Staff Report 9.G.

Date: October 6, 2022

TO: Board of Directors

FROM: Betty Burnett, General Manager

STAFF CONTACT: Jim Burror, Director of Operations; Amber Baylor Director Environmental Compliance

SUBJECT: Moulton Niguel Water District (MNWD) Request to Operate AWT at Regional Treatment Plant [PC 17] – Draft Term Sheet

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This Memorandum is prepared to address history, operational background and factual information related to MNWD request to operate and maintain the Regional Treatment Plant AWT facility, see attached request of Joone Lopez dated August 26, 2022.

SOCWA staff is requesting direction from the Board of Directors regarding this matter.

History of Agreements

By Agreement dated November 3, 1983, approval by the members of Project Committee 17 (PC 17) was given to MNWD for "construction, operation and maintenance of the Reclamation Project," which included permission to access and build the Advanced Water Treatment (AWT) on the site of the Regional Treatment Plant (RTP) to produce 600,000 gallons per day of recycled water. The permission included the right to "repair and replace" in such manner as "not to interfere with any present.... operation or maintenance... at the Joint Regional Plant" (the "Original Agreement"). Terms of the Original Agreement included broad indemnities and requirements for prior authorizations for future modifications. The Original AWT was expanded in 1988 (per an Agreement dated May 5, 1988, to 2.4 mgd ("Expansion Agreement"). In September of 1992, AWMA and MNWD entered into an Agreement whereby AWMA became the operator of the AWT ("Operations Agreement"). An Additional Agreement ("Relocation Agreement") was entered into July 25, 1994, whereby the Original AWT (as enlarged) was mothballed, and a new facility was constructed on a different site within the RTP with increased recycled water production to 9 mgd.[1]

All of these Agreements contemplated that MNWD would determine the amount of water to be produced at the AWT, and the operational obligation to create effluent for treatment through the AWT would be limited to the requirements of the discharge permit [AWMA made "no representation as to the consistency of the quality or quantity of effluent to be produced..."]. The Relocation Agreement contemplated execution of an O&M agreement "on similar terms and conditions" as the 1992 Operations Agreement (presumably to add operations of the new 9 mgd location).[2]

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[1] See attached Order No. R9-2022-0006, Section 6.2.5.2 requiring Treatment Plant Capacity Reporting to SDRWQCB. The current Report of Waste Discharge identifies RTP secondary treatment capacity at 12 mgd.

[2] The 2.4 mgd facility built on the original site remains in an unusable condition and should be removed to improve truck/delivery access and on-site parking.

In June of 1998, a letter agreement was sent from AWMA (David Correto) to MNWD (John Wiper, AGM), adding the relocated AWT to the Operations Agreement and noting that the "existing facilities would continue to operate an as independent facility." Also, references to permit compliance are modified in June of 1998 to refer to the SOCRA recycled water master permit (revised October 15,1997 "Master Permit"). The Master Permit requires that the NTU (turbidity) not exceed a daily average value of 2 NTU. "Average daily value" is a rolling 24-hour average.

The NTU requirement at 2 for the delivery of recycled water requires integrated experience in operation of both the plant and the AWT. Currently, control of the treatment happens on a real-time basis in 24-hour cycles. The AWT alone does not have the ability to treat the turbidity down to 2 NTU as a standalone facility. Operational compliance happens to keep recycled water within the limits of the Master Permit because SOCWA operates the POTW and the AWT as an integrated system with experienced staff.

Changed Conditions

1. Listed below are conditions changed since 1994. These facts increase the degree of difficulty in reliably and consistently producing treated wastewater at less than 3 NTU as required feedwater for the AWT recycle all RTP wastewater:

