines in preparation for contractor construction work. Two backflow device assemblies were also relocated and replumbed.



Staff assembling supply piping (left) and checking for leaks (right) at the Weymouth plant

Operations

(continued)

Staff at the Weymouth plant worked on commissioning filter valves for the Basins 5-8 and Filter Building No. 2 Rehabilitation capital project. Staff checked filter valve position indicators and completed limit switch testing. After verifying that the valves operated correctly, the filters were returned to service.



Staff adjusting valve position indicators (left) and verifying panel indication (right) at Weymouth plant

Skinner plant staff completed venturi meter preventive maintenance to ensure accurate flow measurements. Venturi meters use the pressure differential between two points to measure flow velocity. Keeping the flow tubes clean, where pressure is measured, is necessary for proper functionality. A rodding tool is used to clear the sensing line of debris before it is flushed clean.



Staff performing venturi meter maintenance at the Skinner plant

Staff upgraded the filter valve actuators at the Diemer plant which provide the mechanism to open and close filter valves. The actuators original spring packs were undersized which can cause excess mechanical wear when the valves are operated. The newly installed spring packs have a higher torque capacity and can operate more reliably.



Staff upgrading filter valve actuator spring packs at Diemer plant

Protect Infrastructure and Optimize Maintenance

On a five-year rotation, staff perform maintenance and testing on CRA high-voltage systems during the annual CRA Shutdown. The recent 3-pump flows on the CRA have allowed staff to get a head start on 230kV transformer testing this year.



Staff testing the 230kV transformers at Eagle Mountain pumping plant

The CRA high-voltage transformers are crucial to moving water across the desert. Exposure to the harsh desert environment requires regular inspection, disassembly, cleaning, repair, and replacement of parts so the transformers can operate at maximum efficiency. Staff replaced the secondary bushings on the Intake Bank transformer.



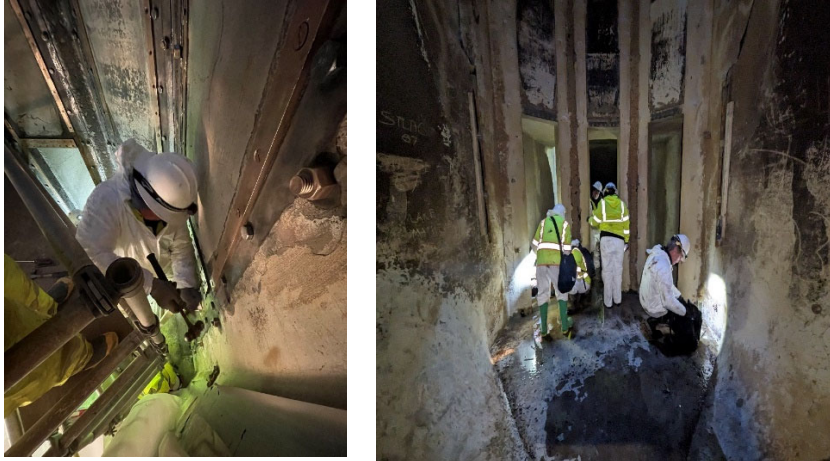
Staff replacing secondary bushings at Intake Bank transformer on the CRA

Circulating water systems at the CRA pumping plants ensure everything from bearings to transformers can operate at optimal temperatures. Source water often contains contaminants such as sand and other debris, leading to wear on valve seats and other components. Staff replaced a supply valve to ensure the system stayed operable and could be isolated when needed.



Staff replacing a circulating water supply valve at Gene pumping plant

Staff completed a 10-day shutdown on a portion of the Upper Feeder (Treated) from the Weymouth plant to Eagle Rock. Staff removed coatings and completed a 3-D scan to inform design of future tower upgrades at the San Gabriel Tower. Staff also performed inspections on three different tunnels, replaced several faulty valves, and installed security upgrades at several locations.



Staff inspecting the interior of San Gabriel Tower on the Upper Feeder (Treated)

Staff reinstalled a sleeve valve at the PC-1 Pressure Control Facility this month. Staff removed the valve last year and refurbished it at the Wadsworth Pump Plant maintenance shop. The valve is nearly 20 years old and is part of the Inland Feeder system. Six sleeve valves at this location will also need internal inspection and refurbishment.



Staff reinstalling a sleeve valve at PC-1 Pressure Control Facility

Staff completed preventative maintenance work on distribution system water quality analyzers. The online analyzers provide real-time chlorine, turbidity, and pH monitoring throughout the distribution system. The analyzers act as Metropolitan's early warning system alerting staff of potential water quality changes.



