

A Joint Powers Public Agency

## <u>ITEM NO. 11</u>

## **REGULATORY AFFAIRS COMMITTEE AGENDA**

Monday, March 18, 2024

11:45 A.M.

East Bay Dischargers Authority 2651 Grant Avenue, San Lorenzo, CA 94580

## This meeting will be teleconferenced from the following location: Guest Parking Area Located on Ocaso Camino, West of and Closest to the Intersection of Paseo Padre Parkway

Teleconference link: <u>https://us02web.zoom.us/j/82810609847</u> Call-in: 1(669) 900-6833 and enter Webinar ID number: 828 1060 9847

Committee Members: Andrews (Chair); Lathi

- RA1. Call to Order
- RA2. Roll Call
- RA3. Public Forum
- **RA4. EBDA NPDES Compliance See Item No. OM4** (The Committee will review NPDES Permit compliance data.)
- **RA5.** Regulatory Reporting Checklist (The Committee will review a checklist of completed regulatory reporting items.)
- RA6. NPDES Annual Report (The Committee will review the Authority's Annual Report submittal.)
- **RA7.** BACWA Key Regulatory Issues Summary (The Committee will review BACWA's issues summary.)
- RA8. Study of PFAS in Bay Area Wastewater (The Committee will discuss the study recently completed by San Francisco Estuary Institute.)
- **RA9.** Nutrients Watershed Permit Update (The Committee will review a recently submitted annual report and receive a status update on negotiations.)

Agenda Explanation East Bay Dischargers Authority Regulatory Affairs Committee March 18, 2024

## RA10. Motion Authorizing the General Manager to Execute Amendment No. 1 to the Professional Services Agreement with Pacific EcoRisk for Effluent Toxicity Testing in the Amount of \$10,020, for a Total Not to Exceed Amount of \$129,639

(The Committee will consider the motion.)

### RA11. Adjournment

Any member of the public may address the Committee at the commencement of the meeting on any matter within the jurisdiction of the Committee. This should not relate to any item on the agenda. Each person addressing the Committee should limit their presentation to three minutes. Non-English speakers using a translator will have a time limit of six minutes. Any member of the public desiring to provide comments to the Committee on any agenda item should do so at the time the item is considered. Oral comments should be limited to three minutes per individual or ten minutes for an organization. Speaker's cards will be available and are to be completed prior to speaking.

In compliance with the Americans with Disabilities Act of 1990, if you need special assistance to participate in an Authority meeting, or you need a copy of the agenda, or the agenda packet, in an appropriate alternative format, please contact the Administration Manager at (510) 278-5910 or juanita@ebda.org. Notification of at least 48 hours prior to the meeting or time when services are needed will assist the Authority staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting or service.

In compliance with SB 343, related writings of open session items are available for public inspection at East Bay Dischargers Authority, 2651 Grant Avenue, San Lorenzo, CA 94580. For your convenience, agenda items are also posted on the East Bay Dischargers Authority website located at <u>http://www.ebda.org</u>

## Next Scheduled Regulatory Affairs Committee Meeting May 13, 2024 at 12:00 p.m.

## ITEM NO. RA5 REGULATORY REPORTING CHECKLIST

### Recommendation

For the Committee's information only; no action is required.

## Strategic Plan Linkage

1. **Regulatory Compliance:** Proactively meet or exceed regulatory requirements for protection of the environment and public health.

## Background

Authority staff maintains a checklist of all regulatory reporting and related tasks to ensure timely and complete reporting.

## Discussion

The following checklist is extracted from a complete list of routine regulatory activities addressed throughout the year. The following items were completed during the period of September 1, 2023 through February 29, 2024; there are no outstanding activities.

## Agenda Explanation East Bay Dischargers Authority Regulatory Affairs Committee March 18, 2024

Authority	Required Action	Occurrence	Date
ý	·		Completed
Bay Area Air Quality Management District	Pay renewal fee for Permit to Operate Plant #14528	Annual	9/15/2023
Alliant Insurance Services, Inc	CSRMA Pooled Liablility Program Renewal Questionnaire	Annual	9/27/2023
Division of Occupational Safety & Health	Permit #A002244-80 to Operate Air Pressure Tank (Inspection & Renewal) NOTE: CALL APIP TO SCHEDULE INSPECTION.	Quinquennial	10/18/2023
Division of Occupational Safety & Health	Permit #A002245-80 to Operate Air Pressure Tank (Inspection & Renewal) NOTE: CALL APIP TO SCHEDULE INSPECTION.	Quinquennial	10/18/2023
State Water Resources Control Board	NPDES Quarterly Report (Jul-Sep)	Quarterly	10/27/2023
ADP Business Payroll	Payroll Tax Return Download Quarter 3	Quarterly	11/2/2023
Alameda County	Financial Statements Submittal	Annual	11/28/2023
State Controller's Office	Financial Statements Submittal	Annual	11/28/2023
Various	Financial Statements Submittal	Annual	11/28/2023
Various	EE Training (See: Log EE_Training)	Monthly	12/11/2023
State Water Resources Control Board	Annual Waste Discharge Permit Fee	Annual	12/15/2023
State Compensation Insurance Fund	Payroll Report, Semi-Annual Jul 01 - Jan 01	Semi-Annual	1/10/2024
Alliant Insurance Services, Inc	Pollution Liability Insurance Program Renewal	Annual	1/12/2024
Internal Revenue Service	Distribute W-2 forms to employees/commissioners	Annual	1/16/2024
East Bay Dischargers Authority	Review the Emergency Response Plan and Contingency Plan	Annual	1/22/2024
East Bay Dischargers Authority	Review the OLSD SPCC Plan	Annual	1/22/2024
Internal Revenue Service	Distribute Form 1099 (NEC or MISC) to vendors/contractors	Annual	1/25/2024
Division of Occupational Safety & Health	OLEPS Crane Inspection/Certification	Annual	1/25/2024
Internal Revenue Service	File Form 1096 (Form 1099 summary) w/ IRS - If paper forms are submitted	Annual	1/25/2024
ADP Business Payroll	Print W-2 copies for EBDA payroll file (EE W-2 forms will be delivered)	Annual	1/26/2024
AICo Environmental Health	OLEPS CUPA HMBP & Inventory Reporting (CERS ID 10188879)	Annual	1/26/2024
City of San Leandro	MDF CUPA HMBP & Inventory Reporting (CERS)	Annual	1/26/2024
State Controller's Office	Special Districts Financial Transactions Report (FTR)	Annual	1/29/2024
State Water Resources Control Board	NPDES Annual Report	Annual	1/30/2024
Department of Industrial Relations	Form 300A Posting	Annual	1/31/2024
Bureau of Labor Statistics	Report monthly employment figures, include Commissioners and Staff	Monthly	2/12/2024
Bay Area Air Quality Management District	Complete <i>Data Update</i> form Plant #13187 - Permit Expiration Date: May 1	Annual	2/20/2024
Alliant Insurance Services, Inc	Public Official Bond Renewal - JTZ	Annual	2/26/2024
Alliant Insurance Services, Inc	Public Official Bond Renewal - HC	Annual	2/26/2024
State Water Resources Control Board	NPDES monthly reports	Monthly	2/28/2024
State Water Resources Control Board	NPDES Quarterly Report (Oct-Dec)	Quarterly	2/28/2024
Regional Water Quality Control Board	Recycled Water monthly reports	Monthly	2/29/2024

## ITEM NO. RA6 NPDES ANNUAL REPORT

#### Recommendation

For the Committee's information only; no action is required.

#### Background

Each year at the end of January, EBDA is required by its NPDES permit to submit an annual report. The report provides a compendium of the status of EBDA's facilities, major projects undertaken by the Member Agencies, and discharge quality.

#### Discussion

EBDA's Annual Self-Monitoring Report is attached for the Commission's information.

# 2023 NPDES SELF-MONITORING PROGRAM ANNUAL REPORT

## NPDES PERMIT NO. CA0037869

East Bay Dischargers Authority City of San Leandro Oro Loma Sanitary District Castro Valley Sanitary District City of Hayward Union Sanitary District

January 30, 2024



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# Section 1: Comprehensive Discussion of Treatment Plant Performance and Compliance

Major milestones and construction projects completed at the EBDA member treatment plants in 2023 included the following:

- Oro Loma/Castro Valley Sanitary Districts (OLSD/CVSan)
  - Installed new iron sponge vessel to remove H2S as a redundant system to chemical dosing. This was a proactive effort to maintain compliance with air board regulations due to the shortage in chemical supply experience throughout the industry.
  - Continuing to operate a full scale sidestream nitrification process using Microvi's biocatalyst. As constructed, approximately 100,000 gpd of belt press filtrate will be treated each day. The sidestream contains approximately 17% of the total influent nitrogen. To date, the process reduces ammonia concentrations by 70%. Staff continues to work to improve the performance with a 90% removal target. The process is designed to reduce ammonia to nitrite or nitrate, which is readily available for denitrification in the mainstream process.
  - Much of the Oro Loma Sanitary District's Capital Program spending has shifted to the collection system. The District is approximately 60% complete with its goal to replace 40 miles of sewer pipe by 2029 at an approximate cost of \$60M. The District has completed four of ten planned contracts in 2023 with two currently actively in construction, one out to bid and expects to award two more in 2024.
  - Oro Loma Sanitary District worked to improve chlorine dosing to EBDA by adding automation to the chlorine system that maintains a chlorine residual setpoint at the disinfection channel chlorine injection point and programming a minimum sodium hypochlorite feed rate to prevent low chlorine residual dips during low flow events. We have also relocated our sensor locations to better monitor chlorine residual more immediately.
- Union Sanitary District (USD)
  - Enhanced Treatment and Site Upgrade (ETSU) Program phase 1A construction is ongoing. The design for phase 1B has commenced and is expected to be out to bid mid calendar year 2024. Phase 1A will modify the existing aeration basins, add an 8th aeration basin, and relocate existing administrative/operations/maintenance buildings to allow for phase 1B to be built. Phase 1B will construct new secondary clarifiers, return activated sludge pump station (RAS), waste activated sludge pump station (WAS) and new effluent pump station, including new chlorine contact channels. The completion of the ETSU program will allow USD to be an earlier adopter of nutrient removal.

- New Standby Generator system is construction will be completed in 2025. Long lead times for electrical equipment have slowed the completion of this project. This project also upgrades a portion of the facility's electrical distribution system, by replacing Substation #2.
- WAS Gravity Belt Thickener is in design to replace aging solids process equipment.
- Rehabilitation of the district's Digester #6, which is the second largest digester, is underway.
- <u>City of Hayward</u>
  - The recycled water membrane treatment system had its first full year in service and distributed 60 million gallons of recycled water in total. Averaging 250K to 300K gallons of water per day during the peak season.
  - The Headworks project is substantially complete. In 2023 the contractor installed a permanent dewatering system for the foul-air line to reliably run the biofilter and punch list items to be completed in 2024. We are working with BAAQMD to permit the biofilter.
  - The 12KV Switch Gear replacement project was awarded to Carollo in late 2021. The project bid was awarded in summer of 2022, the design has begun, and construction was scheduled to begin in late 2023. Due to extremely long lead times the start date has been pushed to mid-2024.
  - The nutrient management upgrades and admin building project was awarded to Brown and Caldwell in August of 2022. Planning has begun and it will take 2 years to design the nutrient upgrades. The admin building design is 90% complete, the EQ basin design is 60% complete and the phase II nutrient upgrade design is in the early stages and will continue in 2024.
  - The effluent pump and motors will be replaced in 2024. The old concrete bases will be demolished. New anchors and rebar will be installed and new larger concrete bases will be poured before installing the new pumps and motors.
- City of San Leandro
  - "Micro-grid" battery system installation nearing completion. Other energy efficiency projects including digester mixing and aeration equipment expected to commence early 2024.
  - CEQA approval of the Treatment Wetland project is expected in early 2024. Phase I, including sludge stabilization and soil relocation, is expected to start in summer 2024 with final construction and commissioning expected in 2025. This project was selected for a \$2.975M grant from US EPA through the Water Quality Improvement Fund.
  - A Capital Improvement Plan project commenced in late 2023 and is expected to be completed in early 2024. The plan will delineate necessary

projects for the Water Pollution Control Plant and the collection system from 2024 through 2034. This plan will include options for further reducing nutrients.

 Disaster recovery from the 2022-23 floods, including rehabilitation of damaged facilities and replacement of damaged equipment. Upgrades to allow diversion of excess flow to the treatment pond will complete in January 2024.

EBDA's major projects in 2023 included the following:

- EBDA continues to implement its Asset Management Plan to ensure appropriate renewal and replacement of infrastructure. The estimated total restoration cost over 20 years is approximately \$11.3 million. This includes \$420,000 annually through 2030 (for a total of \$4.2 million) that EBDA is contributing for capital improvements to the Union Effluent Pump station, per EBDA's Amended and Restated Joint Powers Agreement.
- In 2023, EBDA replaced the emergency outfall weir at the Oro Loma Effluent Pump Station. This project involved removing the existing lumber weir and replacing it with a new permanent stainless-steel weir at an increased height, increasing system detention time and delaying or preventing an unanticipated bypass in the event of a catastrophic failure at OLEPS. EBDA also performed Wet Well Sluice Gate Repairs and Preventative Maintenance at OLEPS.
- EBDA continued to advance the Hayward Effluent Pump Station (HEPS) Pump Replacement project. This project to replace all four pumps and motors was awarded in January 2023, and pumps were delivered in December 2023. Installation is beginning in early 2024.
- EBDA substantially completed a project to replace the roofs on the EBDA Office Building, the Marina Dechlorination Facility (MDF) SBS Storage Building, and OLEPS. EBDA also completed interior upgrades to its Administration Building, including new flooring and paint.
- EBDA continued its key role in the Transforming Shorelines Project. This project, funded by an EPA Water Quality Improvement Fund grant, includes design of a full-scale horizontal levee south of Oro Loma ("First Mile" project), continued research at Oro Loma's horizontal levee pilot, advancement of pilot wetlands projects at San Leandro and Hayward, and building capacity for nature-based solutions among Bay Area wastewater agencies. In close coordination with East Bay Regional Park District, Hayward Area Shoreline Planning Agency, and San Francisco Estuary Partnership, EBDA has been managing the First Mile and Hayward projects. In 2023, the First Mile team completed a draft set of 30% design drawings. A design charette for the project is being held in January 2024, which will inform future project phases and partnerships.
- In late 2021, EBDA started a project to update programming and automation associated with sodium bisulfite (SBS) dosing at the MDF. These updates were

needed to implement the change to EBDA's effluent limit for total residual chlorine (TRC), which was adopted as a blanket permit amendment by the Regional Water Board in October 2021, and then again in November 2023. The new TRC effluent limit is expected to reduce SBS usage by approximately 85%, or a \$250,000 budgetary savings. Programming was completed in December 2023, and implementation began on January 2, 2024.

