SAN ELIJO JOINT POWERS AUTHORITY

ESCONDIDO City of Choice

February 26, 2018

Ms. Joann Lim
Water Resource Control Engineer
California Regional Water Quality Control Board, San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108-2700

Dear Ms. Lim:

Subject: Tentative Order Nos. R9-2018-0002 and R9-2018-0003
San Elijo Ocean Outfall (SEOO)
City of Escondido Hale Avenue Resource Recovery Facility (HARRF)
San Elijo Water Reclamation Facility (SEWRF)
Reference: 229726/255265:JLLim

The letter is submitted jointly by the City of Escondido and San Elijo Joint Powers Authority to provide written comment on the following Tentative Orders relative to the discharge of wastewater to the San Elijo Ocean Outfall (SEOO):

- Tentative Order No. R9-2018-0002, NPDES No. CA0107981, Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall, and
- Tentative Order No. R9-2018-0003, NPDES No. CA0107999, Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.

COMMENTS ON TENTATIVE ORDERS

Chronic Toxicity. Table 4 of the Tentative Orders[1] proposes to establish an effluent limitation for chronic toxicity. The City and SEJPA request that chronic toxicity be regulated through establishing an effluent performance goal (added to Table 6 of the Tentative Orders) instead of an effluent concentration limit (Table 4 of the Tentative Orders).

As established within Attachment F to the Tentative Orders, a Reasonable Potential Analysis (RPA) conducted by the RWQCB resulted in a RPA Endpoint of 2 for both the City and SEJPA discharges. Despite this RPA Endpoint, the Tentative Orders propose establishing an effluent concentration limit for chronic toxicity, stating:

1 See page 5 of both Tentative Orders.

Reasonable potential has been concluded for chronic toxicity based on best professional judgement given the possibility of synergistic effects.[2]

In establishing this best professional judgment (BPJ) the Tentative Orders do not offer any evidence that such synergistic effects have occurred or will occur. The City and SEJPA request that the RWQCB revisit this BPJ conclusion and regulate chronic toxicity through establishing a performance goal consistent with the RPA Endpoint of 2. This request is based on:

- A consistent historic demonstration of HARRF and SEWRF compliance with the Ocean Plan chronic toxicity water standard.
- A consistent historic demonstration of HARRF and SEWRF compliance with Ocean Plan receiving water concentration standards for individual toxic organic and inorganic constituents.
- No adverse synergistic effects were observed on SEOO effluent toxicity when the Palomar Energy Center brine discharge was initiated.
- No adverse synergistic effects were observed on SEOO effluent toxicity when the SEWRF reverse osmosis brine discharge was initiated.
- The proposed 0.7 million gallon per day (mgd) brine discharge from the City's Membrane Filtration/Reverse Osmosis (MFRO) represents a minor flow contribution to the overall SEOO discharge, and other than a slight increase in salinity, is not projected to have a discernible effect on the overall quality of the SEOO discharge.
- No synergistic effects between treated municipal wastewater and brine have been documented in any of the other San Diego Region ocean outfall discharges.

San Elijo Lagoon Restoration Project. The San Elijo Lagoon Restoration Project may have a significant impact on receiving water quality and sediments in the vicinity of the SEOO, and the Fact Sheets to the Tentative Orders should be revised to reflect this. It is our understanding that this restoration project[3] will involve moving considerable quantities of sediment dredged from the lagoon to the immediate area of the SEOO, including:

- placing approximately 107,000 cubic yards of dredged material approximately 500 feet north of the SEOO diffuser,
- placing approximately 297,000 cubic yards of dredged material approximately 500 feet south of the SEOO diffuser,
- placing approximately 300,000 cubic yards of dredged material in the nearshore beach area of Cardiff Beach, and
- placing approximately 146,000 cubic yards of dredged material in the nearshore beach area of Solana Beach.

