



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

# Board Report

## Operations Groups

### • Operations Monthly Activities for August 2024

#### Summary

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

- Enhance Workforce Safety
- Develop Workforce and Prepare Employees for New Opportunities
- Manage Business Operations, Budget, and Staffing
- 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
- Optimize Asset and Maintenance Management
- 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

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

#### Attachments

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

## Operations Groups

### Core Business Objectives

#### Enhance Workforce Safety

Staff completed the emergency extraction training at Garvey Reservoir. Employees used Metropolitan-provided extraction devices to practice different emergency extraction scenarios they may encounter in the field. The four-hour class was provided by an external vendor. Additional classes will be provided for other staff, as needed.



Emergency extraction training at Garvey Reservoir

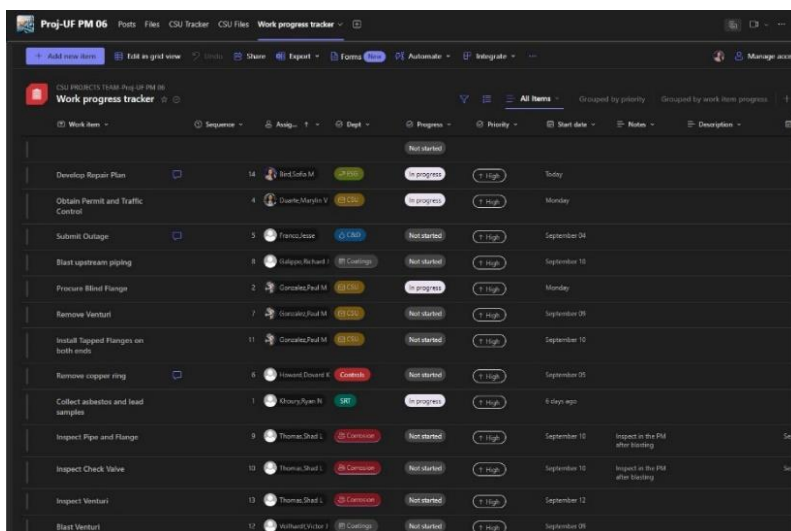
Operations and Safety, Regulatory, and Training (SRT) staff coordinated a tour for the Buckskin Fire Department from Parker, Arizona, at the Gene pumping plant. The tour provided an opportunity to familiarize the Fire Department with CRA equipment and potential hazards, such as high-voltage electrical, chemical handling, and confined spaces.



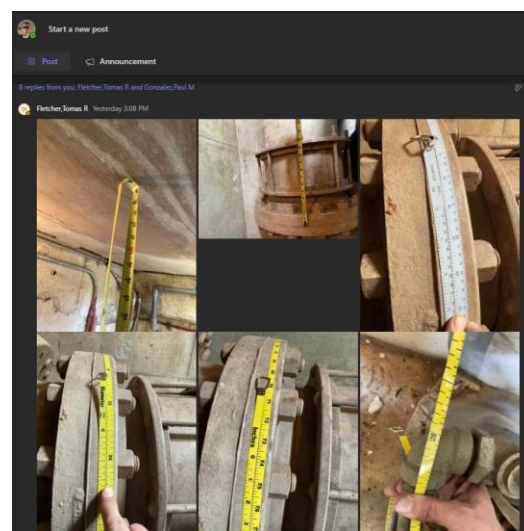
Tour with the local fire department at Gene pumping plant

## Develop Workforce and Prepare Employees for New Opportunities

Staff is incorporating new work flows by leveraging technology to manage urgent and more complex projects. After discovering a compromised piping section within the Upper Feeder PM-06 meter structure, staff across Metropolitan was brought together through an MS Teams channel where photos, drawings, files, schedules, and communication reside in one location. This streamlined communication across multiple units provides stakeholders with real-time updates, preserves data, and eliminates miscommunication, redundant files, and emails.



Staff using coordination lists accessible to all stakeholders



Staff sharing field information with the team

## Manage Business Operations, Budget, and Staffing

During August, the Business Management team (BMT) finalized Operations budget reporting for FY2023/24. Also, the quarterly Business Support team meeting was held to discuss and prepare for FY2025/26 operating equipment requests.