- EBDA has been working closely with Cargill, Inc. to develop a project that would deliver mixed sea salt brine from Cargill's solar salt ponds in Newark to EBDA's transport system for dilution and discharge. In 2023, EBDA's Commission approved an Environmental Impact Report (EIR) for the project, which is available here: <a href="https://ebda.org/projects/cargill-partnership/">https://ebda.org/projects/cargill-partnership/</a>. Following EIR approval, Cargill made the decision to further evaluate an alternate pipeline route that goes along paths near the Bay instead of through City streets that are already congested with utilities. A project update meeting was held with regulatory agency representatives, including Regional Water Board staff, in December 2023 to discuss the proposed change. Cargill is now in the process of re-engineering the pipeline and consulting with landowners. They are also re-evaluating the connection to EBDA, assessing the feasibility of connecting downstream of MDF to avoid corrosion impacts to EBDA's system. Cargill's preliminary schedule shows revised CEQA analysis in 2025, and construction beginning sometime between 2027 and 2029 depending on permitting, with operation commencing between 2031 and 2033.
- EBDA's Member Agencies recycled approximately 1007 million gallons in 2023, a 23% increase over 2022. The increase is primarily attributed increases in Hayward's recycled water deliveries, both to the Russell City Energy Center (RCEC), and to other irrigation and industrial uses through their Phase 1 Recycled Water Project. For consistency with recycled water totals submitted through GeoTracker, the totals presented below include in-plant reuse.

As shown in the following table, including the LAVWMA agencies, water recycling accounted for more than 3 billion gallons, about 14% of EBDA's outfall discharge last year of approximately 22.1 billion gallons. Overall, this is consistent with last year's totals and ratio.

Agency	2023 Recycled Water Production (MG)
Hayward	541
San Leandro	74
EBDA Skywest Project	9
Oro Loma Sanitary District	18
Union Sanitary District	365
EBDA Total	1007
Livermore	506
Dublin San Ramon Services District (DSRSD)	1524
LAVWMA Total	2030
Grand Total	3037

## **Bacterial Compliance**

The chart that follows presents pathogen data from samples through the year. Note that permit limits are calculated as monthly geometric means or monthly 90%ile samples. Sporadically, at random intervals, a high sample can be detected. This outcome is probably due to the sloughing of pipe biofilms into the sample line. These non-representative events are why permit compliance is determined by geometric means. EBDA and its member agencies worked hard over the past few years to improve chlorine dosing to prevent periodic increases in bacterial contamination, which had occurred in prior years. This increased attention to chlorine dosing has led to consistent compliance with limits.



#### Figure 1 – EBDA Bacterial Contaminant Performance

## Treatment Plan Compliance – San Leandro

The Albertsons-Safeway milk processing plant at 2000 Adams Street is the biggest single discharger to the San Leandro WPCP. From mid-January to March 2023, repeated high strength discharges from the plant caused upsets to the plant processes. One of these discharges included 3000-5000 gallons of heavy cream, which recorded a grab-sample COD of 287,000. When operators notice a drop in dissolved oxygen in the aeration basin, they typically divert flow to wet-weather storage. However, during a three-week period in February, the discharges were so frequent that all available storage capacity was used. This resulted in an exceedance of the weekly average CBOD limit for the week of February 12-18, caused primarily by a CBOD result of 58 mg/L on February 15.

These problems continued in March 2023. Operations staff noted that the CBOD removal efficiency of the Fixed Film Reactor (FFR) was lower than normal. A brief FFR flush, in which the rotation of the distribution arms is slowed to remove excess biofilm, is normally scheduled daily. However, because of the wet weather and repeated discharges from the milk plant, the FFR had not been flushed in 8 days. In an effort to improve the removal efficiency, Operations staff initiated a flush of the FFR, in which the rotation of the arms is slowed to remove excess biofilm. This normally causes a temporary drop in dissolved oxygen in the aeration basin. However, the plant was experiencing excess loading at the same time. The low DO from the FFR flush masked the low DO from the influent, so Operations staff waited for several hours before starting to divert to the storage basins. This series of events resulted in a CBOD over 90 mg/L on March 16, 2023 and a weekly average of 55.1 mg/L for the week of March 12-18.

Plant management and pretreatment staff have been in communication with the milk plant leadership, including the issuance of multiple notices of violation. The plant has since installed additional tankage to capture accidental discharges and have improved their operations to limit these discharges. In addition, a Sentry biological activity sensor has been installed in the influent channel. This sensor converts biological activity into an electrical signal, which provides plant staff notices of high loading (or low activity, an indication of possible toxicity). This removes the dependence on DO as an indicator and allows staff to divert flow earlier in the process and limit the impact on the aerobic treatment process.

During the latter half of the year, as the milk discharges subsided, the plant performed excellently, with TSS and CBOD removal rates frequently exceeding 99%.

## Section 2: List of Analyses for Which the Discharger Is Certified

EBDA conducts no analyses of its own. Each member agency is certified by the State Water Resources Control Board for standard water quality tests such as BOD, TSS, pH, DO, enterococcus, and fecal coliform. City of San Leandro staff performs these analyses on the combined effluent. Beginning in 2024, Oro Loma Sanitary District is allowing their ELAP certification to lapse, and all compliance samples will be analyzed by certified contract laboratories.

All metals and organics analyses are performed by the Authority's contract laboratory, Caltest Analytical Laboratory. Caltest's lab is certified for these analyses. Caltest subcontracts for analytical work on some items, including dioxin and furan compounds and PCBs to other certified labs.

Pacific Eco-Risk (PER), also a certified laboratory, conducts the required acute and chronic toxicity testing for the Authority.

Copies of all laboratory reports are maintained on file at the Authority's office and are available for review upon request. Said reports are not included in this report.

## Section 3: Plan View Drawing or Map Showing the Discharger's Facility, Flow Routing, Sampling and Observation Station Locations



## Marina Dechlorination Facility

## San Leandro Plant – Process Flow Diagram



San Leandro Plant – Sampling Locations



## OLSD/CVSan Plant – Process Flow Diagram



## OLSD/CVSan Plant – Sampling Locations





## Hayward Plant – Process Flow Diagram

## Hayward Plant – Sampling Locations





## **USD Plant – Process Flow Diagram**

## USD Plant – Sampling Locations



## Section 4: Results of Facility Report Reviews

The tables in this section summarize the status of reviewing and updating the following documents: Operations & Maintenance (O&M) Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report.

REPORTS	REVIEW DATE	REVIEW PROCEDURES	PLANNED ACTIONS	SCHEDULE
O&M Manual	Jan 2024	Updated on an as-needed basis and reviewed annually by the EBDA O&M Manager.	The Authority maintains a comprehensive O&M Manual for the joint-use facilities. Chapters of the Manual are regularly reviewed and updated. EBDA's Wet Weather SOP is reviewed annually and updated as needed. In January 2024, the O&M Manual was updated to incorporate a revised Chlorine Process Control Plan for the Marina Dechlorination Facility, consistent with Order No. R2-2023-0023. The Plan describes the process for ensuring that residual chlorine is zero at EBDA's discharge to the Bay, which	Performed annually
			23.5 feet under the water surface.	
Contingency Plan	Jan 2024	Updated annually by EBDA O&M and Administration Managers. EBDA is included in the Alameda County's Office of Emergency Service's Utility Unit.	The Emergency Operating Contingency Plan is supported by Operations & Maintenance Agreements between Member Agencies, which are compatible with their existing plans and known to all other local and county agencies for emergency purposes. Operation and maintenance activities are contracted with the Member Agencies for routine work. Emergency work is performed sometimes by Member Agencies and sometimes through contracts with private specialty firms.	Performed annually
Spill Prevention Plan	The SPCC Plan was updated in April and July of 2022.	Reviewed annually by EBDA O&M Manager	No major changes planned for 2024.	Performed as needed
Wastewater Facilities Status Report	Jan 2024	EBDA continues to implement a comprehensive Renewal and Replacement Program. The Authority has an Asset Management Plan that covers all critical equipment.	<ul> <li>In 2023, EBDA completed the following projects:</li> <li>UEPS payment #3 of 10 for a total of \$4.2 M</li> <li>OLEPS Emergency Outfall Upgrade</li> <li>Building Roof Replacements</li> <li>Administration Building Interior Improvements</li> <li>In 2024, the Authority is continuing work on the following upgrades to the EBDA system:</li> <li>HEPS Pump Replacement Project</li> <li>OLEPS ATS Replacement</li> </ul>	Anticipated Completion: HEPS Pump Replacements, June 2024 OLEPS ATS Replacement, June 2025

## **EBDA Facilities**

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Document	Review Date	Review Procedures	Planned Actions	Schedule
O&M Manual	Sections assigned and updated throughout the year	O&M manuals and SOPs are written and revised as necessary by designated Plant Operators and reviewed by the Operations Supervisor and Plant Manager	Review O&M chapters and SOPs as needed. Continue developing and revising SOPs for plant processes. O&M is a mix of electronic and older paper as we transition; we have fewer and fewer paper versions per year.	Performed continuously
Contingency Plan	January 2023	WPCP management reviews, edits and approves	Current contingency plan updated as needed with changes. A significant revision is planned for 2024 with more detailed plans for specific scenarios.	Performed annually
Spill Prevention Plan	November 2023	WPCP management reviews, edits and approves	Currently up to date.	Performed annually
Wastewater Facilities Status Report	January 2024		Capital Improvement Planning project will complete in early 2024, with implementation of urgent projects expected to start late 2024 Annual Street Overlay and Sewer Point Repair Project Construction will be completed for microgrid battery backup system and other energy efficiency improvements. Treatment Wetland project will receive regulatory approval, and the City plans to begin construction in summer 2024. This project will treat approximately 20% of the ADWF to remove nitrogen and other contaminants through both technological and biological processes. Design and bid, rehab. and upgrade of 3 sewer lift stations and force main in 2024 and 2025	Maintenance and project schedule for 2024

## San Leandro Treatment Plant

Document	Review         Review Procedures         Planned Actions         S           Date         S				t Review Review Procedures Planned Actions Date				
O&M Manual	Ongoing	Continual reviews and revisions as necessary when new processes come online or when modifications are made to current processes.	The District has completed developing a computer based training program for the 25 unit processes in the treatment plant (including the EBDA OLEPS pump station). Staff will continue to train on the modules.	Ongoing					
Contingency Plan	September 2023	Management team completed its review and updated document to reflect changes in contact information or equipment/facility changes.	Continue to make updates as needed, at least annually.	Annually					
Spill Prevention Plan	December 2022	The District performed a significant update to its plan in 2022 to reflect administrative audit findings from CUPA.	Currently up to date and will update as necessary.	As needed					
Wastewater Facilities Status Report	January 2023		The District continues to execute its planned 10-year, \$168M capital program. The program includes extensive sewer pipe renewal (1.5% of system/year; the District is working to replace 40 miles (15%) of its 271-mile collection system by 2029), Digester Construction in 2025, and Cogeneration System Replacement in 2030. By the end of 2023, the District had completed 60% of the construction to replace 40 miles of the collection system and began the design for the Digester Rehabilitation Project.	10-Year Capital Plan (Updated December 2023)					

## **Oro Loma/Castro Valley Sanitary District Treatment Plant**

## Hayward Water Pollution Control Facility

REPORTS	REV/IEW/	REV/IEW/		SCHEDULE
NEFOR13	DATE	PROCEDURES	FEANNED ACTIONS	SCHEDULE
O&M Manual	Ongoing	COH WPCF electronic O&M manuals, including SOP's, are reviewed, and updated throughout the year by staff. Revisions are made to Sections and SOP's	Create new SOPs as required and review and update older SOPs throughout the year. Continually review and update O&M sections. Brown and Caldwell will be looking into a fully revised O&M as part of the nutrient management project.	SOP's and O&M sections are reviewed continuously
Contingency Plan	January 2024	The entire plan is reviewed by the WPCF manager with updates and edits made by the Senior Secretary.	Continue to make updates as needed.	Performed annually
Spill Prevention Plan	January 2024	Plan reviewed by WPCF Manager every January. Changes made by Senior Secretary.	Make updates as needed.	Performed annually
Wastewater Facilities Status Report	Jan 2024	The phase II Facilities Plan was completed in 2020. The city will implement projects as recommended in the 2020 Phase II Facilities Plan.	<ul> <li>Complete Capital Improvement Projects according to the 10-year Master Plan CIP.</li> <li>In 2023, The City of Hayward WPCF completed the following projects: <ul> <li>Headworks Project substantially complete with the installation of the biofilter Dewatering system complete. Punch list items to be completed in 2024.</li> <li>Design of the 12KV switchgear project.</li> </ul> </li> <li>Planned for 2024: <ul> <li>We are working with BAAQMD to permit the biofilter and working with the contractor on punch list items for the dewatering system.</li> <li>The replacement of the effluent pumps will begin in 2024.</li> <li>Construction of the new 12KV switchgear replacement project will begin in 2024.</li> <li>The admin building project design will be complete in 2024 and the RFP will go out.</li> <li>The EQ basin design will be complete and the RFP will go out in 2024.</li> </ul> </li> </ul>	10-year Master Plan CIP planning changes are made every year in July with mid-year adjustments made in January/February