2 See pages F-21 of Tentative Order No. R9-2018-0002 and page F-18 of Tentative Order No. R9-2018-0003.

3 The lagoon restoration project and sediment discharge operations are addressed within Regional Water Board Certification No. R9-2016-0111.

Dredged material would be discharged to the ocean via a temporary pipeline. The approximate 400,000 cubic yards of dredged material that is to be discharged to the vicinity of the SEOO diffuser represents a mass load of slightly more than one trillion pounds of sediment. When contrasted with the SEOO discharge, which typically contains no measurable settleable solids, it is evident that sediment effects related to the lagoon dredging operation would be many orders of magnitude larger than any effects associated with the SEOO discharge.

The "Benthic Monitoring Requirements" section[4] of the Fact Sheets to the Tentative Orders should be revised to reflect the significance of this dredging operation and the potential for dredged material to significantly influence benthic habitat within the SEOO discharge zone for a number of years. Additionally, the Fact Sheets to the Tentative Orders should be modified to identify sediment chemistry or benthic monitoring being required as part of the RWQCB's regulation of the sediment disposition program to assess impacts of the dredging and sediment relocation on sediment and habitat within the vicinity of the SEOO discharge zone.

Additionally, the Fact Sheets to the Tentative Orders should be revised to omit any reference to the disposal of any lagoon sediment at the LA-5 disposal site. We are not aware of any connection between the lagoon dredging operation and the LA-5 site, which is located more than 25 miles south of the SEOO.

Plume Tracking Study. Special Studies Provision VI.C in the Tentative Orders establishes requirements for a plume tracking study. The City, SEJPA and other regional ocean outfall agencies have expended considerable resources during the past 40 years to collect information on receiving water quality and ocean hydrodynamics. Conclusions evident from trends in the available historical data include the following:

- Thermal stratification typically results in the plume remaining submerged for all but a brief period of non-stratification in late winter.
- No adverse sediment chemistry effects are observed in the vicinity of the SEOO.
- No adverse effects are observed on the benthic community in the vicinity of the SEOO.
- No adverse effects are observed in offshore waters relative to dissolved oxygen or water clarity.
- Concentrations of suspended solids in the SEOO discharge are low, and are not markedly dissimilar to concentrations of suspended solids in ambient ocean waters.
- No discernible amount of settleable material is present in the SEOO discharge, and no accumulation of sediment is observed in the vicinity of the outfall diffuser.
- Shore-based pollution sources can result in periodic exceedance of Ocean Plan REC-1 bacteriological standards at the surf zone stations, particularly during and after storm events.
- The SEOO has achieved virtually 100 percent compliance with Ocean Plan REC-1 bacteriological standards at all offshore and nearshore stations.

4 Section VII.B.3 on page 40 of Tentative Order No. R9-2018-0002 and Section VII.B.3 on page F-37 of Order No. R9-2018-0003.

- Ocean currents are highly variable, and data from a single location may not correlate well with other nearby locations, but ocean water movement on a macro scale is predominantly upcoast and downcoast.
- Available receiving water data indicate that the presence of the SEOO plume is typically difficult to discern at SEOO monitoring stations located beyond the zone of initial dilution.

If properly crafted, the plume study can be used to confirm or refine the above data trends. The plume tracking study can also be used to address many of the core questions on which the SEOO Monitoring and Reporting Program requirements are based. To this end, the City and SEJPA propose that the plume tracking study[5] be designed to address the following important questions:

C. Plume Tracking Study

Plume tracking is an ongoing program designed to assess~~map~~[6] dispersion and fate of the wastewater plume discharged from the San Elijo Ocean Outfall (SEOO). The plume tracking program shall be designed to address~~answer~~,[7] at a minimum, the following questions:

(1) What parameters are most useful for assessing the presence of a diluted wastewater plume? [8]

(2) What is the fate of the diluted wastewater plume in typical and atypical oceanographic conditions, and when and under what conditions is the diluted and dispersed plume no longer distinguishable from ambient receiving water?[9]

(3) Are existing receiving water station locations and methods adequate for demonstrating that the plume does not encroach into surf zone recreational areas?[10]

(4) Does the plume have the potential to interact with sources of shore-based contamination that may extend outward into the SEOO discharge zone?[11]

(5) Do any of the existing shore monitoring stations provide data that is instructive or useful relative to operation of the SEOO or the SEOO discharge?[12]

(6) What is the variability in the degree of initial dilution that occurs under typical and atypical conditions?[13]

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5 See page E-30 of Tentative Order No. R9-2018-0002 and page E-28 of Tentative Order No. R9-2018-0003.

