

DOMESTIC WATER POLICY COMMITTEE

Meeting Minutes

June 8, 2023

1. Call to Order/Roll Call

Foster called the meeting to order at approximately 8:44 a.m.

Present:

City of Modesto (COM): David Wright
City of Modesto (COM): Jeremiah Williams
Modesto Irrigation District (MID): Nick Blom
Modesto Irrigation District (MID): Robert Frobose

Other Attendees:

Jeremy Parnell, COM
Josh Foster, MID
Jennifer Wright, MID
Elizabeth Martinez, MID

2. Public Comment

N/A

3. Approve October 13th, 2022, Meeting Minutes [[Action item](#)]

Wright moved, seconded by Blom. Motion carried.

4. Election of Chairman/Vice-Chairman [[Action item](#)]

Wright nominated Blom as Chairman, seconded by Williams.
Williams nominated Wright as Vice-Chairman, seconded by Blom.

Councilman Williams moved to extend the terms to two years.
Motion seconded by Blom. Motion carried.

5. Domestic Water Project Update

- Domestic production totals 2022 – 2023 water year (5/1/22 – 4/30/23)
 - As always, the objective is to deliver 100 % of the approved allocation, which fulfills our obligation under the Amended and Restated Treatment Delivery and Agreement and reduces Modesto's dependence on groundwater.
 - Of the 24,001.5 AF allocated, we delivered 23,475.8 AF leaving a balance of 275.7 AF. Equates to 98.6 % of allocation being delivered.
 - Conventional plant produced roughly 75% of that allocation with the membrane making up the remaining 25%.

- Delivered above target during summer months as requested by the City and distribution pressures were maintained within the preferred target of 58-62 psi.
- 2023 – 2024 Water Year Allocation
 - 2023 – 2024 allocation is a full uncapped 42" or 33,602.1 AF. This translates to around 30MGD with the option to produce more if necessary. The operational level of the reservoir has been raised to 22-24 feet to help capture part of the enormous snow melt and give respite for the Tuolumne River. It is also beneficial for the recreational users and wildlife.

Councilman Wright inquired if the canneries use the main water supply from City of Modesto and MID, or if they rely solely on well water. Director Blom responded that it is both. All water is linked together. After leaving Terminal Reservoir, the water combines with the well systems of the city.

Councilman Wright inquired about the distinction between the Conventional plant and the Membrane plant. Foster responded that the Conventional plant is extremely chemically dependent requiring multiple chemistries to assist in the removal of particulates and organics. The membrane plant requires fewer chemicals for treatment and can be quickly switched on and off according to demand. The conventional plant operates as the primary facility, while the membrane plant functions as a peak facility. The reduced footprint of the Membrane plant compared to the conventional plant was one of the deciding factors in its selection, according to Director Blom.

Councilman Williams inquired about our current reservoir water storage levels and how they will impact the city of Modesto. Foster responded that this would probably be a better question for the Water Resource division of MID as they are the ones who monitor and manage the reservoir levels, but that we are in an excellent position with respect to reservoir levels. The record rainfall and snowpack this past winter should have a positive impact on future allocations.

Councilman Wright inquired whether MID sells water to entities other than the City of Modesto. Foster replied no and cited the Amended and Restated Treatment and Delivery Agreement with the City, which prohibits treated water from flowing outside the Irrigation District's boundaries.

Operations:

- Membrane Basin #6 permeate header was repaired and is back in service.
- (10) new Turbidimeters have been installed to replace the old and unsupported previous models. Roughly 60% complete and replacing as downtime allows.
- New Citric Acid and Coagulant bulk tanks installed.
- The State's Annual Sanitary Survey was conducted on April 27, 2023. This survey is a complete evaluation and inspection to assess the water system's ability to supply the public with safe and dependable drinking water. The report's completion is anticipated in June.
- Drained and Cleaned the North and South Floc sed basins, both DAF units and Influent filter flume which hasn't been done in years.
- A small quantity of ACH (coagulant) is currently being supplied to the membrane plant to enhance organics removal and decrease the production of disinfection by-products in the produced water. Up to a fivefold increase in organic removal has been seen so far, which is quite promising.

Councilman Wright inquired how much water goes to Modesto and how much to agriculture. Councilman Blom responded that it is currently 42" per acre and that Modesto's allocation is equivalent to what the irrigation customers receive per the Amended & Restated Treatment and Delivery Agreement.

Councilman Wright inquired if there is a period in the summer when the water treatment plant must reduce the amount of water supplied to the city of Modesto because farmers require it. Foster replied no because the city's allocation is fixed.

Maintenance:

- Over 20 items addressed during ~2-week long planned outage from 1/23/23 – 2/6/23. Some of the work completed:
 - Completed yearly backflow prevention testing; discovered and repaired/replaced four units that had failed.
 - Two plant service pumps were replaced, and their motors were rebuilt.
 - The sprayers on the DAF units were replaced.
 - Replaced all USB batteries and conducted maintenance on all pump drives at Terminal Reservoir.
 - Calibration and certification of several process flowmeters (including RAW water which is what the City is billed from).
 - A new chlorine analyzer was installed on the membrane raw water head tank.
 - Per the requirements of our operating permit, several valve exercises were conducted at the treatment plant, Terminal reservoir, and main distribution line. Over 800 valves in total that need to be exercised each year.
 - All routine preventive maintenance tasks were performed as well during this additional work.