Document	Review Date	Review Procedures	Planned Actions	Schedule
O&M Manual	Ongoing	Plant O&M documents are incorporated into the District's Competency-Based Training Program. USD utilizes Microsoft Sharepoint software to track document review.	Plant management reviews training documents and SOP's as changes occur (i.e., following construction) or as scheduled.	Each individual training module and SOP has a review frequency of 3 years.
Contingency Plan	December 2023	Plant Manager reviews and updates the Contingency Plan annually.	None. Contingency Plan was updated in December 2023.	Complete next review by December 2024.
Spill Prevention Plan	December 2023	Spill Prevention Plan is incorporated into our Contingency Plan and is reviewed at the same time.	None. Spill Prevention Plan was reviewed in December 2023.	Complete next review by December 2024.
Wastewater Facilities Status Report	December 2023	<ul> <li>USD's Master Plans address most of the Facilities Evaluation requirements. Our Plant Master Plan is updated every 5 years and Pump Station and Collection System Master Plans are updated as needed. Asset management data is updated on an ongoing basis. CIP and Operating plans and budgets are reviewed and revised annually.</li> <li>2023 Projects Completed/in- progress: <ul> <li>Standby Power Upgrade (Construction in progress)</li> <li>Plant Miscellaneous Improvements (Construction in progress)</li> </ul> </li> <li>ETSU: Phase 1A <ul> <li>Aeration Basin Modification (Construction in progress)</li> <li>Campus relocation (Construction in progress)</li> </ul> </li> </ul>	Complete capital improvements in accordance with 20-year CIP plan. Implement annual rate adjustments for Sewer Service Charges and Capacity Fees in accordance with 10-year financial plan. <b>2024 Projects Planned:</b> • WAS Gravity Belt Thickener (In Design) • Anaerobic Digester #6 Rehab (In Design) • Electrical Switchboard and MCC Replacements (In Design) <b>ETSU: Phase 1B</b> • New Secondary Clarifiers. (In Design) • New Effluent Pump Station (In Design) • New RAS/WAS Pump Station (In Design)	<ul> <li>20-year CIP annual update in June.</li> <li>Master Plans: <ul> <li>Alvarado Basin MP 2023-25</li> <li>Newark Basin MP 2025-27</li> <li>Irvington Basin 2027-29</li> <li>Pump Station Assest Condition Assessment 2028-31</li> <li>Plant Asset Condition Assessment 2025-27</li> <li>Plant Solids System/Capaci ty Assessment 2032-34</li> </ul> </li> </ul>

## **Union Sanitary District Treatment Plant**

## **Section 5: BACWA Watershed Permitting and Monitoring**

EBDA participates in a number of group processes coordinated by the Bay Area Clean Water Agencies (BACWA) to fulfill permit requirements, including Receiving Water Quality Monitoring, TMDL/SSO Support, Mercury and PCBs Watershed Permit Support, Nutrients Watershed Permit Support, and Implementation of Copper Action. Participation in these items is described in an annual BACWA letter to the Regional Water Board found here:

https://bacwa.org/document/bacwa-npdes-permit-letter-2024/

## **Section 6: Effluent Characterization Study and Report**

EBDA regularly monitors and evaluates discharges from the common outfall and each contributing plant's effluent to identify any concerning trends. No significant increases over past performance were noted in 2023 data.

As shown in Figure 2, five years of metals data continue to show flat trends. Cyanide is rarely detected.





EBDA's five-year trend for copper shows that while individual member agency effluent concentrations have varied, EBDA's common outfall concentration consistently averaged less than 20 ppb, versus a permit limit of 53 ppb (see Figure 3).

#### Figure 3 – Effluent Copper Trend



EBDA's effluent mercury concentrations also continue to be well below permit limits, as shown in Figure 4.



Figure 4 – Effluent Mercury Trend

## ITEM NO. RA7 BACWA KEY REGULATORY ISSUES SUMMARY

## Recommendation

For the Committee's information only; no action is required.

## Strategic Plan Linkage

- 2. **Regulatory Compliance:** Proactively meet or exceed regulatory requirements for protection of the environment and public health.
  - a. Represent EBDA and the Member Agencies' interests by preemptively engaging in development of emerging regulations and permits and advocating for reasonable, science-based decisions.
  - c. Ensure compliance with non-NPDES permits and regulatory requirements, including air quality and hazardous waste.
  - e. Track and share scientific and regulatory developments related to emerging contaminants, and advocate for source control.

## Background

Periodically, BACWA's Regulatory Program Manager updates a Key Regulatory Issues Summary that contains succinct information on regulatory issues of interest to Bay Area wastewater agencies. The Summary matrix contains background, challenges and recent updates, next steps for BACWA, and links to key resources and documents.

## Discussion

The most recent issue summary is attached. This latest version highlights updates made in purple. Previous versions are available at <u>https://bacwa.org/regulatory-issues-summaries/</u>.



## KEY REGULATORY ISSUE SUMMARY

## Updated February 7, 2024

## Action items for member agencies are in $\ensuremath{\textbf{bold}}$

Contents	Page		
Nutrients in San Francisco Bay	1	Sanitary Sewer Systems General Order	10
SF Bay Nutrient Watershed Permit	2	Laboratory Accreditation	11
Chlorine Residual Compliance	3	Biosolids	12
Pesticides	4	Climate Change Mitigation	13
Mercury and PCBs	5	Climate Change Adaptation	14
State Water Board Toxicity Provisions	6	Toxic Air Contaminants	15
Compounds of Emerging Concern (CECs)	7	Recycled Water	16
Microplastics	8	Acronyms	17
Per- and Polyfluoroalkyl Substances (PFAS)	9		

New u	pdates	in this	version	are	shown	in	Purple	hiahliahtina	

	New updates in this version are snown in Purple highlighting						
Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources				
NUTRIENTS IN SAN FRANCISCO BAY	Y						
<ul> <li>San Francisco Bay receives some of the highest nitrogen loads among estuaries worldwide, yet has not historically experienced the water quality problems typical of other nutrient-enriched estuaries. It is not known whether this level of nitrogen loading, which will continue to increase in proportion to human population increase, is sustainable over the long term.</li> <li>Because of the complexity of the science behind nutrient impacts in SF Bay, stakeholders in the region are participating in the Nutrient Management Strategy (NMS) steering committee to prioritize scientific studies and ensure that all science to be used for policy decisions is conducted under one umbrella.</li> </ul>	<ul> <li>For FY24, BACWA is contributing \$1.8M to fund scientific research needed to make management decisions for the 3<sup>rd</sup> Watershed Permit. This payment completes the science funding requirement in the 2<sup>nd</sup> Watershed Permit.</li> <li>The focus of current scientific efforts is improving model representation of biogeochemistry, light attenuation, dissolved oxygen, and harmful algal bloom dynamics.</li> <li>The science team is also developing an Assessment Framework for Open Bay habitats and Lower South Bay sloughs.</li> <li>In summer 2022, a harmful algae bloom in San Francisco Bay brought increased public attention to this topic. A smaller bloom recurred in summer 2023. In both cases, the NMS science team modified the science plan to conduct monitoring and assist with data interpretation.</li> </ul>	<ul> <li>Continue to participate in NMS steering committee, Nutrient Technical Workgroup, and planning subcommittee meetings, and provide funding for scientific studies.</li> <li>Continue to assist with preparation of a brief "State of the Science" document summarizing the scientific accomplishments of the NMS team for public use.</li> <li>Continue to engage with Nutrient Technical Team and BACWA's Nutrient Management Strategy technical consultant, Mike Connor, to provide review of recent work products and charge questions for the science team.</li> </ul>	BACWA Nutrients Page: https://bacwa.org/nutrients/ NMS FY24 Science Program Plan Materials https://drive.google.com/drive/f olders/16H_sQ8AuoqHv- eo9QZx2A9Ph9MTecg5j?usp= drive_link NMS Work Products https://sfbaynutrients.sfei.org/b ooks/reports-and-work- products BACWA Nutrient FAQ https://bacwa.org/wp- content/uploads/2023/01/BAC WA-Nutrient-Fact-Sheet.pdf 2023 SF Bay Algal Bloom https://bacwa.org/general/2023 -algal-bloom-in-sf-bay- updated-8-3-2023/				

#### SF BAY NUTRIENT WATERSHED PERMIT

- The 1<sup>st</sup> Nutrient Watershed Permit was adopted in 2014, and required a regional study on Nutrient Treatment by Optimization and Upgrades, completed in 2018.
- The 2<sup>nd</sup> Nutrient Watershed Permit was adopted in 2019. It includes:
   Continued individual POTW nutrient monitoring and reporting;
- o Continued group annual reporting;
- Significantly increased funding for science;
- Regional assessment of the feasibility and cost for reducing nutrients through nature-based systems and recycled water;
- Establishing current performance for Total Inorganic Nitrogen (TIN), and "load targets" for nutrient loads based on 2014 to 2017 load data plus a 15% buffer for growth and variability
- Recognition of "early actors" who are planning projects that will substantially decrease TIN loads.
- Through the nutrient surcharge levied on permittees, BACWA funds compliance with the following provisions on behalf of its members:
  - Group Annual Reporting
  - Regional Studies on Nature-Based Systems and Recycled Water
  - Support of scientific studies through the Regional Monitoring Program (RMP) with \$11M over the five-year permit term.

- Studies related to Recycled Water and Nature-Based Systems were completed in June 2023, as required by the 2<sup>nd</sup> Nutrient Watershed Permit.
- Each year by February 1, BACWA submits a Group Annual Report on behalf of its members. The report summarizes trends in nutrient concentrations and loading for each agency, and for all the agencies as a whole. The annual reporting period in the 2<sup>nd</sup> Watershed Permit is based on a water year (Oct. 1 – Sept. 30). The Group Annual Report for 2022-2023 was completed on February 1, 2024.
- In response to the summer 2022 algae bloom, Regional Water Board staff plan to include significant TIN load reduction requirements in the 3<sup>rd</sup> Watershed Permit. The NMS modeling team tested several load reduction scenarios to inform the new requirements. Based on this modeling, Regional Water Board staff are currently proposing dry season load limits that are about 40% lower than actual loads from the 2022 dry season.
- The current concept proposed by the Regional Water Board is for the permit to contain interim limits for dry season TIN loads that are effective immediately and "final limits" that become effective after 10 years. The 10-year clock could be modified in subsequent permits if the "final limits" become more stringent, so the term "final" only applies to this specific permitting action.

- Review and comment on the administrative draft and Tentative Order versions of the forthcoming 3<sup>rd</sup> Nutrient Watershed Permit. The administrative draft is expected in February 2024, and the Tentative Order will be available later in the spring.
- Advocate for sufficient time for agencies to implement nutrient load reduction projects, include those with involving innovative technologies, recycled water, and nature-based solutions.
- BACWA continues to convene a Nutrient Strategy Team to develop BACWA's key tenets for the 3rd Watershed Permit, and members are encouraged to participate. The Nutrient Strategy Team is actively engaging with the Regional Water Board to expand upon the key tenets and discuss implementation details for the 3<sup>rd</sup> Watershed Permit, including the magnitude and timing of required load reductions.
- Agencies will continue to report nutrient monitoring data both through CIWQS and directly to BACWA.

2nd Nutrient Watershed Permit:

www.waterboards.ca.gov/sanfr anciscobay/board\_decisions/a dopted\_orders/2019/R2-2019-0017.pdf

Special Studies of Recycled Water and Nature-Based Solutions: <u>bacwa.org/document-</u> <u>category/2nd-watershed-</u> permit-studies/

BACWA Group Nutrient Annual Reports: <u>bacwa.org/document-</u> <u>category/nutrient-annual-</u> <u>reports/</u>

Presentations from 2023 BACWA Annual Members Meeting <u>bacwa.org/document-</u> <u>category/2023-annual-</u> <u>meeting/</u>

BACWA September 2023 Status of 3<sup>rd</sup> Watershed Permit Negotiations bacwa.org/wpcontent/uploads/2023/09/WSP -Negotiations-Update-2023-09-05.pdf

BACWA Concerns related to Compliance Timelines in the 3<sup>rd</sup> Watershed Permit <u>bacwa.org/document/bacwa-</u> <u>comments-on-nutrient-</u> <u>removal-timelines-2024-01-29/</u>