## Provide Reliable Water Deliveries and Manage Storage

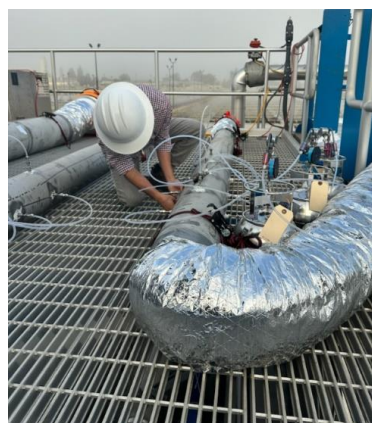
Metropolitan member agency water deliveries were 145,200 acre-feet (AF) for August with an average of 4,700 AF per day, which was about 300 AF per day higher than in July. Metropolitan continued delivering water to the Cyclic and Conjunctive Use Programs. Treated water deliveries were 4,000 AF higher than in July for a total of 80,300 AF, or 55 percent of total deliveries for the month. The Colorado River Aqueduct (CRA) pumped a total of 98,000 AF in August. State Water Project (SWP) imports averaged 3,300 AF per day, totaling about 102,9000 AF for the month. The target SWP blend is 25 percent for Weymouth, Diemer, and Skinner plants.

Metropolitan expects to have 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 has resumed deliveries to Desert Water Agency and Coachella Valley Water District because of the improved supply conditions. Metropolitan is continuing to optimize the use of Table A supplies this year to improve SWP carryover for next year for drought reliability.

## Develop New Supplies and Optimize System Flexibility

During August, staff continued baseline monitoring for tertiary membrane bioreactor nitrification-denitrification testing at the Pure Water Southern California Napolitano Innovation Center (NIC) demonstration plant. Staff resolved a biological upset involving partial nitrification loss that began in late June. Staff also returned the reverse osmosis (RO) system to 85 percent recovery and resolved operational issues while running the RO at design setpoints.

Acetone spike testing was performed to demonstrate removal of volatile organic compounds in gas and liquid forms and confirm operational setpoints to support full-scale permitting and future direct potable reuse testing. Staff also supported Los Angeles County Sanitation District's emissions tests to support future environmental permitting of the full-scale facility.



Installation of bioreactor materials in preparation for acetone spiking test at the NIC

## Manage Power Resources and Energy Use in a Sustainable Manner

The summer operating period to date has been relatively mild across the California Independent System Operator (CAISO) and Western Electricity Coordinating Council (WECC) operational footprints. Energy markets in August 2024 reflected the relatively mild summer weather to date and relatively plentiful natural gas supplies. Natural gas prices remained in the \$2–3 per Metric Million British Thermal Unit (MMBtu) range, with electricity prices in the CAISO SP15 market at \$40–60 per megawatt-hour (MWh) off-peak and around \$100/MWh on-peak. A minor heat event at the end of July and early August did not have any significant operational or pricing impacts.

The CRA continued full operation following the March shutdown, averaging about seven pumps. The CRA energy cost budget for fiscal year 2024/25 is \$71.4 million; the current cost forecast is slightly higher at \$80.4 million because of increased pumping. Monthly costs are forecast to increase as natural gas prices increase in anticipation of winter heating demands.

Lighting upgrades were installed at the Chemical Unloading Facility (CUF) located in Perris to improve illumination near the site entrance. This facility is key to ensuring water treatment chemical deliveries to the treatment plants and can be accessed both day and night. With the latest solar and battery technology innovations, solar-powered street lighting has become reliable and viable for this location. The Mills Electrical Team installed a solar-powered streetlight that provides sufficient light to illuminate the area. Adding a traditionally powered light would have cost around \$250,000 for the underground duct bank system and fixtures—the entire solar light installation costs around \$7,000, demonstrating efficient and sustainable use of energy resources.



Newly installed solar light shown pre-dawn at the Chemical Unloading Facility

## Protect Source Waters and Ensure Water Quality Compliance

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

## Optimize Water Treatment and Distribution

The SWP target blend entering the Weymouth and Diemer plants stayed at 25 percent in August. The SWP blend entering Lake Skinner remained at 25 percent. The blend leaving Lake Skinner gradually increased and now matches the blend entering the lake.