Staff working on a water quality panel at the Beverly Hills Pressure Control Structure



Staff installing a new water quality panel at Palos Verdes Reservoir

Operations

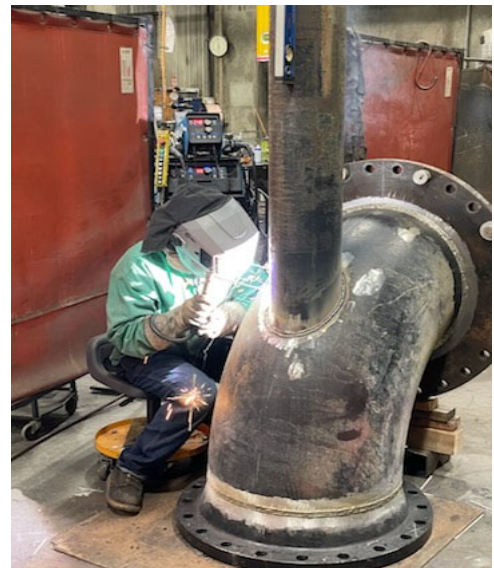
(continued)

Staff continued improving communication capabilities at some of Metropolitan's remote locations by completing work at the Magazine Canyon Junction Shaft. The improvements included new receptacles and electrical conduits that will allow for upgraded fiber optic cable installation and future enhancements to the existing communication equipment.



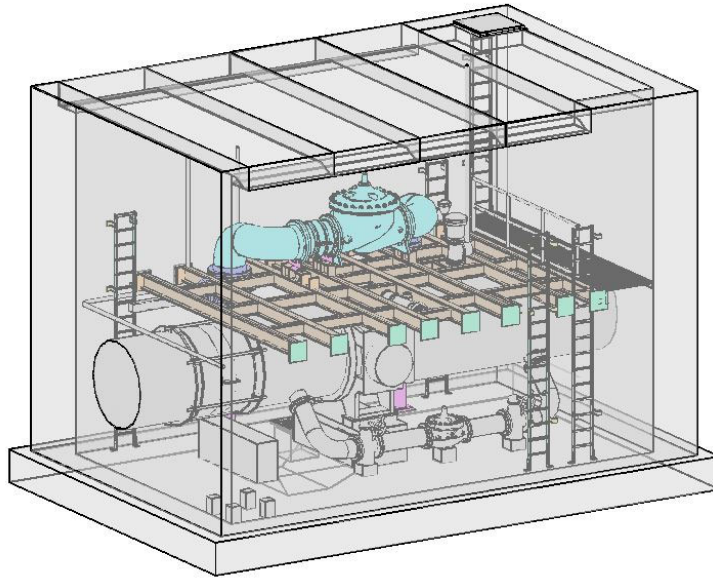
Staff installing electrical conduit at Magazine Canyon Junction Shaft

The La Verne Shops received an urgent request to manufacture a 24-inch bypass line for the OC-88 sectionalizing valve structure on the Allen-McColloch Pipeline (AMP). The scope of work involved manufacturing two 24-inch reducing elbows, two short pipe spools, two blind flanges, and a structural steel maintenance deck.



The La Verne Shops fabricated reducing elbows (left) and leg support (right) for a 24-inch bypass line at OC-88 on the AMP

Staff continued work to install a 24-inch Cla-Val pressure control valve inside the OC-88 sectionalizing valve structure along the Allen-McColloch Pipeline (AMP). The valve installation is being performed for improved hydraulic control of the AMP, in response to a recent inspection of this prestressed.



3D rendition of the planned bypass with I-Beam support



Staff mounting I-Beams to structure walls (left) and 100-ton crane hoisting I-Beams (right) at OC-88 valve structure along the AMP

Ensure Power and Environmental Regulatory Compliance

Metropolitan completed its annual self-certification for 2023, complying with mandatory electric reliability requirements of the North American Electric Reliability Corporation (NERC). Metropolitan is subject to 39 NERC standards with 135 unique requirements. The Western Electricity Coordinating Council (WECC) is the Regional Entity tasked with enforcing NERC standards. For calendar year 2023, WECC requires Metropolitan to self-certify for two standards relating to transmission planning and relay load ability.

The self-certification documentation was submitted to WECC prior to the March 1, 2024, deadline. Following best industry practice, Metropolitan reviews and ensures compliance with all applicable NERC standards each year.

Metropolitan contracts with the Arizona Electric Power Co-operative (AEP CO) to perform Transmission Operator functions for Metropolitan's 230 kV transmission system. Staff supported AEP CO during their 2023-24 NERC audit, which was completed in February 2024 with no deficiency findings.