Background Highlights	Challenges and Recent Updates	Next Steps for BACWA	Links/Resources
CHLORINE RESIDUAL COMPLIANCE	:		
<ul> <li>The Basin Plan effluent limit for residual chlorine is 0.0 mg/L. Prior to 2024, residual chlorine was the most frequent parameter for violations for Region 2 POTWs. Because there are 24 hourly reporting events each day, the "opportunities" for violations are enormous. However, the actual violation rates are infinitesimal (~0.001%).</li> <li>Prior to 2024, agencies were overdosing their effluent with the dechlorination agent, sodium bisulfite, to prevent chlorine violations, a practice which cost the region approximately \$2 million each year.</li> <li>Regional Water Board staff and BACWA have worked together for more than decade to modify the effluent limit for chlorine residual.</li> </ul>	<ul> <li>In 2020, the Regional Water Board adopted a Basin Plan Amendment that incorporated EPA's ambient water quality criteria for chlorine into the Basin Plan. Since the Basin Plan Amendment was not approved by EPA, it did not go into effect.</li> <li>In November 2023, the Regional Water Board adopted an NPDES Permit Amendment that modifies effluent limits for residual chlorine for most dischargers. The revised limits are based on a translation of the Basin Plan's existing narrative toxicity objective. The NPDES Permit Amendment includes:</li> <li>Limits calculated based on a 0.013 mg/L water quality objective in marine and estuarine waters, and incorporating dilution for deep water dischargers. The limits will be applied as a 1-hour average.</li> <li>A Minimum Level of 0.05 mg/L for online continuous monitoring systems.</li> <li>The NPDES Permit Amendment requires most dischargers to prepare a Chlorine Process Control Plan targeting a chlorine residual of 0.0 mg/L at discharge points. The Chlorine Process Control Plan is part of the Operation and Maintenance Manual; updates are to be summarized with annual self- monitoring reports.</li> </ul>	<ul> <li>Comply with new effluent limits for residual chlorine, new reporting requirements, and new Chlorine Process Control Plan requirements beginning January 1, 2024.</li> <li>BACWA has prepared a guidance document for agencies to use to meet the new chlorine process control requirement.</li> </ul>	Blanket NPDES Permit Amendment, Effective January 1, 2024: www.waterboards.ca.gov/sanfr anciscobay/board_decisions/a dopted_orders/2023/R2-2023- 0023.pdf BACWA Guidance on Complying with Amended NPDES Permit Requirements for Residual Chlorine bacwa.org/document/complyin g-with-amended-npdes-permit- requirements-for-residual- chlorine-2023-12-20/

#### PESTICIDES

- Pesticides are regulated via FIFRA, and not the Clean Water Act. POTWs do not have the authority to regulate pesticide use in their service area, but may be responsible for pesticide impacts to their treatment processes or to surface water.
- EPA reviews all registered pesticides at least once every 15 years. Each review allows opportunity for public comment.
- Through BAPPG, BACWA aims to proactively support a scientific and regulatory advocacy program so that pesticides will not impact POTWs' primary functions of collecting and treating wastewater, recycling water, and managing biosolids, or impact receiving waters via the "down the drain" route.
- BACWA continues to fund consultant support to write comment letters advocating for the consideration of POTW and surface water issues by EPA and the California Department of Pesticide Registration (CalDPR). Funding for pesticide regulatory outreach in FY24 is \$69k.
- The Regional Water Board leverages BACWA's efforts to provide their own comment letters.
- The August 2023 version of the BAPPG/BACWA Pesticide Watch List added indoor uses of Quaternary Ammonia Compounds, whose usage has been increasing in recent years.
- In January 2023, CalDPR released a Sustainable Pest Management Roadmap. The Roadmap identifies actions that would enhance understanding of pesticide use in urban areas and enhance outreach to urban pesticide users. CalDPR is also pursuing a significant increase to the "Mill Fee," a tax on pesticide sales, to fund some activities identified in the Roadmap. The proposed tax increase was included with the Governor's State Budget Proposal for FY25 and would be applicable to all pesticides, including sodium hypochlorite.
- Baywise.org has flea and tick control messaging for pet owners and veterinarians. In addition, the BACWA website offers toolkits for conducting outreach to pet owners and veterinary offices.

- BACWA members can conduct public and veterinary office outreach using the newly available flea and tick outreach toolkits.
- Advocate for implementation of specific actions from the Sustainable Pesticide Management Roadmap.
- Continue to comment on EPA pesticide re-registrations and CalDPR actions.
- Engage with EPA on proposed changes to the regulatory approval process for pesticides.
- Work with veterinary associations on messaging with respect to flea and tick control alternatives.
- Continue to develop summaries of EPA actions on pesticides.
- Look for opportunities to work with CalDPR on pesticides research.
- Work with other regional associations, such as CASQA to collaborate on funding pesticide regulatory outreach.

BACWA Pesticide Regulatory Support Page: bacwa.org/bappg-pesticides/

Flea and Tick Outreach Toolkits: <u>bacwa.org/bappg-</u> <u>pesticides/flea-and-tick-</u> outreach-toolkits/

Baywise flea and tick pages: baywise.org/residential/for\_you r\_pets/

CalDPR Sustainable Pest Management Roadmap www.cdpr.ca.gov/docs/sustain able pest management road map/

BACWA coalition letter on modernizing the pesticide approval process bacwa.org/document/bacwanacwa-coalition-comments-onfda-epa-pesticidemodernization-2023-04-25/

BAPPG/BACWA

Pesticides Watch List bacwa.org/wpcontent/uploads/2023/08/FINA L-BACWA-Pesticides-Watch-List-Aug-2023.pdf

#### MERCURY AND PCBS

- The Mercury & PCBs Watershed Permit is based on Total Maximum Daily Loads (TMDLs) for San Francisco Bay for each of these pollutants.
- The Mercury & PCBs Watershed Permit was most recently reissued in December 2022, and it continues to require discharger support for risk reduction activities. BACWA is funding risk reduction activities on behalf of its members to comply with this permit provision. For FY24, BACWA has budgeted \$12,500 to support risk reduction activities related to fish consumption.
- Aggregate mercury and PCBs loads have been well below waste load allocations through 2022, the last year for which data have been compiled.
- EPA Method 1668C for measuring PCB Congeners has not been promulgated by EPA. Effluent limitations are based on PCB Aroclors quantified using EPA Methods 625.1 or 608.3.
- In 2017, EPA adopted federal pretreatment program rules requiring dental offices to install dental amalgam separators. The rule is intended to reduce dental office discharge of mercury. The compliance date was July 14, 2020.

- As part of the 2021 Triennial Review of the Basin Plan, the Regional Water Board has prioritized designation of three new beneficial uses: Tribal Tradition and Culture (CUL), Tribal Subsistence Fishing (T-SUB) and Subsistence Fishing (SUB). Water bodies designated with these beneficial uses could also be assigned lower mercury objectives.
- BACWA supported risk reduction programming by two grantees to fulfill requirements of the 2017 Mercury & PCBs Watershed Permit. In August 2023, BACWA arranged for the grantees to present their work to Regional and State Water Board staff.
- Through 2026, State Water Board and Regional Water Board staff are working on a Bioaccumulation Monitoring Program Realignment effort in the San Francisco Bay region.
   BACWA intends to support risk reduction activities related to this effort, which may include tribal outreach on fishing and fish consumption.
- In January 2022, monitoring requirements for mercury were reduced for most dischargers by a blanket NPDES Permit amendment (Order R2-2021-0028). Revised monitoring frequencies are also reflected in the reissued permit.
- Recent consolidations among contract laboratory providers of PCB analysis via EPA Method 1668C has led to difficulties with electronic reporting.

- BACWA Lab and Permits Committee members are working to facilitate smoother electronic reporting of PCB congeners via EPA Method 1668C.
- Continue to coordinate with local community-based organizations and Water Boards staff to develop concepts for risk reduction activities that BACWA could support during the term of the 2022 permit.
- Continue outreach to dentists BAPPG and BACWA's pretreatment committee. Per federal rules, all dental facilities were required to submit one-time compliance reports by October 2020.
- Track potential Basin Plan Amendments resulting from the Triennial Review project related to new beneficial use designations. The new designations are not expected to impact the Bay-wide mercury TMDL in the near term, but there could be localized or longer-term impacts.

2022 Mercury & PCBs Watershed Permit (Effective Feb. 1, 2023) https://www.waterboards.ca.go v/sanfranciscobay/board\_decis ions/adopted\_orders/2022/R2-2022-0038.pdf

Risk Reduction Materials (Updated August 2023) https://bacwa.org/mercurypcbrisk-reduction-materials/

NPDES Permit Amendment for Monitoring and Reporting https://www.waterboards.ca.go v/sanfranciscobay/board\_decis ions/adopted\_orders/2021/R2-2021-0028.pdf

Mercury and PCB Load Trends 2013- 2022 (Updated July 2023) https://www.waterboards.ca.go v/sanfranciscobay/board\_info/a gendas/2023/July/6\_ssr.pdf

#### STATE WATER BOARD TOXICITY PROVISIONS

- The State Water Board adopted the Statewide Toxicity Provisions in October 2021 as state policy for water quality control for all inland surface waters and estuaries. The Provisions establish:
  - Use of Test of Significant Toxicity (TST) as statistical method to determine toxicity, replacing EC25/IC25;
  - Numeric limits for chronic toxicity for POTWs >5 MGD and with a pretreatment program; smaller POTWs will receive effluent targets and only receive limits if Reasonable Potential is established;
  - Regional Water Board discretion on whether to require RPAs for acute toxicity
  - For POTWs with Ceriodaphnia dubia as most sensitive species, numeric targets rather than limits were in effect until completion of a statewide quality assurance study in December 2023.

- EPA approved the Statewide Toxicity Provisions on May 1, 2023, and they became effective on June 1, 2023. Individual NPDES permits reissued in the San Francisco Bay Region are implementing the Toxicity Provisions and requiring use of the TST for chronic toxicity testing. Reissued permits no longer require acute toxicity monitoring.
- EPA has not yet approved the Alternate Test Procedure for whole effluent toxicity testing. Until the Alternate Test Procedures are approved, the Regional Water Board has advised that dischargers should use the full fiveconcentration series for all tests, including routine monitoring and Species Sensitivity Screening Studies.
- Since 2016, agencies have had the option to skip sensitive species screening upon permit reissuance and pay the avoided funds to the RMP to be used for CECs studies. Under the Toxicity Provisions, agencies are now required by the provisions to do sensitive species screening once every 15 years.
- The State Water Board is collaborating with stakeholders on a special study to improve the quality of *Ceriodaphnia dubia* testing. The multi-laboratory study of toxicity testing has been completed and presented to the State Water Board. CASA held an information webinar for members in December 2023.

- Begin conducting toxicity testing using the Statewide Toxicity Provisions. As of June 2023, member agencies with individual NPDES permits reissued after August 2022 have automatically transitioned to the new toxicity testing requirements.
- Plan to conduct a species sensitivity screening to comply with the Toxicity Provisions, which require a study no more than 10 years old be used to determine a "Tier I" species for use in compliance monitoring.
- Members hiring a contract laboratory to perform testing using *Ceridaphnia dubia* should utilize the *Ceriodaphnia dubia Quality Assurance Guidance Recommendations,* including the performance metrics listed in Appendix E of the report.

#### SWRCB Toxicity Page: http://www.swrcb.ca.gov/water issues/programs/state imple mentation\_policy/tx\_ass\_cntrl. shtml

Regional Water Board presentation on implementation of Statewide Toxicity Provisions from December 2020: <u>https://bacwa.org/wpcontent/uploads/2021/01/Slide</u> <u>s-from-RWQCB-Regarding-R2-Tox-Language-in-NPDES-Permits-2020-12-08.pdf</u>

EPA Approval of Statewide Toxicity Provisions <u>https://bacwa.org/wp-</u> <u>content/uploads/2023/05/05.01</u> .2023-EPA-CWA-303c-Approval-of-California-Toxicity-<u>Provisions.pdf</u>

Ceriodaphnia dubia Quality Assurance Guidance Recommendations (SCCWRP) https://ftp.sccwrp.org/pub/dow

nload/DOCUMENTS/Ceriodap hniaQA/October2023Deliverab le.pdf

CASA Webinar on Lessons from Ceriodaphnia Study https://casaweb.org/resources/ speaker-presentations/

#### COMPOUNDS OF EMERGING CONCERN (CECS)

- Pharmaceuticals and other trace compounds of emerging concern (CECs) are ubiquitous in wastewater at low concentrations and have unknown effects on aquatic organisms.
- The State Water Board has formed a Pretreatment and CECs Unit.
- Region 2's CEC strategy focuses on monitoring/tracking concentrations of constituents with high occurrence and high potential toxicity. Much of what the State Water Board is considering for its monitoring program is already being implemented in Region 2 through the RMP.
- The Regional Water Board has stated that voluntary and representative participation in RMP CECs studies is key to avoiding regulatory mandates for CECs monitoring. These studies are informational and not for compliance purposes. BACWA developed a White Paper on representative participation to support facility selection for these studies.
- Bay dischargers are continuing to provide supplemental funding for RMP CECs studies through the NPDES Permit Amendment adopted in December 2021 by the Regional Water Board.
- The State Water Board has recently increased its focus on CECs. In November 2022, a State Water Board Science Advisory Panel released a report identifying risk-based and occurrence-based monitoring strategies in aquatic ecosystems. Similar approaches are already in use in the Bay Area by the RMP.

- Continue to participate in the RMP Emerging Contaminants Workgroup.
- Participate in RMP studies by collecting wastewater samples at member facilities. Recent studies have focused on Quaternary Ammonium Compounds (which can interfere with treatment plant biological processes), sunscreen chemicals, bisphenols, and ethoxylated surfactants.
- Update the 2020 White Paper created for use by the RMP or others in selecting representative POTWs for participation in CEC studies. The 2020 White Paper will be updated to note recently completed and ongoing studies of CECs in Bay Area wastewater.