6 "Assess" is a more appropriate term, as map implies only a geographic plot.

7 "Address" is a more appropriate term, as the term "answer" implies that a definitive result can be achieved within the specified study time period.

8 The first step in the plume tracking work plan will be to identify which monitoring parameters can be useful in tracking the SEOO plume. Because of the nature of the SEOO discharge and flows, it should be noted that parameters useful for tracking the SEOO plume may be different (and perhaps less effective) than parameters used to track plumes from other Southern California outfall discharges that involve higher discharge flows or discharges that are not as highly treated as the SEOO discharge.

9 An important element in assessing the fate of the diluted wastewater plume is to identify when and where the plume is no longer indistinguishable from ambient receiving water.

10 The term "surf zone recreational areas" is preferred instead of "water contact recreational zones", as the Tentative Orders defines water contact recreational zones as including all waters within three nautical miles of the shore.

11 During times of significant runoff, sediment-laden storm flow from the lagoon can be visibly observed extending outwards toward the SEOO discharge zone.

12 Bacteriological compliance assessments submitted by the City and SEJPA to the RWQCB which have assessed receiving water quality data collected during the past three NPDES permit terms strongly demonstrate that monitoring data from shore stations are useful only for assessing shore-based contamination.

13 Additional data on oceanographic conditions will allow for improved assessment of (1) the minimum month initial dilution value (representative of atypical oceanographic conditions) assigned by the RWQCB for use in assessing compliance with Ocean Plan Table 1 receiving water standards, and (2) dilution and dispersion conditions that are characteristic of more common and typical oceanographic conditions.

(7) How will the MFRO and future brine discharges (along with increased recycled water use and decreased outfall discharge flows) affect the dynamics of the wastewater plume and initial dilution?[14]

Coordination among the RWQCB, City, SEJPA, other regional dischargers, and the scientific community will be required to develop a plume study work plan that addresses these questions. It is important that the NPDES plume tracking study requirements be sufficiently flexible to allow for development of a work plan appropriate to the SEOO discharge and location. To this end, it is recommended that the Plume Tracking Study Monitoring Plan (PTMP) language be slightly modified as follows so as to not lock into a specific monitoring or modeling technology before the feasibility analysis is conducted:

3. Plume Tracking Monitoring Plan (PTMP). *The discharger shall, in consultation with the San Diego Water Board, prepare and submit a PTMP to implement an ongoing program designed to evaluate~~map~~ dispersion and fate of the wastewater plume discharged from the SEOO. The PTMP shall include, but is not limited to, the following elements:*

a. A feasibility analysis, including an assessment of advantages, disadvantages, cost, usefulness and effectiveness for the installation and operation by the Discharger of a permanent, real-time oceanographic mooring system located near the terminal diffuser structure of the SEOO. If determined to be cost-effective and feasible for addressing the plume tracking study goals, t~~T~~he mooring system shall be designed to measure, at minimum, direction and velocity of subsurface currents, and ocean stratification. This element shall also, if applicable, include:

i. Development of a work plan or pilot study (special study) for implementation of the SEOO real-time mooring system, including data acquisition and processing.

ii. Networking the SEOO system to be compatible with a similar system being deployed by other Dischargers in the San Diego Region, as well as a third system operated by the University of California San Diego, Scripps Institution of Oceanography in the coastal waters off the City of Del Mar.