Flow-weighted running annual averages for total dissolved solids from July 2023 through June 2024 for Metropolitan's treatment plants capable of receiving a blend of supplies from the SWP and the CRA were 460, 535, and 475 mg/L for the Weymouth, Diemer, and Skinner plants, respectively.

This month, staff worked to upgrade and replace the Garvey Reservoir sodium hypochlorite monitoring sample line. The sample line supplies water to the water quality analyzers at the tank farm; these analyzers provide operators with data needed to complete accurate chemical feed adjustments. Staff removed the damaged copper line, installed a new one, and ensured that it was anchored correctly and tested. The work was completed, and the line was returned to service.



**Garvey Reservoir tank farm water quality analyzers**

## Protect Infrastructure and Optimize Maintenance

Staff worked on disassembling a CRA pump at Eagle Mountain pumping plant. The pump was experiencing corrosion and cooling water leaks. The pump was removed from service to allow staff to complete maintenance to repair or replace worn components and be recoated to prevent corrosion.



**Staff disassembling a pump at the Eagle Mountain pumping plant**

Staff is responsible for many of the high-voltage systems within Metropolitan's system. Metropolitan utilizes specialized skills and equipment to maintain the critical systems which includes transmission powerline maintenance and vegetation control. Staff replaced a 2300V transformer for the industrial area at the Gene pumping plant. This transformer steps down power from 2300V to the 480V that is used throughout the site industrial areas.



**Staff replacing a 2300/480V transformer at the Gene pumping plant**

Repair and maintenance of the CRA require specialized fixtures, stands, and other customized components to facilitate this critical work. One of the pumps at Gene pumping plant is being upgraded to a brushless excitation system as part of a pilot to evaluate different technologies that may be incorporated into future CRA pump upgrade projects. A “rotisserie” is utilized to hold the pump cover, which allows for rotation of the component when performing repairs and upgrades.



**Pump cover staged on a rotisserie at the Gene pumping plant**

It was noted that high-voltage transmission line towers were close to the highway. Staff installed additional protection for these 230kV transmission towers by installing K-Rails around the towers. These K-Rails will serve as a barrier to protect the towers in the event of a vehicular incident.



**K-Rails to be used as 230kV tower protection**



Staff recently completed rehabilitation on five of the six 16-inch hydraulic globe valves at Ramona Pressure Control Structure (PCS), which are used to relieve excess pressure on the Middle Feeder North. This project included coordination with Eagle Rock Operations Control Center, removal of valves, and replacing moving components that control flow.



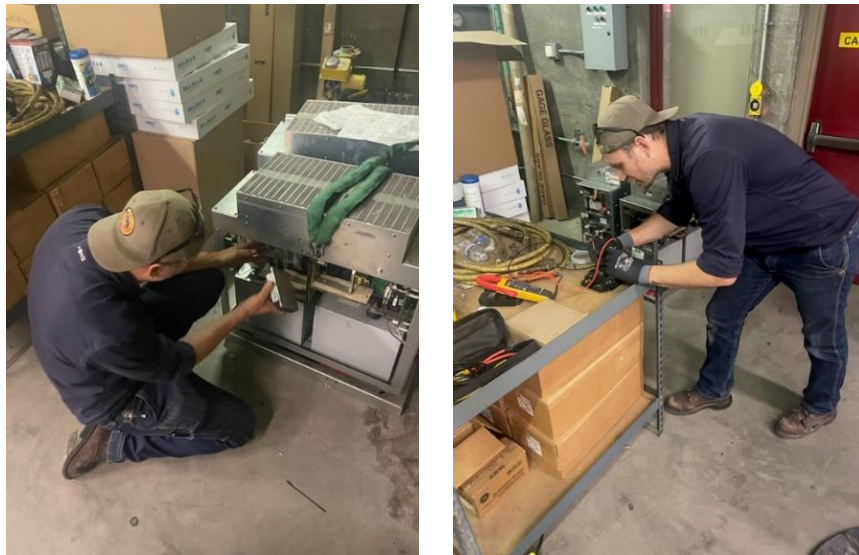
**Staff repairing hydraulic globe valves at the Ramona PCS**

Staff removed the motor from a pump unit at Wadsworth pumping plant. The pump will be removed for inspection and rehabilitation. Foreign material was found inside the pump impeller during a routine inspection earlier in the year. These pump/generator units have not been removed and refurbished since their installation in 1999 when the pumping plant was commissioned as part of Diamond Valley Lake construction.