    a. Demand for recycled water has increased due to increases in the number of customers, and due to the dry climate cycles;
    b. storage flexibility has decreased;
    c. flows to the POTW are down substantially and the strength of treated sewage has increased such that it is above the originally designed parameters for the plant;
    d. water quality entering the plant is much saltier due to imported water constraints;
    e. the wastewater treatment has aged and upgrades have been delayed;
    f. the blower system is obsolete and is increasingly unreliable;
    g. demand for recycled water is very high, therefore the system is pressed to run beyond 80% up time as originally designed;
    h. the plant adds runoff captured on site based on regulatory standards which reduces available capacity at the plant for inflows from the sewer system;
    i. the plant experiences high flow conditions from off-site sewers and more micro-storms with high magnitude flows in excess of NOAA predictions increase demand for treatment space in short periods of time;
    j. the outfall compliance now requires the AWT to be in operation and the reservoirs to provide storage during high flow storms to remain in compliance with the outfall permit.[1] This operational choice was made based on a 1996 report that pointed out the limitations of the discharge system to the outfall;
    k. there are needs for the use of the sewer system for construction dewatering and acceptance of dry weather flows – both of which deliver silt and salts to the plant and cause pressure on turbidity compliance. From time to time septic sewer flows or highly chlorinated water have the ability to upset plant operations; and
    l. The 2018 Recycled Water Policy (State Water Board) necessitates regional cooperation on Salt & Nutrient Management Planning.

[1] NPDES Permit Order No. 95-107 referenced the AWT facility as a part of the outfall conveyance system. The requirement carries forward to the current permits.

2. The aging of the AWT facility and equipment obsolescence should be considered:

   a. The instrumentation system has aged to the point of difficulty to repair.
   b. Control valves are obsolete, and parts are unavailable.
   c. Screens below the sand filters are deteriorated allowing sand to flow back to the plant.
   d. Pipe sections are corroded and leaking.
   e. The mudwell pumps are undersized and worn.

The above issues cause operation of the AWT to experience interruptions and there is an increase in downtime for repairs over the last 18 months. A design for a reconstructed AWT has been in preparation at SOCWA Engineering Committee. A key challenge is the upcoming construction plan and the question of best timing for an extended outage. A winter outage plan will present the risk of overflow of the plant in storm conditions. A summer outage plan will present MNWD with the challenge of providing potable water through the recycled system for up to the anticipated two-year construction window.

3. Operational Plan for Wet Weather Flow

In 1996, a Report was prepared for RTP entitled Operational Plan for Accommodating Peak Wet Weather Flows.[1] The Plan discussed alternatives for managing a lack of capacity in the Effluent Transmission Main (ETM). The Report offered alternatives including the "[u]se of AWT to treat flows in excess of available pipeline capacity, with product water pumped to either the MNWD reclaimed water system or discharged to Aliso Creek." In the intervening years, the discharge of tertiary treated water to surface waters is no longer allowed. Additionally, the '96 Report listed 30 mgd as projected peak flow. On January 22, 2017, RTP flow was greater than 40 mgd resulting in 122,000 gallons of secondary effluent spilling to Sulpher Creek.

None of these conditions were contemplated at the time permission from PC 17 was given for construction of the AWT (1983). In 1983, the agreements referred to the ability of MNWD to determine whether or not the AWT would be operational, and the PC 17 agencies were under no specific obligation to treat flows through the AWT facility or to guarantee to MNWD the quality of the effluent.

The agreements of the agencies with respect to the AWT were not revised to address these changed conditions.

Term Sheet

In light of the above factors, SOCWA staff spent considerable time thinking through what a segregation of operations of the AWT from the Regional Plant might look like. As a team, we addressed what would be necessary for success and what obligations on the part of MNWD would be advisable to the PC 17 agencies from the proposed change.

During this preparation phase, the SOCWA General Manager asked that individual MNWD staff members hold off on submitting numerous requests for directions, decisions and information to SOCWA staff related to their AWT planning. We asked that MNWD prepare questions in writing to a single point of contact. If SOCWA staff is directed by the SOCWA Board to proceed with MNWD operation of the AWT, we anticipate a significant time commitment on the part of SOCWA

[1] MNWD was the RTP operating agency under contract with AWMA in 1996.

staff may be requested by MNWD. I do not believe SOCWA staff will be able to meet all requests on an immediate turn around basis and would propose that MNWD's request be considered after the 2022/23 winter season due to concerns for spill prevention during storm events.