Lab:

- Working with an external consultant to build a variety of quality systems, processes, and protocols related to the new California ELAP TNI requirements. TNI (The Nelac Institute) is a nationwide accreditation program implemented by California to standardize all certified labs in the United States to one consistent program that emphasizes technical competence and quality control. Lab must show compliance by January 1, 2024, to maintain certification.
- Scope of work submitted for minor lab remodel. This is an approved capital project for 2023 and includes new flooring, extra workstations, and new chemical storage cabinets.
- Replacing failed deionized water purification systems for both the operations and main labs. Units are original and installed in 1994. DI systems are necessary for the preparation of instrumentation standards and regulatory testing.

Councilman Wright inquired as to how frequently the state administers the examination. Foster indicated that we are required to conduct an internal audit annually and that the State conducts one on average every two to three years. This may increase as a result of the new TNI regulations.

Staffing:

- The administrative and maintenance departments are fully staffed.
- The Operations department is now seeking a Senior Operator and two apprentices. This would fully staff the department with a total headcount of 10 (eight operators and two

- apprentices). Once staff are adequately trained, the department will be in an excellent position to cover various absences, training, and project needs.
- As recommended by the Carollo Staffing Assessment, the lab will seek to add an additional part-time or full-time lab technician to meet the increased labor demands expected by the implementation of the new ELAP TNI regulations on January 1, 2024.

Councilman Williams inquired as to whether or not we have received national or state-level certifications. Foster replied that we have received a number of prestigious awards from the Partnership for Safe Water, a nationally recognized program that awards facilities for their efforts to produce potable water of exceptional quality through continuous improvement.

Councilman Wright inquired if the City of Modesto shares the cost of the Water Treatment Plant's employees. Blom responded that the City is fully responsible for all costs associated with the plant, including labor. Wright also inquired about any outstanding debt on the facility and its remaining duration. Foster confirmed that there is still some outstanding debt service, but he would need to consult with MID accounting for those exact figures. Blom stated that it should be nearing completion given that the facility is approaching 30 years of age. Wright questioned whether the facility was built by the City of Modesto and MID. Blom responded that MID owns and operates the land and facility for the primary purpose of providing treated surface water to the City of Modesto. It is a unique partnership, but one that has worked well for both parties according to Parnell.

Director Blom inquired if we collaborate with Fresno State University and their Irrigation Technology programs to increase public outreach and entice individuals to consider this field of work. Foster responded that they have had preliminary discussions with Modesto Junior College about developing specific training and certification programs for Water Treatment and Distribution. Foster was unaware of any similar discussions with Fresno State and stated that Melissa Williams in our Public Affairs department may be able to provide more information.

Current Projects:

- **Carollo Raw Water pH Study:**

The pH of the plant's incoming raw water has been progressively increasing over the last few years. Last summer, the plant saw an elevated incoming pH of over 9 which had a significant impact on the downstream treatment processes, particularly the Ozone disinfection systems. We had to depend on post-chlorination to meet our residual goals. This increased the formation of disinfection byproducts in our final water (Trihalomethanes and Halo acetic acids). The byproducts are monitored closely by MID and the City of Modesto as they are highly regulated by the State Water Resource Control Board.

Status: Carollo Engineering conducted an engineering study at the request of the SWRCB to investigate the possible impacts of pH control on the process and corrosion control systems. In the end, the research revealed that there was little to no impact, and that it may be utilized to enhance most treatment processes and perhaps decrease the quantity of chemicals needed for corrosion control. The SWRCB approved the study and gave permission to design and construct a temporary and/or permanent pH control system.

Cause: The cause has yet to be determined however, it seems to be seasonal and perhaps connected to a prevalent aquatic weed called Hydrilla. This submerged aquatic vegetation

is common in this and other local reservoirs. Typically treated with Diquat or Fluoridone herbicides, although these herbicides may not be approved for use in drinking water surface reservoirs.

- **Chemical Automation and Recording:**

Purpose: to comply with State requirements mandating accurate documentation and reporting of chemical use by each plant/process. Project would install various flow meters, PLC's and feedback controls on chemical injection systems that don't currently have them.

Status: The second phase of this project is presently being developed. Anticipate awarding the construction bid by early to mid-July, with procurement commencing shortly afterwards. Construction and installation are anticipated to begin in November 2023. Pending component lead times, there is the possibility that the project could extend through 2024.

- **WTP Switchgear Update:**

Purpose: replaces obsolete and unsupported switchgear that has caused power interruptions/failures affecting various treatment processes and distribution systems.

Status: MID requested more relays to boost system redundancy and overall dependability. This was not included in the initial scope and needed design modifications. This, combined with lengthy component lead times has delayed the project's expected completion date to November 2023.

Future Capital Projects:

- Filter Basin Rebuilds – 2 filters/yr. for next 3 years.
- Raw Water pH Control – temporary or permanent system
- Membrane blower installation
- Membrane fiber replacement

6. Proposed future meetings

October 12, 2023, at 8:30am; location TBD

7. Items too late for the agenda

N/A

8. Adjournment

The meeting was adjourned at approximately 10:05a.m.