**Staff removing motor for repairs at the Wadsworth pumping plant**

Staff at the Diemer plant is repairing a power module for one of the pumps at OC-88. The power module is outdated and no longer supported by the manufacturer. Staff is troubleshooting each component in the power module to identify which ones have failed. OC-88 Pump Station, located in Orange County, is on the Allen-McColloch Pipeline. OC-88 Pump Station is a critical facility that supplies treated water to the Municipal Water District of Orange County.

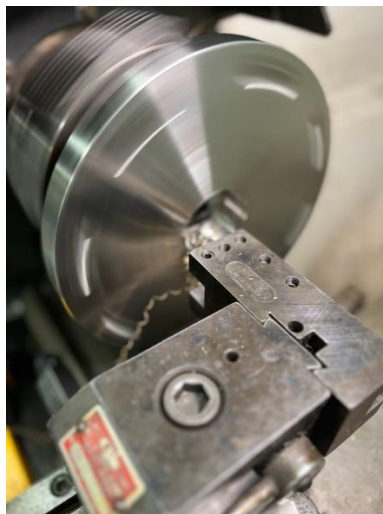


**Staff working on a power module for a pump at OC-88 Pump Station**

Staff completed the replacement of spools, valves, and valve actuators for the ozone open-loop cooling water strainers at the Skinner plant. Staff used their machining and fabrication skills to make the necessary modifications to replace the valves with materials more resistant to corrosion than the previous valves and spools.



**Open loop strainer valve, spool, and actuator (before replacement)**



**Components being machined on lathe at Skinner plant**



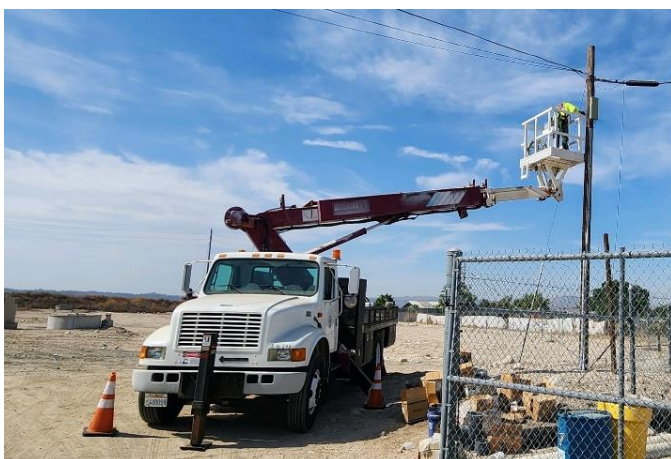
**Open loop strainer valve, spool, and actuator (after replacement)**

Weymouth Electrical Team is installing Electric Vehicle (EV) charging stations throughout the Weymouth Plant as part of a pilot project. Staff installed two new charging stations this month to be used exclusively for district EVs. This brings a total of six EV charging stations to the Weymouth plant. With the expansion of the district's Zero Emission Vehicles (ZEV) fleet, a full-scale electrical charging station project will be launched this year.



**Staff terminating cables (left) and the complete installation of an EV Charger Station (right) at Weymouth plant**

Older copper communication lines are being replaced throughout the district at remote structures. The new fiber optic cables will allow for higher bandwidths, greater security, and improved reliability in areas that frequently experience communication issues. A crew at the Cone Camp structure along the Inland Feeder began the necessary construction for the new fiber optic cable installation.



**Installing a pull rope for the new fiber optic cable**



**Routing conduit inside the structure**

Staff completed storm damage repairs at the Sepulveda PCS Facility. Heavy rains last year caused mud and debris to wash down from the hillsides above the PCS, damaging the perimeter fence and clogging drainage grate. Staff completed the repair of the chain link fence, cleared the storm drain, and removed 120 cubic yards of debris that washed down from the hillside.