b. A feasibility analysis, including an assessment of advantages, disadvantages, cost, usefulness and effectiveness for the development of a work plan or pilot study (special study) for utilizing advanced oceanographic sampling technologies such as an autonomous underwater vehicle (AUV) or remotely operated towed vehicle (ROTV) in conjunction with the SEOO real-time mooring system to enhance collection of water quality data in real-time and provide higher resolution maps of plume location and movement. The Discharger may collaborate with other agencies (e.g., the City of San Diego) in the development of a work plan or pilot study.

c. Any other element or alternative approach proposed by the Discharger to answer the questions posed above for the plume tracking.

d. The recommended actions for implementation of an ongoing plume tracking program.

The City and SEJPA look forward to coordinating with the RWQCB, other regional dischargers, and the scientific community to craft a work plan that addresses questions of value to regulators, the public, and City and SEJPA ratepayers. We are confident that the plume tracking study will, along

14 Additional assessment can evaluate how or whether projected changes in SEOO discharge flows and discharge salinity may influence initial dilution (e.g. dilution that occurs as a result of the buoyancy and momentum of the SEOO discharge plume).

with the more than 40 years of collected receiving water data, continue to document the excellent SEOO record in protecting the ocean environment and complying with applicable state and federal water quality standards, plans, and policies.

Minor Revisions/Corrections. Table A (page 7) presents several additional minor recommended corrections or revisions within Tentative Order No. R9-2018-0002 (City of Escondido discharge). Table B (Page 8) presents minor recommended corrections or revisions within Tentative Order No. R9-2018-0003 (SEJPA discharge).

Thank you for the opportunity for input on Tentative Order Nos. R9-2018-0002 and R9-2018-0003. Please contact us if you have any questions concerning the City's comments and requested modifications.

Sincerely,

Christopher W. McKinney
Director of Utilities
City of Escondido

Michael T. Thornton
General Manager
San Elijo Joint Powers Authority

Table A
Minor Recommended Corrections and Revisions to Tentative Order Nos. R9-2018-0002
City of Escondido Discharge to the SEOO

Page No.	Recommended Revision
19	The MFRO facility is a "scalping" facility that provides additional treatment for a portion of the HARRF tertiary treated water. Since temporary shutdown of the MFRO facility does not result in any decrease in the quality of water discharged to the land outfall, the MFRO facility is not provided with a source of backup power. Revise the first sentence of "4.a. Construction, Operation and Maintenance Specifications" as follows: *The Discharger shall maintain in good working order a sufficient alternate power source for operating HARRF ~~and the MFRO Facility~~.*
22	The same provision has been repeated twice at the top of the page as items "iv" and "vi". Delete item "vi". ~~*vi. The discharger shall provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) following permit reissuance (40 CFR 122.44(j)(2)(ii)).*~~
A-11	Stray parenthesis exists at end of definition for Toxicity Identification Evaluation (TIE).
A-13	Recommend adding the Ocean Plan definition for "Zone of Initial Dilution" to Attachment A.
E-7	The MFRO facility is not yet constructed. Please add a footnote to Table E-4 which states that monitoring at Monitoring Location EFF-002 is to commence once MFRO operations are initiated.
E-9	Dichlorobromomethane is a volatile organic compound that is assessed using EPA Method 624 and should be evaluated using a grab sample, not a 24-hour composite.
E-12	Change the first two sentences of 2nd paragraph of "4. Species Sensitivity Screening" to the following: *Species sensitivity rescreening is required every 24 months ~~if there has been discharge during dry weather condition. If the discharge has been inte3rmittent and occurs only during wet weather, rescreening is not required. If rescreening is required, t~~The discharger shall rescreen with the marine ….*
E-14	The City is not in charge of pollution prevention and stormwater control programs, and thus cannot always dictate coordination terms. Modify the second sentence of item "c" to the following: *c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts.*
E-17	Table E-7, footnote 3: Repeat sampling should not be required if the sample was collected within 48-hours of a rain event. Historical data (see prior receiving water coliform assessments submitted by the City and SEJPA which have evaluated SEOO receiving water data during the past two NPDES permit terms) indicate that storm water runoff is the cause of bacteriological contamination in the surf zone during and after storm events. No shore base exceedances have occurred during this period which are attributable to the discharge of effluent from the SEOO 8,000 feet from shore.
E-18	Table E-8, footnote 4: remove the reference to "chlorophyll a" in the first sentence of footnote 4.
E-24	D.1.b.ii(7) requires "three cores" to be collected in each band transect. Table E-10 on the same page states that "4 grabs/station" are required. Please clarify the exact sampling requirements regarding "grabs" and "cores".
E-29	As written, the climate action plan requirement appears to preclude the submission of an existing climate action plan. To account for the condition in which a climate action plan (or plans) already exists, revise the first sentence of "A. Climate Action Plan" to as follows: *The discharger shall ~~prepare and~~ submit a Climate Change Action Plan (CCAP) within three years of the effective date of this order.*
F-4	The City's use agreement with each agricultural customer expresses water quality targets in terms of chloride concentration rather than TDS. Revise the final sentence of page F-4 to the following: *The proposed MFRO facility would be sized to produce 2 MGD of MFRO product water, which depending on agricultural demands, would be blended with a quantity of HARRF disinfected tertiary-treated recycled water to produce a final agricultural reuse supply that will typically meet an agricultural supply chloride~~total dissolved solids~~ target criterion of 80~~600~~ milligrams per liter or less when practical.*
F-9	The MFRO brine line is 15 inches in diameter. Revise the final bullet in middle of page F-9 as follows: *Constructing a 15~~16~~-inch-diameter brine line to convey RO reject (waste brine) from the proposed MFRO facility ….*