RMP Emerging Contaminant Workgroup: http://www.sfei.org/rmp/ecwg#t ab-1-4

## BACWA CECs White Paper:

https://bacwa.org/document/ba cwa-cec-white-paper-updatedjune-2020/

NPDES Permit Amendment for Monitoring and Reporting

https://www.waterboards.ca.go v/sanfranciscobay/board\_decis ions/adopted\_orders/2021/R2-2021-0028.pdf

State Water Board CECs webpage:

https://www.waterboards.ca.go v/water\_issues/programs/cec/i ndex.html

#### MICROPLASTICS

- Microplastic pollution is a environmental threat with the potential to impact wastewater disposal and reuse, as well as biosolids end uses.
- Microplastics have been a focus of the RMP in recent years. BACWA has participated in the Workgroup and developed a POTW Fact Sheet. One conclusion of the RMP work is that POTWs contribute much lower microplastic loads than stormwater. As a result, the RMP is focusing future microplastics sampling efforts on stormwater pathways.
- In February 2022, the Ocean Protection Council (OPC) adopted a Statewide Microplastics Strategy that calls for increased water recycling, additional monitoring of wastewater, source control in wastewater, and additional scientific research.
- OPC is funding a study of microplastic removal through wastewater treatment processes. The study commenced in 2021 with a pilot study involving BACWA member agency participation. Full-scale sampling and analysis of influent, effluent, and biosolids was completed in 2023.
- The Revised Draft 2024 California Integrated Report (303(d) List) notes that San Francisco Bay is "potentially threatened" by microplastics. Due to data limitations, the Bay is <u>not</u> proposed to be listed as an impaired water body during this listing cycle.
- Additional research to improve scientific understanding of microplastics in aquatic ecosystems will be needed to support a future impairment determination for the Bay. The Water Boards and OPC are supporting allocation of funding towards these research efforts.
- Ongoing microplastics investigations by the RMP are focused on tire particles in stormwater.

- Continue to participate in the RMP Microplastics Workgroup.
- Three BACWA member agencies are participating in the OPC-funded microplastic study. A final report is expected in spring 2024. CASA has also funded the study team at the Southern California Coastal Water Research Project (SCCWRP) to complete add-on work comparing results between different sampling methods, including use of an autosampler. The add-work will be completed approximately six months later.
- Continue tracking State Water Board and Ocean Protection Council actions via the CASA Microplastics Workgroup.

BACWA Microplastics Fact Sheet:

https://bacwa.org/wpcontent/uploads/2019/09/BAC WA-Microplastics-flyer.pdf

SFEI Microplastics project: https://www.sfei.org/projects/mi croplastics

Ocean Protection Council Microplastics Strategy: https://www.opc.ca.gov/webma ster/ftp/pdf/agenda\_items/2022 0223/Item\_6\_Exhibit\_A\_State wide\_Microplastics\_Strategy.p df

2024 California Integrated Report / 303(d) List https://www.waterboards.ca.go v/water\_issues/programs/water \_quality\_assessment/2024integrated-report.html

#### PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

- Per- and polyfluoroalkyl substances (PFAS) are a group of human-made substances that are very resistant to heat, water, and oil. PFAS have been used in surface coating and protectant formulations. Common PFAScontaining products are non-stick cookware, cardboard/paper food packaging, water-resistant clothing, carpets, and fire-fighting foam.
- Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are two types of PFAS no longer manufactured in the US; however, other types of PFAS are still produced and used in the US.
- All PFAS are persistent in the environment, can accumulate within the human body, and have demonstrated toxicity at relatively low concentrations.
- Potential regulatory efforts to address PFAS focus on drinking water in order to minimize human ingestion of these chemicals, although regulators have also expressed concern about uptake into food from biosolids.
- In 2020, the SWRCB issued an investigative order for POTWs. At that time, BACWA obtained SWRCB approval to fund and conduct a Regional PFAS Study in lieu of the investigative order.
- In 2021, the formation of an "EPA Council on PFAS" was announced.

- The EPA and State of California are developing drinking water standards for PFAS compounds.
  - DDW has developed drinking water notification and response levels for PFOA, PFOS, Perfluorobutane Sulfonic Acid (PFBS), and Perfluorohexane Sulfonic Acid (PFHxS).
  - EPA has released final health advisories for PFOA (0.004 ng/L) and PFOS (0.02 ng/L).
  - In 2023, EPA proposed Maximum Contaminant Levels for PFOA and PFOS as individual contaminants, and PFHxS, PFNA, PFBS, and HFPO-DA (commonly referred to as GenX Chemicals) as a PFAS mixture. By design, these MCLs are very close to the current limits of quantification.
- EPA is conducting pretreatment standards rulemaking for three types of industrial users: Metal Finishing, Organic Chemicals, Plastics and Synthetic Fibers, and landfills.
- In 2022, EPA proposed a rule designating PFOA and PFOS as hazardous substances under CERCLA (the Superfund law). The designation could impact effluent disposal and biosolids programs.
- In January 2024, EPA completed development of Method 1633, a new analytical method for PFAS in complex matrices like wastewater. Method 1633 is a Clean Water Act method and is recommended for use in pretreatment programs and NPDES permitting.

- BACWA's Regional PFAS Study was conducted by SFEI in two phases:
- In Phase 1 (2020), fourteen facilities collected samples of influent, effluent, reverse osmosis concentrate, and biosolids.
- In Phase 2 (2022), six agencies conducted sampling of influent, effluent, and biosolids; residential sewersheds, commercial and industrial users; hauled organic waste used as digester feed; and groundwater.
- The study found that residential areas and industrial laundries are potential sources of PFAS.
- The final report is now complete, and is available upon request. BACWA has also prepared a PFAS Study Summary for members' use.
- Continue tracking developments at the federal, state and regional level, in particular to understand the impact of the CERCLA designation on biosolids reporting.
- Continue to support PFAS source control efforts by participating in monitoring studies, and by supporting regulatory and legislative efforts to limit the use of PFAS.

## BACWA PFAS Study Summary

bacwa.org/wp-content/uploads /2024/02/BACWA-PFAS-Study -Summary-2024-02-07.pdf

SWRCB PFAS Resources: www.waterboards.ca.gov/pfas/

EPA PFAS Resources <u>www.epa.gov/pfas</u>

EPA PFAS Strategic Roadmap www.epa.gov/pfas/pfasstrategic-roadmap-epascommitments-action-2021-2024

#### EPA NPDES Permitting Guidance (Dec. 2022) www.epa.gov/system/files/docu ments/2022-12/NPDES\_PFAS\_State%20Me mo\_December\_2022.pdf

Presentation on BACWA's Regional PFAS Study at RMP 2023 Annual Meeting www.sfei.org/projects/rmpannual-meeting

EPA Methods for PFAS www.epa.gov/cwamethods/cwa-analyticalmethods-and-polyfluorinatedalkyl-substances-pfas

CA Labs Certified for Method 1633 www.waterboards.ca.gov/pfas/

docs/pfas-laboratories.pdf

#### SANITARY SEWER SYSTEMS GENERAL ORDER

- In 2022, the State Water Board reissued the statewide Sanitary Sewer Systems General Order (SSS-WDR). The reissued order replaced the 2006 Order and the 2013 Monitoring and Reporting Program.
- The State Water Board's goals for the update were:
- o Updating the 2006 Order
- Clarifying compliance expectations and enhancing enforceability
- Addressing system resiliency, including climate change impacts
- Identifying valuable data and eliminating non-valuable reporting requirements

- The reissued order became effective on June 5, 2023.
- The first annual reports due under the reissued order are due April 1, 2024.
- The reissued SSS-WDR contains numerous new and modified requirements, such as:
- A prohibition on discharges to groundwater;
- Reduced spill reporting requirements for small spills (spills from laterals or <50 gallons);</li>
- New spill monitoring requirements such as photo documentation and faster water quality sampling;
- New requirements for preparation of Sewer System Management Plans (SSMPs), including a focus on system resiliency, prioritizing corrective actions, and coordinating with stormwater agencies;
- Modified annual reporting requirements;
- New mapping requirements; and
- Modified timelines for preparation of audits and SSMPs. The State Water Board has prepared an online tool to assist agencies in determining compliance dates (at right).
- Maintaining an updated SSMP continues to be a core requirement of the SSS-WDR. Beginning in May 2025, SSMP updates will be required every six years (instead of five) and must contain the 11 updated elements described in the reissued SSS-WDR.

- Continuing working through the Collections System Committee to update a guidance document for Sewer System Management Plans (SSMPs). BACWA has hired a consultant to assist with this task, and work is underway.
- Complete a member survey of sewer lateral ordinances in the region. Prompted by changes to the reissued SSS-WDR and ongoing concerns about infiltration and inflow (I&I), some agencies are considering changes to their practices regarding sewer lateral maintenance and replacement.
- Continue to coordinate with CASA and CWEA on training opportunities for members as they transition to enrollment under the new SSS-WDR.

State Water Board SSS-WDR page: https://www.waterboards.ca.go v/water\_issues/programs/sso/

Reissued SSS-WDR (General Order 2022-0103-DWQ), Effective June 5, 2023 https://www.waterboards.ca.go v/board\_decisions/adopted\_or ders/water\_quality/2022/wqo 2022-0103-dwq.pdf

Materials from Clean Water Summit Partners Webinars on Reissued SSS-WDR https://casaweb.org/sss-wdr/

SSMP and Audit Due Dates Lookup Tool from State Water Board https://www.waterboards.ca.go v/water\_issues/programs/sso/l ookup/

#### LABORATORY ACCREDITATION

- In May 2020, the State Water Board adopted new comprehensive regulations for the Environmental Laboratory Accreditation Program.
- Adoption of the new regulations was required by AB 1438, legislation that became effective in 2018.
- The new ELAP regulations are replacing the current state-specific accreditation standards with a national laboratory standard established by The NELAC Institute (TNI).
- Compliance with TNI standards was required beginning **January 1**, **2024**.
- The TNI standards apply to every ELAP-certified laboratory, regardless of certificate expiration date and regardless of location. Some laboratories have not yet been assessed to the TNI standard. Starting January 1, 2024, ELAP will be sending laboratories a written request asking for information about assessment plans and requesting a TNI-compliant Quality Assurance manual.
- The TNI standards pose a particular challenge to small laboratories, many of which are closing because they cannot economically meet the new standards. ELAP has reported a 15% reduction in the number of accredited laboratories in California since 2020, and a 25% reduction since 2015. This reduction is contributing to significantly higher ELAP fees for the remaining laboratories. ELAP fees increased by 30% in FY24. ELAP is investigating fee structure options that would reduce impacts on small laboratories. Fee restructuring will not occur until FY25 or later.
- ELAP is now implementing EPA's 2021 Method Update Rule. ELAP has advised labs to update any outdated methods by February 2024.
- Since 2021, the BACWA Lab Committee has been hosting training sessions on the TNI standards.

- The BACWA Lab Committee will host Q&A sessions on the TNI standards in February, April, and June 2024. The free virtual training sessions are open to BACWA members holding a valid copy of the 2016 TNI Standard. Diane Lawver of Quality Assurance Solutions, LLC, is providing the training. BACWA's TNI training sessions are recorded, and a link is available upon request.
- Continue to work through BACWA's Laboratory Committee to support members as they navigate laboratory accreditation under the new TNI standards.
- Publicize training opportunities offered by consultants, ELAP, and others.

State Water Board's 'Roadmap to ELAP Accreditation' page: <u>https://www.waterboards.ca.go</u> v/drinking water/certlic/labs/ro admap to\_elap\_accreditation. <u>html</u>

State Water Board's ELAP regulations page: <u>http://www.waterboards.ca.gov</u> /drinking\_water/certlic/labs/ela p\_regulations.shtml

BACWA Training Session flyer:

https://bacwa.org/wpcontent/uploads/2023/06/B ACWA-Lab-TNI-Training-Series-Flyer-FY24.pdf

ELAP Timeline Guidance Tool:

https://www.waterboards.ca.go v/drinking\_water/certlic/labs/do cs/2022/elap-scheduler-1-1.xlsx

ELAP Implementation of 2021 Method Update Rule <u>https://www.waterboards.ca</u> .gov/drinking\_water/certlic/l abs/mur.html

#### **Challenges and Recent Updates**

Links/Resources

#### BIOSOLIDS

 Regulatory drivers are leading to the phase-out of biosolids used as alternative daily cover (ADC) or disposed in landfills. SB 1383, adopted in September 2016 requires organics diversion: -50% by 2020 (relative to 2014) -75% by 2025 (relative to 2014) CalRecvcle is the state agency

responsible for implementation.

- Regulations implementing SB 1383 went into effect in 2022. Jurisdictions can begin local enforcement January 1, 2024, and compliance is required by January 1, 2025. Requirements include:
  - Diverted biosolids must be anaerobically digested and/or composted to qualify as landfill reduction.
- CalRecycle is accepting applications to qualify other specific treatment technologies as landfill reduction (per Article 2 of SB 1383).
- Local ordinances restricting land application are disallowed.
- While the regulations implementing SB 1383 do not explicitly forbid biosolids disposal/reuse in landfills, it is assumed that since biosolids are a relatively "clean" waste stream that can be easily diverted, landfills will stop accepting biosolids.
- The Bay Area Biosolids Coalition (BABC) was formed to find sustainable, cost-effective, allweather options for biosolids management. BABC is a BACWA Project of Special Benefit.

- Jurisdictions that divert organic waste must also procure the end products of diversion, such as biogas, biomethane, and compost (but not biosolids).
   Procurement rules are being phased in over three years (2023 to 2025) and there are interim rules regarding procurement of biogas from POTWs.
- In December 2023, Sutter County revised its ordinance to allow land application of Class A biosolids, reversing its previous ban. The change was made to conform to SB 1383. CalRecycle and biosolids stakeholders continue to conduct outreach to counties with restrictive ordinances.
- CalRecycle reviewed the first application under Article 2 ("H Cycle"), and determined it conditionally qualifies as equivalent to landfill diversion/ reduction. CalRecycle plans to provide additional clarification on technologies that *already* comply with SB 1383, and need not apply under Article 2 (e.g., land application of biosolids that have not been anaerobically digested).
- AB 1857, signed in 2022, removes a diversion credit for municipal solid waste incinerators. CalRecycle will soon prepare draft regulations implementing the law, which could apply to biosolids treated via pyrolysis.
- New York and Michigan are imposing restrictions on land application of biosolids with levels of PFAS >20 ppb for PFOA or PFOS. Based on the recently completed regional study of PFAS, few BACWA members are likely to exceed those thresholds for landapplied biosolids.