**Long-reach excavator removing debris from catch basin**



**Backhoe loading truck with debris**

The La Verne Shops received a request to support the refurbishment of five needle valves for the Sepulveda Hydroelectric Plant. Staff blasted, assessed, and coated a multitude of components for the valves and actuators. The components were successfully coated to ensure the reliability of these critical valves.



**As-received actuator components**



**Deflector components**



**As-received valve bodies in blast booth**

# Operations

(continued)



**As-received shafts**



**Finished shafts**



**Finished valve bodies**

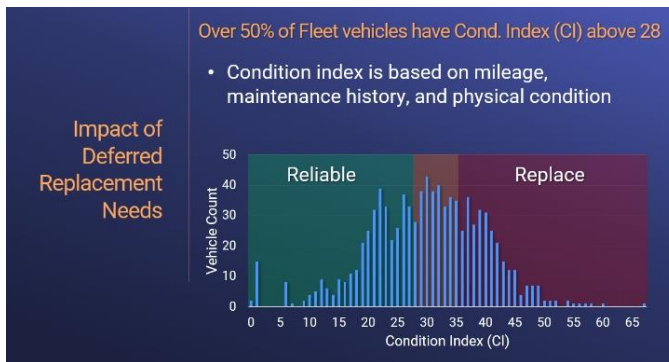


**Protecting shields**

## Optimize Asset and Maintenance Management

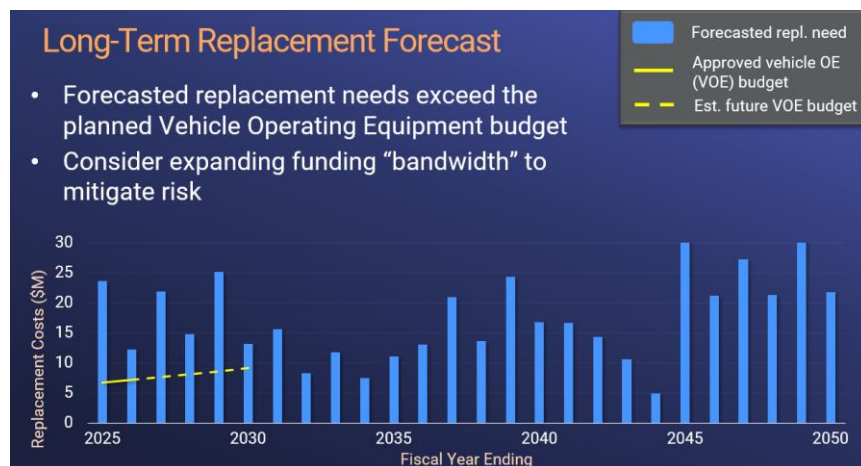
During the August meeting for the Engineering, Operations, and Technology Committee, staff provided an update of the transition plan to ZEVs and described the three components that are being balanced: complying with regulations and Metropolitan’s Climate Action Plan, addressing a backlog of aging vehicles, and staying within budget constraints.

The presentation included an overview of the current condition of Metropolitan’s fleet and emphasized that over 50 percent of the existing fleet needs replacement. In addition, staff highlighted a preliminary effort to categorize all 1,039 fleet vehicles into various criticality levels to help understand the role of each fleet vehicle in achieving Metropolitan’s mission of water delivery and emergency response. Staff presented to the Committee a fleet risk heat map that combines both fleet criticality and condition to provide a “birds-eye” view of costs to mitigate each risk level. A preliminary 25-year forecast was also developed to optimize the fleet replacement needs and help the Board understand the long-term funding needs relative to the planned operating equipment budget.



Existing Fleet Condition

Fleet Risk Heat Map



Fleet’s Long-term Replacement Needs

## Enhance Emergency Preparedness and Response

From August 26 to 29, Metropolitan participated as the co-lead agency in a regional emergency preparedness functional exercise coordinated by the U.S. Environmental Protection Agency (EPA). This full-scale exercise provided the opportunity for hands-on practice in laboratory response procedures. Other participants included Southern Nevada Health District and local facilities that are part of EPA's Compendium of Environmental Testing Laboratories. This hands-on training offered continued experience in standardized emergency response procedures and communication pathways.