In addition to the Term Sheet, SOCWA Staff discussed with Procopio Counsel their recommendations for legal terms that are not included in either this memorandum or the Term Sheet.

The attached Term Sheet identifies potential terms.

Fiscal impact

MNWD needs for supporting services from SOCWA staff (Operations/Lab/Other) are not yet identified. Based on the discussions to date, it appears supporting services from SOCWA would be greater than minimal. Supporting services needed could impact daily operations, laboratory supporting services, pretreatment, other services (instrumentation/electrical), etc. and ongoing needs are not yet identified. MNWD has not described with specifics their planned approach, training, or experience.

SOCWA Operations is not staffed sufficiently to provide "on call" services or training to MNWD related to their operation of the AWT.

Recommended Action: Information Item, Board Direction to Staff.

Term Sheet

Operations

1. The RTP effluent discharge limitation to the outfall per NPDES permit has a turbidity NTU of 75. The Recycled Water Permit requires a product water from the AWT of ≤ 2 NTU. As noted, SOCWA Operations runs the plant and AWT in an integrated approach to produce a very low NTU at the plant for delivery to the AWT. The integration of operations makes this possible because the evaluation of both sides of the operations can happen real time. Without the integration of operations other changes would be needed to keep the consistency of deliverable supply water to the AWT, including:
    a. Short term - chemical additions to plant treatment such as alum, coagulants.
    b. Long term – due to the aging of the AWT and its poor performance in contributing to turbidity control SOCWA staff recommends consideration of MBR treatment technology for the wastewater plant (recommended by 12/2025).
2. MNWD will control influent flow to the RTP to the limitation of the plant hydraulic design no greater than 24 mgd instantaneous flow over a one-hour period to control introduction of turbidity to the treatment plant.
3. Based on #1 and #2 above, SOCWA would be prepared to deliver an NTU daily average of 5 at 80% of RTP operational time, with an exception of storm events and major construction periods.
4. On notice of RTP CPO (or assigned personnel) MNWD will cease operations at the AWT for any reason within the opinion of the RTP CPO as necessary for safety of personnel, safe operations at the site, for permit compliance concerns, or for mitigation of impacts to the environment or the surrounding community.
5. On notice of the RTP CPO (or assigned personnel) MNWD will continuously operate the AWT at 9 mgd during peak flow periods at RTP (exceedances of 17 mgd), and MNWD to prepare its recycled water system in advance of storm events, including reservoir storage space.
6. MNWD to remove original AWT facility from the site to improve access and parking as the equipment has been out of service since approximately 1998 and has no operational potential.

Pretreatment

1. MNWD to make application to SOCWA for status as a Significant Industrial User (SIU), providing operational plans and detail as to their approach to daily operation of the AWT due to backwash to RTP 250,000 to 400,000 gpd. Generally, approval of an SIU happens 6 months prior to operational start up. On MNWD application submission, SOCWA will determine requirements for the site, including:
    a. Sample point approved design and installation
    b. Sampling/Reporting as a SIU via a backwash sample point of daily flow and pH
    c. Operational design to include proposed approach to desilt sand from backwash to RTP
    d. Plan for independent required sampling (monthly for required constituents)
    e. Addition of bleach storage containment and placement of proper spill kit.
        i. Discharges of stormwater collected in the containment area on CPO approval.
    f. Plan for pretreatment site inspections and access

Utilities

1. MNWD will transfer over AWT SCE meter to MNWD.
2. MNWD will provide AWT with emergency power source (generator) and maintain all AQMD permitting and compliance for alternative power.
3. SOCWA to continue utilization of Building 80 for access to Stormwater Pump, east RAS, Access Road Lighting (breaker and electrical/control systems). MNWD will not interfere with power supplies to Building 80.
4. MNWD to convert 3WHP to MNWD recycled water for use at the AWT.

Site Access

1. SOCWA will provide MNWD with site access procedures, including check-in/check-out via RTP plant phone, notification for deliveries and entries to the site for MNWD and 3rd parties, after-hours access, restricted access to the remainder of the RTP site.