- BACWA's next Biosolids Trends Survey Report will be completed in 2024 and will cover 2021-2023. It will replace the most recent (2021) version, which covers 2018-2020.
- Continue to follow emerging science and regulatory developments regarding PFAS in biosolids (see page 9).
- Engage through CASA and BABC to follow development of regulations implementing AB 1857, with the goal of avoiding limits on POTWs using pyrolysis for organic waste management.
- Actively work through CASA with California Air Resource Board, CalRecycle, State Water Board, and California Department of Food and Agriculture to develop sustainable long-term options for biosolids beneficial use.
- Meet with BAAQMD regularly in 2024 to discuss alignment of state and local regulations.

BACWA 2021 Biosolids Trends Survey Report: <u>https://bacwa.org/wp-</u> <u>content/uploads/2021/12/BAC</u> <u>WA-2021-Biosolids-Trends-</u> <u>Survey-Report.pdf</u>

#### BABC website: http://www.bayareabiosolids.co m/

CASA White Paper on SB 1383 Implementation: <u>https://bacwa.org/document/su</u> <u>mmary-of-sb-1383-and-its-</u> <u>implementation-casa-2020/</u>

CalRecycle - Short-Lived Climate Pollutant Reduction Strategy <u>https://www.calrecycle.ca.gov/</u> <u>organics/slcp</u>

CalRecycle Procurement FAQ (Updated by AB 1985) https://calrecycle.ca.gov/organi cs/slcp/faq/recycledproducts/

SB1383 Article 2 Determination https://calrecycle.ca.gov/organic s/slcp/recyclingfacilities/article2/

SB 1383 Procurement FAQ (including interim rules for POTWs) https://calrecycle.ca.gov/org anics/slcp/faq/recycledprod ucts/

#### **CLIMATE CHANGE MITIGATION**

- CARB's Climate Change Scoping Plan Update lays out the approach for the State to meet its greenhouse gas (GHG) emissions reduction targets through 2030. The latest Scoping Plan was updated in 2022 targeting carbon neutrality by 2045, including policies addressing:
  - o Short-lived climate pollutants
  - Carbon sequestration on Natural and Working Lands
  - Largest emitters (transportation, electricity, and industrial sectors)
- SB 1383 (Short-Lived Climate Pollutant Reduction) calls for:
  - $\circ$  40% methane reduction by 2030
  - 75% diversion of organic waste from landfills by January 1, 2025
- Policy / regulatory development encouraging production/use of biogas
- BAAQMD developed a Clean Air Plan requiring GHG emissions supporting CARB's 2050 target (80% below 1990 levels).
- BAAQMD proposed the development of Regulation 13 (climate pollutants) targeting methane and nitrous oxide reductions related to organics diversion and management. After a pause of several years, BAAQMD may revisit Regulation 13 in 2024.
- CARB states POTWs are part of the solution for reducing fugitive methane and encourages diversion of organics to POTWs to use available digester capacity and produce biogas.

- CARB is pursuing rapid fleet conversion to zero-emission vehicles (ZEVs), including medium and heavy-duty vehicles, through the Advanced Clean Fleet rule. The Advanced Clean Fleet rule allows organization to opt into one of two programs, with exceptions:
  - Public Fleets (default): Requires 50% of vehicles added to be ZEV by 2024, and 100% by 2027.
  - High Priority Fleet (Group 3): With exceptions, requiring 10% of vehicles added to be ZEV by 2030 and 100% by 2042.
- Complete conversion will be difficult for heavy-duty specialty trucks and will remove a potential market for biogas. CASA has requested to continue allowance of biogas as a sustainable transportation fuel.
- In addition to pushing for ZEVs, CARB is proposing changes to the Low Carbon Fuel Standard with increasing emphasis on hydrogen as a transportation fuel. Conversion of biogas into hydrogen remains to be demonstrated.
- In 2022, the CPUC mandated that CA's four largest gas utilities (including PG&E) procure biomethane. PG&E has an active biomethane procurement program, with more solicitations expected in 2024.
- In 2023, EPA finalized updates to its Renewable Fuel Standard Set Rule allowing apportionment of renewable identification numbers (RINs) or "Credits for food-waste-based (D5) or sludgebased (D3) biogas.

- Review and comment on the draft Low Carbon Fuel Standards, which reduces the viability of biomethane use as CNG in vehicles. Comments are due February 20<sup>th</sup>, and a public hearing will be held March 21<sup>st</sup>.
- Track implementation of the Advanced Clean Fleet Regulations, which CARB is discussing with a newly formed Truck Regulation Implementation Group w/ supporting subgroups.
- Follow the fate of proposed legislation (AB 1594) that could exempt some public utility specialty vehicles from the Advanced Clean Fleet Regulations as part of the TRIG discussions. Can only be integrated into the ACF with amendments to the ACF in 2025.
- Closely follow rule development of Proposed Regulation 13 (climate pollutants), which BAAQMD may revisit in 2024.
- Look for ways to inform BAAQMD on opportunities and challenges related to climate change mitigation by Bay Area POTWs, including education about anaerobic digesters and POTW operations.
- Work with PG&E and BAAQMD to explore options for POTWs to inject biogas into PG&E pipelines.

Climate Change Scoping Plan, including 2022 Update: <u>https://ww2.arb.ca.gov/our-</u> work/programs/ab-32-climatechange-scoping-plan

#### CARB Low Carbon Fuel Standard: https://ww2.arb.ca.gov/ourwork/programs/low-carbonfuel-standard

CARB Advanced Clean Fleet Rule: https://ww2.arb.ca.gov/ourwork/programs/advancedclean-fleets

#### SB 1383: https://www.calrecycle.ca.gov/ organics/slcp

BAAQMD Regulation 13 <u>http://www.baaqmd.gov/rules-and-</u> <u>compliance/rules/regulation-</u> 13-climate-pollutants

## EPA Renewable Fuel Standards

https://www.epa.gov/renewabl e-fuel-standard-program/finalrenewable-fuels-standardsrule-2023-2024-and-2025

#### PG&E Procurement

http://www.pge.com/rngrfo, & https://casaweb.org/wpcontent/uploads/2023/11/P GE-at-CASA-Webinar.pdf

#### **CLIMATE CHANGE ADAPTATION**

- Climate change and water resilience are a strategic priority of both the State Water Board and Regional Water Board.
- In April 2019, Governor Newsom signed Executive Order N-10-19 directing State Agencies to recommend a suite of priorities and actions to build a climate-resilient water system and ensure healthy waterways through the 21st century.
- Bay Area coordination occurs through Bay Adapt, the Bay Area Climate Adaptation Network (BayCAN), and other venues.
   BACWA has signed a letter of support for the Bay Adapt Joint Platform.
- In April 2022, the State released a Climate Adaptation Strategy, including an updated climate change assessment for the Bay Area region.
- The California Coastal Commission's November 2021 Sea Level Rise Planning Guidance recommends that agencies "understand and plan" for 2.7 feet of sea level rise (SLR) by 2050.
- The Regional Water Board is modifying the Basin Plan to address climate change and wetland policy. The changes will occur through multiple Basin Plan amendments.

- In 2022, the Regional Water Board adopted a Climate Change Basin Plan amendment addressing dredge and fill procedures near the region's shorelines, especially for climate adaptation projects.
- Separately from the Basin Plan amendment, the NDPES division has released information regarding permitting of nature-based solutions.
- Shallow groundwater response to SLR is a concern in low-lying Bay Area communities. Information about current and future depth-to-groundwater maps is summarized in a January 2023 report now available from Pathways Climate Institute and SFEI.
- The Bay Conservation and Development Commission (BCDC) is developing regional SLR adaptation planning guidelines for the Bay Area as part of the Regional Shoreline Adaptation Plan. The guidelines must be adopted by Dec 31, 2024, to comply with SB 272, signed by the Governor in Oct. 2023. SB 272 requires cities and counties to develop regional sea level rise adaptation plans by 2034.
- The Ocean Protection Council (OPC) has issued a draft 2024 SLR guidance update reflecting the latest projections. Previous projections for extreme SLR (i.e., H++ scenario) have been removed, and the range of projections has narrowed considerably, especially for 2050. Updates to the Coastal Commission's "Critical Infrastructure at Risk" SLR planning guidance are expected to follow.

- Review and understand the updated projections in the OPC's 2024 Draft SLR
   Guidance document. OPC will hold informational webinars in February, and comments are due March 4<sup>th</sup>.
- Identify contact(s) at each agency to join BACWA's Climate Change Community of Practice. BACWA plans to host a webinar series in 2024 on technical topics related to climate change, such as sea level rise projections and changes in precipitation. The Climate Change Community of Practice will provide a forum to discuss these topics.
- Engage with BCDC during the agency's development of Regional Shoreline Adaptation Plan guidance, which will likely impact most BACWA member agencies. BACWA is participating in an advisory group for the Regional Shoreline Adaptation Plan.
- Prepare for engagement with the Regional Water Board on expectations for SLR planning.
- Continue to work with Regional Water Board and other resource agencies to look for regulatory solutions to encourage wetlands projects for shoreline resiliency.

OPC 2024 Draft Sea Level Rise Guidance <u>https://opc.ca.gov/2024/01/draf</u> <u>t-slr-guidance-2024/</u>

California Coastal Commission's *Critical Infrastructure at Risk* <u>https://documents.coastal.ca.g</u> <u>ov/assets/slr/SLR%20Guidanc</u> <u>e\_Critical%20Infrastructure\_12</u> <u>.6.2021.pdf</u>

California Climate Adaptation Strategy https://climateresilience.ca.gov

BayCAN Funding Tracker https://www.baycanadapt.org/

Bay Adapt Joint Platform (includes Regional Shoreline Adaptation Planning info) https://www.bayadapt.org/

NPDES Permitting for Nature-Based Solutions https://bacwa.org/wpcontent/uploads/2022/08/NPD ES-Permitting-for-Nature-Based-Solutions-5.pdf

2023 Report on Shallow Groundwater Response https://www.sfei.org/projects/s hallow-groundwater-responsesea-level-rise

#### TOXIC AIR CONTAMINANTS

- Regulation 11, Rule 18 (Rule 11-18), adopted in 2017, is BAAQMD's local effort to protect public health from toxic air pollution from existing facilities, including POTWs.
- Per the Rule, BAAQMD will conduct site-specific Health Risk Screening Analyses and determine each facility's prioritization score (PS).
   BAAQMD will conduct Health Risk Assessments (HRAs) for all facilities with a cancer PS>10 or non-cancer PS>1.0. After verifying the model inputs, if the facility still has PS above that threshold, that facility would need to develop and implement a Risk Reduction Plan that may include employing Best Available Retrofit Control Technology for Toxics (TBARCT).
- AB 617 (Community Air Protection Program) – requires CARB to harmonize community air monitoring, reporting, & local emissions reduction programs for air toxics and GHGs). POTWs within communities already impacted by air pollution may have to accelerate implementation of risk reduction measures.
- AB 2588 (Air Toxics "Hot Spots" Program) - Establishes a statewide program for the inventory of air toxics emissions from individual facilities, as well as requirements for risk assessment and public notification of potential health risks. 2020 updates expanded compound list from >500 to >1,700.

- In December 2023, BAAQMD released Regulatory Concepts for Amendments to Rule 11-18. The amendments outline procedures for HRAs, among other program details. Updated prioritization scores were also released.
- In the *Final Statement of Reasons* for rulemaking on AB 617 and AB 2588, CARB provided the wastewater sector time to develop a short-list of relevant compounds and perform a pooled emissions estimating effort to update outdated default emission factors (through 2028).
- In 2021, BAAQMD amended Rule 2-5 to reduce allowable levels of toxic air contaminants in new source permitting. In 2022, BAAQMD and BACWA convened a working group to address concerns related to toxic air contaminants and rule-making, which is meeting quarterly. BACWA is coordinating with BAAQMD about implementation of the two-step process and its timing relative to BAAQMD Rule 11-18 and 2-5.
- In July 2023, the EPA announced a proposal to revise its Air Emissions Reporting Requirements (AERR).
   CARB has applied to submit information on behalf of California facilities.

- Review and Comment on the Regulatory Concepts for Amendments to Rule 11-18. A public workshop will be held February 15<sup>th</sup>, and comments are due February 29<sup>th</sup>.
- Continue participating in the BAAQMD workgroup to discuss toxic air contaminants, rule development, and related air quality regulatory issues.
- Report "business as usual" for air toxics through 2028 (through year 2027 data). CARB is preparing a message to Air Districts confirming POTWs can delay reporting new compounds until the two-step process is complete. The wastewater sector has until 2028 to perform a statewide "two-step process" to determine a shortlist of compounds relevant to the wastewater sector to report.
- For budget planning purposes, BACWA members with permitted capacity ≥ 5 MGD should expect the study to cost approximately \$3,700 per MGD of actual average annual daily flow (<u>not</u> permitted dry weather flow). Study costs will be refined and spread over four years. BACWA will assist CASA in collecting funds from participants who are also BACWA's members.