Table B
Minor Recommended Corrections and Revisions to Tentative Order No. R9-2018-0003
SEJPA Discharge to the SEOO

Page No.	Recommended Revision
A-11	Stray parenthesis exists at end of definition for Toxicity Identification Evaluation (TIE).
A-13	Recommend adding the Ocean Plan definition for "Zone of Initial Dilution" to Attachment A.
E-8	Dichlorobromomethane is a volatile organic compound that is assessed using EPA Method 624 and should be evaluated using a grab sample, not a 24-hour composite.
E-10	Change the first two sentences of 2nd paragraph of "4. Species Sensitivity Screening" to the following: *Species sensitivity rescreening is required every 24 months ~~if there has been discharge during dry weather condition. If the discharge has been inte3rmittent and occurs only during wet weather, rescreening is not required. If rescreening is required, t~~The discharger shall rescreen with the marine ...*
E-13	SEJPA is not in charge of pollution prevention and stormwater control programs, and thus cannot always dictate coordination terms. Modify the second sentence of item "c" to the following: *c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts.*
E-15	Table E-4, footnote 3: Repeat sampling should not be required if the sample was collected within 48-hours of a rain event. Historical data (see prior receiving water coliform assessments submitted by the City and SEJPA which have evaluated SEOO receiving water data during the past two NPDES permit terms) indicate that storm water runoff is the cause of bacteriological contamination in the surf zone during and after storm events. No shore base exceedances have occurred during this period which are attributable to the discharge of effluent from the SEOO 8,000 feet from shore.
E-16	Table E-5, footnote 4: remove the reference to "chlorophyll a" in the first sentence of footnote 4.
E-22	D.1.b.ii(7) requires "three cores" to be collected in each band transect. Table E-7 on this same page states that "4 grabs/station" are required. Please clarify the exact sampling requirements regarding "grabs" and "cores".
E-27	As written, the climate action plan requirement appears to preclude the submission of an existing climate action plan. To account for the condition in which a climate action plan (or plans) already exists, revise the first sentence of "A. Climate Action Plan" to as follows: *The discharger shall ~~prepare and~~ submit a Climate Change Action Plan (CCAP) within three years of the effective date of this order.*