Laboratory

1. MNWD to submit anticipated laboratory support plan, including process control/trouble assessment expectations, special lab order needs. Plan to include approach to MNWD pulling and providing AWT samples for compliance purposes to the SOCWA lab (see Order No. 97-52). Approach anticipated to be similar to provision of potable water quality sampling lab services.

Engineering/Construction

1. MNWD to authorize SOCWA to proceed with new east return activated sludge bleach system.
2. SOCWA anticipates providing completed plans to MNWD for AWT upgrade. MNWD commits to proceeding with the AWT upgrade, and any requested design/construction revisions to be approved by SOCWA.
3. Access to staging areas provided on approval of SOCWA. Manner and method of construction access to RTP site to be authorized by SOCWA.
4. MNWD to provide required construction documentation as requested by SOCWA (proper agreements, indemnifications, insurance, bond requirements, payment and release requirements, among other requirements to be determined).

Safety

1. MNWD to follow SOCWA Safety Procedures, including SOCWA Safety Manual, SOCWA SPCCP (as revised from time to time). Compliance is required with all Federal, State and Local safety requirements and recommendations, including: OSHA standards, CalOSHA standards.
2. All MNWD employees, contractors or subcontractors to follow SOCWA required practices & instructions (examples: hot work permits, confined space work, job hazard analysis, etc.)
3. MNWD to require all personnel entering AWT for work at the site to have current certification for confined space entry and completed HazWopper training. MNWD to provide current compliant ICS training to employees. Compliance with recommended field work ergonomics.
4. MNWD to deliver to SOCWA Safety Officer current SDS and maintain and follow Exposure Control Plans. All required PPE to be provided by MNWD to its employees,

including on-site storage of confined space rescue equipment and fall protection equipment.

5. MNWD to obtain, keep current and comply with: OCHCA CUPA chemical reporting (ERS/EPA database), Fire Authority Permits, Pressure Vessel Permits, ARC flash NFPA 70E reporting & compliance. SOCWA Safety Officer to be notified of all chemicals to be stored on site and provided with disposal documentation. Secondary containment or appropriate cabinets to be provided for chemicals stored by MNWD. SDS sheets to be stored, up to date and available for inspection in the area of chemical storage. All chemical deliveries supervised by on-site MNWD employees.
6. MNWD will not permit lone workers on site (2 employee minimum for all work at AWT).
7. All employee/worker injuries to be reported to RTP CPO on proper forms with investigation reports.
8. Compliance with instructions of SOCWA Safety Officer including stop work orders if issued as appropriate in the opinion of the Safety Officer or the Plant CPO.

NPDES Permit Compliance

1. MNWD to notify State Water Resources Control Board (RWQCB) of Qualified Operator Identity (indicating compliance with Order 97-52).
2. MNWD will respond to all SOCWA requests related to NPDES Permit Compliance.
3. MNWD will develop and submit to SOCWA for review and approval AWT SOPs.

SCADA/E&I

1. MNWD to continue operation of instrumentation to provide to SOCWA:
    a. Influent NTL
    b. Mudwell flow
    c. MNWD Reservoir Levels
    d. Backwash flows
    e. Backwash water quality
    f. AWT flows
2. SOCWA will annually calibrate metering equipment for the above signals and provide calibration information back to MNWD.

Misc

1. MNWD will respond with personnel and documentation as requested by the CPO to comply with regulatory inspections.
2. MNWD will take immediate steps to mitigate odors and noise from the AWT on notice of the CPO or assigned SOCWA staff. AWT site will be kept clean and in good condition.
3. MNWD will deliver to SOCWA CPO plans for site access, delivery schedules, etc. Regular updates to be provided to CPO (daily/weekly/monthly as need).
4. Parking occupancy not to exceed two vehicles for non-emergency operations M-F 7:30 a.m. to 3:30 p.m. Access to the site outside of non-emergency operations hours to be provided via notice to the CPO or on-call SOCWA personnel.
5. AWT will be a remote worksite for MNWD employees similar to lift stations. SOCWA will not be providing access to RTP administrative offices, lockers, conference or breakroom areas.
6. Q&A/Support Requests from MNWD regarding AWT operations to be submitted via email to CPO.
7. SOCWA will bill MNWD separately for all services (actual cost plus overhead) related to MNWD operation, maintenance and construction at the AWT.