BAAQMD Facility Risk Reduction Program Updates (Rule 11-18): https://www.baaqmd.gov/com munity-health/facility-riskreduction-program

#### BAAQMD Rule 2-5

https://www.baaqmd.gov/rulesand-compliance/rules/reg-2permits?rule\_version=2021%2 0Amendments

CARB page on AB 617 and AB 2588: https://ww2.arb.ca.gov/ourwork/programs/criteria-andtoxics-reporting *Final Statement of Reasons* https://ww3.arb.ca.gov/board/1 5day/ctr/fsor.pdf

#### Timing of Rule 11-18 vs. Process for AB 617 https://bacwa.org/document/ba aqmd-rule-11-18-vs-carb-twostep-process-for-ab-617-feb-2023/

EPA Air Emissions Reporting Requirements <u>https://www.epa.gov/air-</u> <u>emissions-inventories/air-</u> <u>emissions-reporting-</u> <u>requirements-aerr</u>

#### **RECYCLED WATER**

- Approximately 10 percent of the municipal wastewater of Region 2 POTWs is currently recycled.
   Expansion of recycled water projects is a goal of many BACWA members, but implementation is slowed by high costs and administrative requirements.
- In 2018, the State Water Board adopted uniform water recycling criteria for two types of Indirect Potable Reuse: surface water augmentation and groundwater augmentation.
- In December 2023, the State Water Board adopted uniform water recycling criteria for two types of Direct Potable Reuse: raw water augmentation and treated water augmentation.
- As of 2020, virtually all recycled water in Region 2 was produced at centralized facilities using municipal wastewater, and was treated to meet standards for non-potable reuse. There are not yet any Indirect or Direct Potable Reuse projects in Region 2, although several are in the planning stage.

- The State Water Board is currently developing standards for onsite treatment and reuse of non-potable water in multi-family, mixed use, and commercial buildings. The rulemaking process for onsite non-potable reuse is slated to begin by Spring 2024 with a projected Board adoption in Fall 2024.
- In June 2023, BACWA completed a Regional Evaluation of Potential Nutrient Discharge Reduction by Water Recycling, as required by the 2<sup>nd</sup> Nutrient Watershed Permit.
- The State Water Board has launched a "Strike Team" to assess how California will meet new recycled water goals listed in California's Water Supply Strategy: 800,000 acre-feet per year of recycled water by 2030 and 1.8 million acre-feet per year by 2040. The Strike Team will also document challenges to meeting these goals, such as funding.
- In December 2023, the Regional Water Board approved a Basin Plan Amendment that will allow greater flexibility for NPDES permitting of reverse osmosis concentrate discharges to San Francisco Bay. The Basin Plan Amendment must be approved by the State and USEPA before it is goes into effect.

- Review draft regulations for Onsite Non-Potable Reuse when they are released by State Water Board staff, which is expected as soon as spring 2024.
- Build on successes of the September 2023 workshop on interagency collaboration.
   Wastewater and water agency representatives convened to discuss challenges and opportunities for expanding water recycling in the Bay Area.
- Continue to track the role of recycled water projects in diverting nutrient loads from San Francisco Bay. Load reductions are expected to be a requirement of the 2024 Nutrient Watershed Permit (see page 2).
- Track California legislation with potential impacts on recycled water funding, mandates, or regulations.

Water Boards Recycled Water Policy and Regulations www.waterboards.ca.gov/wate r\_issues/programs/recycled\_w ater/

#### Direct Potable Reuse Regulations www.waterboards.ca.gov/drink ing\_water/certlic/drinkingwater/ dpr-regs.html

## Onsite Nonpotable Reuse Regulations

www.waterboards.ca.gov/drink ing\_water/certlic/drinkingwater/ onsite\_nonpotable\_reuse\_regu lations.html

BACWA Special Studies of Recycled Water and Nature-Based Systems: bacwa.org/documentcategory/2nd-watershedpermit-studies/

California's Water Supply Strategy (August 2022) <u>Resources.ca.gov/-</u> /media/CNRA-Website/Files/Initiatives/Water-Resilience/CA-Water-Supply-Strategy.pdf

December 2023 Basin Plan Amendment www.waterboards.ca.gov/sanfr anciscobay/water\_issues/progr ams/planningtmdls/amendment s/NPDES corrections.html

## Previously covered issues with no updates can be found in previous **BACWA** issues summaries.

### ACRONYMS

ADC	Alternate Daily Cover	PCB	Polychlorinated Biphenyl
BAAQMD	Bay Area Air Quality Management District	PFAS	Per- and Polyfluoroalkyl Substances
BACT	Best Available Control Technology	PFBS	Perfluorobutane Sulfonic Acid
BCDC	Bay Conservation and Development Commission	PFHxS	Perfluorohexane Sulfonic Acid
BTU/SCF	British thermal units per standard cubic foot	PFOA	Perfluorooctanoic Acid
CalDPR	California Department of Pesticide Registration	PFOS	Perfluorooctane Sulfonic Acid
CARB	California Air Resources Board	POTW	Publicly Owned Treatment Works
CASA	California Association of Sanitation Agencies	PS	Prioritization Score
CAP	Criteria Air Pollutant	RMP	Regional Monitoring Program
CEC	Compound of Emerging Concern	RPA	Reasonable Potential Analysis
CIWQS	California Integrated Water Quality System	SCAP	Southern California Alliance of POTWs
CVCWA	Central Valley Clean Water Agencies	SF Bay	San Francisco Bay
CWEA	California Water Environment Association	SFEI	San Francisco Estuary Institute
DDW	Division of Drinking Water, State Water Resources Control Board	SLR	Sea Level Rise
EC25/IC25	25% Effect Concentration/25% Inhibition Concentration	SSMP	Sewer System Management Plan
ELAP	Environmental Laboratory Accreditation Program	TMDL	Total Maximum Daily Load
ELTAC	Environmental Laboratory Technical Advisory Committee	TIN	Total Inorganic Nitrogen
EPA	United States Environmental Protection Agency	TNI	The NELAC Institute
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act	TST	Test of Significant Toxicity
FY	Fiscal Year	WQO	Water Quality Objective
GHG	Greenhouse Gas	ZEV	Zero-Emission Vehicle
MCL	Minimum Contaminant Level (Drinking Water)		
MGD	Million Gallons per Day		
NACWA	National Association of Clean Water Agencies		
NELAC	National Environmental Laboratory Accreditation Conference		
NMS	Nutrient Management Strategy		
OEHHA	Office of Environmental Health Hazard Assessment		

OPC Ocean Protection Council

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## ITEM NO. RA8 STUDY OF PFAS IN BAY AREA WASTEWATER

### Recommendation

For the Committee's information only; no action is required.

## Strategic Plan Linkage

- 1. **Regulatory Compliance:** Proactively meet or exceed regulatory requirements for protection of the environment and public health.
  - e. Track and share scientific and regulatory developments related to emerging contaminants, and advocate for source control.

## Background

Per- and polyfluoroalkyl substances (PFAS) are a large group of human-made substances that are very resistant to heat, water, and oil. PFAS have been used extensively in surface coating and protectant formulations. Common PFAS-containing products are non-stick cookware, cardboard/paper food packaging, water-resistant clothing, carpets, and fire-fighting foam. All PFAS are persistent in the environment, can accumulate within the human body, and have demonstrated toxicity at relatively low concentrations. PFOA and PFOS, two of the most common PFAS compounds, were found in the blood of nearly all people tested in several national surveys.

### Discussion

The Bay Area Clean Water Agencies (BACWA) and San Francisco Estuary Institute (SFEI) recently completed a study evaluating PFAS in wastewater in the Bay Area. Phase 1, completed in 2021, focused on samples influent, effluent, and biosolids. In Phase 2, completed in December 2023, researchers worked with wastewater agencies to sample further up in sewersheds with a goal of identifying sources of PFAS to wastewater treatment plants. The attached summary provides relevant background for the study, an overview of study findings, and related resources.



Bay Area Clean Water Agencies and San Francisco Estuary Institute

## **Study of PFAS in Bay Area Wastewater**

### **KEY POINTS**

PFAS are ubiquitous in numerous everyday products and in the environment.

As long as PFAS continues to be produced and used in consumer products, PFAS will be present in wastewater influent, effluent, and biosolids.

# WHAT MAKES THIS STUDY UNIQUE?

This study quantified PFAS in wastewater using a comprehensive lab method called the Total Oxidizable Precursors (TOP) assay. This method quantifies more of the PFAS than other typical lab methods, which means this study was able to better track PFAS through the treatment process. Sampling of residential areas was another unique study feature.

## WHERE IS THE PFAS IN WASTEWATER COMING FROM?

Residential users appear to be a significant source of PFAS to Bay Area wastewater treatment plants. Among industrial and commercial facilities included in this study, industrial laundries showed the highest concentrations, followed by car washes.

## HOW MUCH PFAS IS IN BAY AREA WASTEWATER?

PFAS concentrations in Bay Area wastewater (see Figure 1 on page 3) were similar to levels seen in other communities in California. There are currently no PFAS standards directly applicable to biosolids or San Francisco Bay wastewater discharges. Most biosolids samples were below the "action levels" for land application recently adopted in other states.

## What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a large group of human-made compounds that are resistant to heat, water, and oil. Common PFAS-containing products include non-stick cookware, cardboard/paper food packaging, water-resistant clothing, carpets, personal care products, and fire-fighting foam. PFAS do not break down in the environment, can accumulate within the human body, and can be toxic at relatively low concentrations.

Publicly Owned Treatment Works (POTWs) receive PFAS from residential, commercial, and industrial customers in their service areas. Some PFAS transform to other PFAS compounds during the treatment process, but are not destroyed. PFAS received in POTW influent ultimately partition into effluent, air, or biosolids depending on the individual compound's chemical characteristics.



## Why did BACWA Complete this Study?

In 2019, the State Water Board started requiring testing of drinking water systems and other high-risk locations for PFAS such as landfills, airports, industrial chrome-platers, refineries & bulk terminals, and POTWs<sup>a</sup>. The Bay Area Clean Water Agencies (BACWA) worked with State and Regional Water Board staff to respond to the need for testing at POTWs. BACWA worked with scientists at San Francisco Estuary Institute (SFEI) to design and complete a two-phase study<sup>b,c</sup>:

- Phase 1 (Fall 2020). Fourteen representative facilities collected influent, effluent, and biosolids samples to test for PFAS. Facilities were selected based on their size, location, level of industry in their service area, treatment technology, and whether they had participated in previous SFEI PFAS studies, so that trends in individual PFAS compounds could be tracked over time. The final report for Phase 1 was released in October 2021<sup>d</sup>.
- Phase 2 (Mid-2022). Seven facilities collected influent and effluent samples, and five of the seven also collected biosolids samples for PFAS analysis. Samples were also collected upstream of POTWs in residential areas and at select industrial and commercial facilities. Industrial facilities were selected that had not already been included in the State Water Board's investigative orders. Phase 2 was completed by larger agencies that volunteered to participate. Results from Phase 2 were shared at the Regional Monitoring Program Annual Meeting in October 2023<sup>e</sup>, and the final report for Phase 2 was completed in December 2023. The report is available from BACWA staff upon request.

While the State Water Board required wastewater samples (influent, effluent, biosolids) to be measured for a specified 31 individual PFAS analytes, the BACWA-SFEI study went beyond this list and used a target method that included 40 individual analytes. Additionally, this study included another method called the Total Oxidizable Precursors (TOP) assay. The TOP assay involves oxidizing the sample to convert PFAS to terminal transformation products, then analyzed



with the Target method. The total PFAS quantified with the TOP method includes not only the 40 analytes in the Target method, but additionally includes PFAS precursors that can transform to those 40 analytes. The advantage of the TOP analysis is that it gives a better estimate of all PFAS in a sample, and not just the 40 individual analytes included in the analytical method (see conceptual schematic at left). Both the target and TOP assay quantified PFAS using USEPA Method 1633. Phase 2 also included analysis of Adsorbable Organofluorine (AOF) via USEPA Draft Method 1621.



## What did the Study Find?

#### **KEY FINDING**

In Phase 2, TOP analysis was completed for influent, effluent, and biosolids from 5 facilities.

On average, about half of the mass of total quantified PFAS contained in POTW influent was partitioned to biosolids. Phase 1 of the study demonstrated that sampling a representative selection of POTWs (rather than all POTWs) was an appropriate strategy for characterizing PFAS. PFAS levels were similar across the 14 participating facilities, as summarized in the Phase 1 report<sup>d</sup>. Both phases of this BACWA-SFEI study showed similar results to the State Water Board's Investigative Order<sup>f</sup> for the targeted analysis. This study also showed that the targeted analysis only captures a fraction of total PFAS compounds. In Phase 2 influent samples, for example, the median for sum of PFAS via the TOP method was 5 times greater than the median for sum of PFAS via target analysis, while the ratio was about 2 for effluent.

Phase 2 showed that PFAS in influent is both transformed and partitioned to biosolids before leaving as treated effluent, as shown below in **Figure 1.** This finding may seem self-evident, but the results of the Phase 1 study and the statewide Investigative Order were not conclusive on this point. Based on targeted analysis, the total quantified PFAS concentration is often *higher* in effluent than influent, potentially leading to the false conclusion that PFAS are added or created within treatment plants. As expected, total quantified PFAS based on Phase 2 TOP analysis conclusively showed substantial removal from influent to effluent at each of the seven facilities sampled (*see orange bars for influent and effluent, Figure 1*). AOF data showed a similar trend.



**Figure 1.** Phase 2 Total Quantified PFAS based on a sum of targeted analysis of 40 compounds ("Target") and Total Oxidizable Precursors analysis ("TOP"). Note TOP results includes 40 compounds included in Target method, plus PFAS precursors that are converted to one of the 40 Target compounds. Influent and effluent data are in units ng/L and Biosolids are in ng/g (dry weight). The height of each bar chart indicates the median, while the error bars show the minimum and maximum. Phase 1 data are excluded because the TOP analysis was not performed.



# How do PFAS Levels in Bay Area Wastewater Compare to Regulatory Thresholds?

There are currently no water quality criteria for PFAS directly applicable to San Francisco Bay. USEPA has developed draft aquatic life criteria<sup>g</sup>, and plans to develop human health criteria based on fish consumption (see side bar). Although surface water quality criteria are still in development, both the State Water Board and USEPA have developed regulatory thresholds for drinking water. Drinking water criteria are <u>not</u> applicable to most Bay Area POTWs, since the Bay is not used as a drinking water supply. They are included here for informational purposes only.