Enhance Emergency Preparedness and Response

Staff completed annual Hazardous Material Chemical Responder and Incident Commander refresher training at the Skinner plant. The training and functional exercise was coordinated with the Riverside County Fire Department Hazardous Material Response Team and Riverside County Department of Environmental Health.



Chemical Response Refresher Training at the Skinner plant

Annual routine grading of all Metropolitan access roads and easements are necessary for staff, utility trucks, and emergency vehicles that require unhindered access to all locations throughout the district. Staff is currently working on routine grading of the CRA patrol roads in preparation for the upcoming CRA Shutdown and tunnel cleaning activities.



Staff grading CRA patrol roads near Desert Hot Springs

Prepare for Future Legislation and Regulations

On January 24, the Division of Drinking Water posted updated guidance for preparing Consumer Confidence Reports (CCRs). The reference manual only provides guidance for the CCR and does not contain provisions related to EPA's proposed revisions requiring public water systems serving over 10,000 people to deliver CCRs twice a year, among other new requirements. As a wholesaler, Metropolitan is not required to do a CCR, but will be required to provide water quality data to our member agencies twice per year. Staff will continue to monitor any future changes to the CCRs.

On February 2, EPA released the third set of data collected under the fifth Unregulated Contaminant Monitoring Rule (UCMR5) for 29 per- and polyfluoroalkyl substances (PFAS) and lithium. These limited data show that PFAS co-occur as mixtures in drinking water systems. For example, there are 831 public water systems that have reported results for two or more PFAS at or above the UCMR minimum reporting level. Staff are reviewing these data for PFAS occurrence within Metropolitan's service area.

On February 7, staff coordinated and led the recurring AWWA, California-Nevada Section PFAS Workgroup Meeting. Discussion topics included federal and state regulatory updates, UCMR5 prevalence data, and an update on the various legal issues relating to PFAS contamination.

On February 8, EPA published a notice requesting public input on drinking water analytical methods for emerging contaminants in drinking water (e.g., PFAS) that might support monitoring under the sixth Unregulated Contaminant Monitoring Rule (UCMR6) and/or other future cycles of the UCMR program. Staff are reviewing the proposal prior to the April 8, 2024, comment deadline. EPA will also host two identical pre-proposal webinars on April 17 and 18 to discuss potential approaches for developing UCMR6.

On February 8, EPA released two new proposed rules related to PFAS and the Resource Conservation and Recovery Act (RCRA). The first rule proposes to list nine PFAS (PFOA, PFOS, PFBS, HFPO-DA, PFNA, PFHxS, PFDA, PFHxA, and PFBA) and their salts and structural isomers as “hazardous constituents” under RCRA. The second rule revises the definition of “hazardous waste” applicable to corrective actions for treatment, storage, and disposal facilities (TSDFs). A hazardous constituent listing is the first step toward a potential “hazardous waste” listing. If these nine PFAS were to be classified as hazardous wastes under RCRA, then CERCLA liability would be triggered. Staff are preparing comments prior to the April 8 comment deadline.

On February 15, the Occupational Safety and Health and Standards Board (OSHSB) updated the Lead Standards for General Industry and Construction. Effective January 1, 2025, the new standards lowers the eight-hour time-weighted average Permissible Exposure Limit (PEL) for lead from 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 10 $\mu\text{g}/\text{m}^3$; lowers the Action Level from 30 $\mu\text{g}/\text{m}^3$ to 2 $\mu\text{g}/\text{m}^3$; requires a written plan to reduce and maintain employee blood lead levels below 10 micrograms per deciliter ($\mu\text{g}/\text{dl}$); and updates requirements to reduce lead ingestion and cross-contamination during construction activities. Staff are updating internal standard operating procedures for rule compliance.

Advance Education and Outreach Initiatives

On February 22, staff provided a tour of the Weymouth plant and Water Quality Laboratory to a group of AWWA, California-Nevada Section Young Professionals. The tour covered most of the aspects of water treatment and testing and highlighted the importance of a robust monitoring program to ensure regulatory compliance.



Staff hosting AWWA, CA-NV Young Professionals at Weymouth plant

Engage with Member Agencies and Other Stakeholders on Technical Matters

On February 6, Metropolitan hosted its regular quarterly meeting with the State Water Resources Control Board's Division of Drinking Water. Discussion topics included updates on regulations, capital projects, treatment and distribution system water quality, and Mills plant bromate monitoring.

Staff at Julian Hinds Pump Plant showcased their facility during a visit from Metropolitan's executive management and Member Agency General Managers. The current and future projects discussed exhibited Metropolitan's commitment to providing safe drinking water with no one left behind.



Staff hosting Metropolitan's GM and Member Agency GMs at Hinds pumping plant