8. Use of additional on-site space, addition of equipment or differential treatment, (including but not limited to production of potable water for direct or indirect use, enlargement or change to on site facilities) requires approval of PC 17 and amendment of existing agreements.
9. Additional discussion of SOCWA staff and work with counsel should take place to further development of relevant terms.

moulton niguel water district

August 26, 2022

VIA USPS AND EMAIL

Betty Burnett
General Manager
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Re: ***Notice of MNWD Operation of Advanced Wastewater Treatment Facilities at the Joint Regional Plant***

Dear Betty:

On August 22, 2002, the Board of Directors of the Moulton Niguel Water District ("MNWD") directed staff to provide notice to SOCWA that MNWD will resume operating its Advanced Wastewater Treatment facilities at the Regional Treatment Plant. This letter shall serve as written notice that on November 1, 2022, Moulton Niguel Water District will resume all operation and maintenance obligations for the Advanced Wastewater Treatment ("AWT") facilities at the Joint Regional Plant pursuant to the PC 17 Agreement and its amendments.

We appreciate the cooperation of SOCWA and its staff as MNWD undertakes the transition of the operation of this critical MNWD facility. We look forward to continuing to work with SOCWA staff to ensure a smooth transition of the operation and maintenance of the AWT. Rod Woods and Jesus Garibay will lead this effort from the MNWD team and will serve as your primary points of contact. However, please do not hesitate to reach out to Matt Collings or myself at any time.

Very truly yours,
MOULTON NIGUEL WATER DISTRICT

Joone Lopez
General Manager

cc: MNWD Board of Directors
Project Committee 17 Member Agencies
Matt Collings, MNWD Assistant General Manager
Rod Woods, MNWD Director of Engineering

6.2.5.2. **Ensuring Adequate Treatment Plant Capacity**

The previous order, Order No. R9-2012-0013 required the Dischargers to submit a report four years prior to the time wastewater flows are projected to reach plant capacity, as stated in title 23, division 3, chapter 9, article 2, sections 2232 and 2235.3 of the CCR. The requirement states:

"Four years prior to reaching POTW design capacity, the owner/operator of the POTW shall submit a Treatment Plant Capacity Report to the San Diego Water Board showing how flow volumes will be prevented from exceeding existing capacity or how capacity will be increased. A notification and copy of the report shall be sent to appropriate local elected officials, local permitting agencies, and the press. The required technical report shall be reviewed, approved, and jointly submitted to the San Diego Water Board by all planning and building departments having jurisdiction in the area served by the POTW. Opportunities for public participation and involvement are required during the preparation and development of the technical report. The report shall be accompanied by a statement outlining how interested persons were involved in the preparation of the technical report."

If the San Diego Water Board finds that the technical report indicates adequate steps are not being taken to address the capacity problem, the San Diego Water Board will adopt a time schedule order or other enforcement order. Such action will be preceded by notice and a hearing.

6.2.5.3. **Pretreatment Program**

The federal CWA section 307(b), and federal regulations, 40 CFR part 403, require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards, or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR part 403.

The Dischargers' implementation and enforcement of its approved pretreatment program is an enforceable condition of this Order. If the Dischargers fail to perform the pretreatment functions, the San Diego Water Board, the State Water Board, or USEPA may take enforcement actions against the Dischargers as authorized by the federal CWA and Water Code.

6.2.5.4. **Sludge (Biosolids) Requirements**

The use and disposal of biosolids within the United States is regulated under State and federal laws and regulations, including permitting requirements and technical standards included in 40 CFR part 503. The Dischargers are required to comply with the standards and time schedules contained in 40 CFR part 503 for biosolids used or disposed of within the United States

Title 27, division 2, subdivision 1, section 20005 of the CCR establishes approved methods for the disposal of collected screenings, residual sludge,