Staff participating in EPA emergency preparedness exercise

## Prepare for Future Legislation and Regulations

On July 24, the California Office of Administrative Law (OAL) approved the final hexavalent chromium MCL of 10 µg/L. The rule also established a detection limit for purposes of reporting (DLR) of 0.1 µg/L; 2–4 yr. compliance timelines depending on system size; and the need for a compliance plan, among other provisions. Metropolitan had previously provided comments in support of the 10 µg/L MCL, compliance timelines, and the use of stannous chloride as a best available technology. Metropolitan also expressed concerns over the cost of compliance and asked for additional funding to help offset treatment costs. The rule will be effective on October 1, 2024.

On August 1, EPA submitted the final Lead and Copper Rule Improvements (LCRI) to the Office of Management and Budget (OMB) for review. Unless OMB has major concerns and sends the final LCRI back to EPA, this would be the final step before EPA publishes the final LCRI. As drafted, the rule will result in additional sampling at Metropolitan's desert housing but is not applicable to Metropolitan's large water system. EPA's goal is to publish the final LCRI by October 16, 2024 (the deadline for public water systems to submit the initial lead service line inventory).

On August 2, staff submitted written comments on SCAQMD's Proposed Rule 1445, Plasma Arc Cutters (PACs). Staff requested that SCAQMD justify requiring existing stationary PACs to have either HEPA dust collectors or control technology that meets 99.97 percent efficiency. Under the proposed rule, Metropolitan's PAC with a water table located at the Weymouth plant would either need to be source tested or have a dust collector installed before 2039. Staff will continue efforts to have the rule recognize the Metropolitan's PAC as compliant as the cutter is fully submerged. Final draft language is expected in late August with a November rule adoption.



On August 6, the California Office of Administrative Law (OAL) approved the final Direct Potable Reuse (DPR) regulations. The regulations provide the regulatory framework by which highly treated recycled water can be introduced either immediately upstream of a water treatment plant or directly into a public water system. The final DPR regulations will take effect on October 1, 2024. Staff will continue to monitor any future developments with respect to DPR.

During August, staff provided technical support to the California-Nevada Section of the American Water Works Association in their work with Senator Portantino's Office on the development of Senate Bill 1147, which will require public health standards and monitoring of microplastics in drinking water, including bottled water.

## **Advance Education and Outreach Initiatives**

On August 9, a tour of the Water Quality Laboratory was provided for a group of high school students who are studying public policy issues, including provision of drinking water.

## **Engage with Member Agencies and Other Stakeholders on Technical Matters**

Staff provided technical updates on microplastics in drinking water to the Pittsburgh Water and Sewer Agency (July 30) and to the Santa Ana Watershed Project Authority Emerging Constituents Task Force on August 12.

On August 29, staff participated in the first of a series of regional workshops on nitrification. The workshop was coordinated by the Municipal Water District of Orange County and included many of their retail agencies. Staff provided presentations on the science of nitrification and operational constraints and considerations.

Staff hosted members from the New York City (NYC) Department of Environmental Protection to share information on operations and maintenance of covered reservoirs as they prepare to determine which type of cover to use for one of their reservoirs. The group toured Garvey Reservoir and the Jensen plant to view different types of covered reservoirs and learned from first-hand experience of Metropolitan staff. This information sharing opportunity was a productive discussion on a common goal of providing safe drinking water to each agency's constituents.



**Tour of Garvey Reservoir (left) and Jensen plant (right) with NYC Department of Environmental Protection staff**

Staff from the Jensen plant provided a guided tour to State Senator Caroline Menjivar of District 20 and Mayor Celeste Rodriguez of the City of San Fernando. The tour began with a presentation of the Jensen plant treatment process, followed by an in-depth walking tour of the facility. Senator Menjivar and Mayor Rodriguez showed interest in understanding the treatment process, distribution system, and how the plant ensures a consistent and reliable water supply source to areas of their responsibility. Also present at the tour were Chairman Adan Ortega, Director Marsha Ramos, and Director Jacque McMillan.



**State Senator Menjivar and Mayor Rodriguez, accompanied by Chairman Ortega and Directors Ramos and McMillan, received a presentation and tour of the water treatment process at the Jensen plant**