The State Water Board has adopted notification levels of 6.5 ng/L for perfluorooctane sulfonic acid (PFOS), 5.1 ng/L for perfluorooctanoic acid (PFOA), and 3 ng/L for perfluorohexane sulfonic acid (PFHxS)<sup>h</sup>. The USEPA's proposed drinking water Maximum Contaminant Level (MCL) is 4 ng/L for PFOS and PFOA<sup>i</sup>. The proposed MCL for PFHxS is

#### PFAS IN THE BAY



Through the Regional Monitoring Program, SFEI scientists are monitoring PFAS in San Francisco Bay water, sediment, and sport fish. PFOS is the predominant compound in sport fish, and fish caught in the South Bay have the highest concentrations. Stormwater and wastewater are both possible sources of PFAS in sport fish.

As part of its PFAS Strategic Roadmap, USEPA is planning to publish water quality criteria based on fish consumption in Fall 2024. In the future, the levels of PFAS in sport fish may cause San Francisco Bay to be listed as an impaired water body per section 303(d) of the federal Clean Water Act.

included as part of a unitless "Hazard Index." Effluent concentrations observed from Phase 1 and 2 are compared to these thresholds in **Figure 2**. Although production of both PFOS and PFOA has been phased out in the United States, these compounds were detected in all but one of the study's effluent samples. Some PFOS and PFOA may come from the transformation of other PFAS compounds. Typical concentrations were near or above the proposed federal MCLs.



**Figure 2.** Phase 1 and 2 effluent concentrations of PFOA, PFOS, and PFHxS compared to California notification levels and proposed USEPA Maximum Contaminant Levels (MCLs) for drinking water. For PFHxS, the proposed MCL is illustrated with a dashed line at 10 ng/L; the unitless Hazard Index of 1.0 is calculated by dividing PFHxS concentrations by 10. The 3 other compounds included in the Hazard Index were primarily non-detects. The open circle for PFOS indicates a non-detected value; all filled shapes indicate a detected result.



## How do PFAS Levels in Bay Area Biosolids Compare to Regulatory Thresholds?

PFAS is a potential concern for biosolids end uses, particularly land application or other uses where PFAS could migrate to food crops or drinking water. There are currently no federal or state standards for PFAS in biosolids. However, several other states have established "action levels" for biosolids that may be "industrially impacted." When PFOA or PFOS concentrations in biosolids exceed the action level of 20 ng/g ( $\mu$ g/kg or ppb), utilities in Michigan<sup>j</sup> and New York<sup>k</sup> are subject to restrictions on biosolids recycling. In this BACWA-SFEI study, the only biosolids samples that exceeded these thresholds were from agencies that have exceptionally long storage times in lagoons and storage beds, which may allow more time for PFAS transformations to occur or allow PFAS to become more concentrated on a dry weight basis.



**Figure 3.** Phase 1 and 2 biosolids concentrations of PFOA and PFOS (ng/g dry weight) compared to action levels in Michigan and New York. Filled shapes indicate detected values. Unfilled shapes indicate non-detects.

## Where is PFAS in Bay Area Wastewater Coming From?

To identify potential sources of PFAS, Phase 2 of the BACWA-SFEI study focused on sampling in residential areas and at commercial and industrial facilities. Samples were collected from residential areas (n=14), industrial laundries (n=5), hospitals (n=4), facilities with chrome plating onsite (n=3), semiconductor manufacturing (n=2), car washes (n=3), a military site, and a pulp paperboard manufacturing facility. Landfill leachate is also a known source of PFAS in wastewater that was previously sampled under a State Water Board investigative order<sup>a</sup>. Results of this study's collection system monitoring are shown in **Figure 4** and indicate that:

- **Residential** samples showed a large range of total quantified PFAS concentrations. The median sum of TOP and target analytes were only slightly lower than those found in plant influent.
- Industrial Laundries. Concentrations of total quantified PFAS measured as TOP were significantly higher than median influent concentrations at several (but not all) industrial



laundries. These facilities typically launder uniforms, linens, floor mats, and similar items. Some laundered textiles could contain intentionally added PFAS (e.g., for stain resistance).

 Car Washes showed total PFAS measured as TOP at moderately higher concentrations than plant influent. Unlike industrial laundries, however, there were not any extremely high values at the car washes, and discharge flow rates tend to be lower at the car washes.



**Figure 4.** Comparison of Phase 2 plant influent results with residential, commercial, and industrial wastewater (ng/L). Total PFAS is based on a sum of targeted analysis of 40 compounds("Target") and Total Oxidizable Precursor analysis ("TOP"). The height of each bar chart indicates the median, while the error bars show the minimum and maximum.

At most Bay Area treatment plants, more than 95% of flows are from residential and commercial customers. Phase 2 results indicate that residential areas may contribute PFAS at concentrations similar to plant influent, which means that residential users may be the dominant source of PFAS to many treatment facilities. PFAS is found in many consumer products, including textiles, household chemicals, cosmetics, and food packaging, at concentrations several orders of



magnitude higher than those found in this study, as shown in **Figure 5**. This source of PFAS can only be controlled by removing or reducing the amount of PFAS found in consumer products.

**Figure 5.** PFAS concentrations in select categories of consumer products. Figure adapted from Dewapriya et al., 2023<sup>I</sup>. The round marker indicates the average, while the error bars show the minimum and maximum values. The units (ppm) are equivalent to ng/L x 1,000,000.



## What is BACWA Doing Next?

BACWA and its members are interested in developing actionable data that will inform future source control or other management efforts. To start, BACWA and its members plan to continue working with SFEI, the Water Board, and the California Department of Toxic Substances Control to identify consumer products with PFAS that have a potential nexus to wastewater, stormwater, and surface waters like San Francisco Bay. In the coming years, SFEI plans to continue studying PFAS in stormwater and the Bay, while BACWA will continue to focus on identifying controllable sources within sewer service areas.

## Where Can I Find More Information?

## **USEPA PFAS Strategic Roadmap:**

https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024

<sup>a</sup> SWRCB Investigative Order for POTWs:

https://www.waterboards.ca.gov/board\_decisions/adopted\_orders/water\_quality/2020/wqo2020\_001 5\_dwq.pdf

<sup>b</sup> Study of PFAS in Bay Area POTWs: Phase 1 Sampling and Analysis Plan:

https://bacwa.org/wp-content/uploads/2020/12/SFEI-Final-PFAS-SAP-Phase-1-2020-11-23.pdf

<sup>c</sup> Study of PFAS in Bay Area POTWs: Phase 2 Sampling and Analysis Plan: <u>https://bacwa.org/wp-content/uploads/2022/03/Final-PFAS-Phase-2-SAP-2022-03-28.pdf</u>

<sup>d</sup> Study of PFAS in Bay Area POTWs, Phase 1 Memo:

https://bacwa.org/wp-content/uploads/2023/03/Memo\_BACWA-PFAS-Phase-1.pdf

<sup>e</sup> Lin, D. and Fono, L. Investigation of PFAS Sources to Municipal Wastewater. Presentation to 2023 Regional Monitoring Program Annual Meeting, October 2023. Video and slides available at https://www.sfei.org/projects/rmp-annual-meeting

<sup>f</sup> Aflaki, R. "What can we learn from the GeoTracker PFAS data?" Presentation to CASA; Available at <u>https://casaweb.org/wp-content/uploads/2023/10/Aflaki-Roshan.pdf</u>

<sup>g</sup> USEPA, 2022. "Fact Sheet: Draft 2022 Aquatic Life Ambient Water Quality Criteria for PFOA and PFOS. "Available at <u>https://www.epa.gov/system/files/documents/2022-04/pfoa-pfos-draft-factsheet-2022.pdf</u>

<sup>h</sup> SWRCB. "PFAS Regulations for California Drinking Water." Available at https://www.waterboards.ca.gov/drinking.water/certlic/drinkingwater/pfas

https://www.waterboards.ca.gov/drinking\_water/certlic/drinkingwater/pfas.html

USEPA. Proposed PFAS National Drinking Water Regulation. Available at

https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

<sup>j</sup> Michigan Department of Environment, Great Lakes, and Energy. "Interim Strategy – Land Application of Biosolids Containing PFAS (2024)." Available at

https://www.michigan.gov/egle/about/organization/water-resources/biosolids/pfas-related

<sup>k</sup> New York State Department of Environmental Conservation. "Biosolids Recycling in New York State – Interim Strategy for the Control of PFAS Compounds." September 7, 2023. Available at <u>https://extapps.dec.ny.gov/docs/materials\_minerals\_pdf/dmm7.pdf</u>

<sup>1</sup> Dewapriya, P., et al. "Per- and polyfluoroalkyl substances (PFAS) in consumer products: Current knowledge and research gaps." Journal of Hazardous Materials Letters, Volume 4, November 2023, 100086. https://doi.org/10.1016/j.hazl.2023.100086

## ITEM NO. <u>RA9</u> NUTRIENTS WATERSHED PERMIT UDPATE

### Recommendation

For the Committee's information only; no action is required.

## Strategic Plan Linkage

- 2. **Regulatory Compliance:** Proactively meet or exceed regulatory requirements for protection of the environment and public health.
  - b. Represent EBDA and the Member Agencies' interests by preemptively engaging in development of emerging regulations and permits and advocating for reasonable, science-based decisions.
- 7. **External Collaboration:** Collaborate with external stakeholders to build strong relationships for joint problem-solving and to expand EBDA's and its Member Agencies' reach.
  - b. Partner with regulators to develop and implement permits and programs leading with science and lessons learned.

### Background

While the loads of nutrients such as nitrogen and phosphorus to San Francisco Bay are higher than other estuaries, the Bay has historically been very resilient, and negative impacts of nutrient enrichment such as eutrophication have not occurred. Scientists believe this resilience to stem at least in part from high turbidity (i.e., the Bay is cloudy); which blocks the light that phytoplankton need to grow; presence of filter-feeding clams, which reduce phytoplankton concentrations; and strong tidal mixing, which reduces nutrient concentrations. Over the last decade, concerning trends caused the scientific and regulatory communities to question whether the Bay's resilience is weakening.

To begin to proactively address these nutrient-related risks, Bay Area wastewater agencies, through the Bay Area Clean Water Agencies (BACWA), have participated since 2012 in a positive collaboration with a wide variety of stakeholders to implement a Nutrient Management Strategy that focuses on conducting scientific research and modeling to determine the effects of nutrients on the Bay ecosystem, and protective levels of nutrient loading going forward. BACWA worked closely with staff of the San Francisco Bay Regional Water Quality Control Board (Water Board) to negotiate a Watershed Permit for nutrients, which was issued in 2014 and reissued in 2019.

In Summer 2022, a harmful algae bloom caused unprecedented decreases in dissolved oxygen in the Bay, resulting in significant fish kills. While it is unclear exactly what triggered this bloom, its timing did correspond with a prolonged period of unusually clear skies in the Bay Area, making available more light than usual for photosynthesis. Scientists believe that the bloom was nitrogen limited, meaning that nitrogen loads to the Bay sustained the bloom and likely contributed to its extent and duration. This conclusion, along with the increased media attention garnered by the event, has led to public and

Agenda Explanation East Bay Dischargers Authority Regulatory Affairs Committee March 18, 2024

political pressure on wastewater agencies and on regulators, particularly the Water Board, to act quickly to reduce nutrient loads to the Bay, with a goal of preventing or lessening the impact of future blooms. A brief, and thankfully less consequential, recurrence of the bloom last summer amplified that pressure.

## Discussion

EBDA and our partners with BACWA are currently negotiating the third Watershed Permit for nutrients. An administrative draft of the permit was provided to stakeholders on February 15, 2024, and an informal workshop was held on February 28. The draft was consistent with what had been previously communicated by Water Board staff. Specifically, the permit relies on modeling to set a Bay-wide target of 40% reduction in nitrogen loads by 2034. Reductions are then allocated to individual dischargers in the form of effluent limits that would be enforceable in 2034. While the Water Board has expressed support for continuing to refine the underlying science and for allowing additional time for multi-benefit projects, no commitments to longer timeframes are made in the draft permit. The draft permit also does not include any recognition of "early actors" – agencies like EBDA and LAVWMA members who invested in nitrogen reduction projects in advance of requirements.

In the February 28 workshop, representatives of BayKeeper expressed many common concerns with BACWA. They feared that the firm and fast deadlines would result in singlebenefit projects and were concerned about the precedent set by not honoring commitments to early actors. Because Water Board staff believes that their hands are tied by legal constraints, BACWA and EBDA are jointly conferring with Clean Water Act attorneys at Meyers Nave to identify areas of flexibility.

In response to the Water Board's request for comments on the administrative draft by March 6, EBDA submitted the attached letter. EBDA staff also contributed to a permit markup submitted by BACWA. Water Board staff has indicated that they expect to issue a Tentative Order, which is a formal public draft of the permit, in late March or early April. They are planning for a June 2024 permit adoption before the current Watershed Permit expires July 1. Staff will continue to keep the Commission apprised of developments in the negotiation.



EAST BAY DISCHARGERS AUTHORITY 2651 Grant Avenue San Lorenzo, CA 94580-1841 (510) 278-5910 FAX (510) 278-6547

A Joint Powers Public Agency

Mr. Gaurav Mittal Water Resources Control Engineer San Francisco Bay Regional Water Board 1515 Clay St., #1400 Oakland, CA 94612 <u>Gaurav.Mittal@Waterboards.ca.gov</u>

March 6, 2024

RE: Administrative Draft of Nutrient Watershed Permit (NPDES PERMIT CA0038873)

Dear Mr. Mittal,

The East Bay Dischargers Authority (EBDA) appreciates this opportunity to comment on the administrative draft of the third Watershed Permit for Nutrients. EBDA is a joint powers authority made up of the Cities of San Leandro and Hayward, and the Castro Valley, Oro Loma, and Union Sanitary Districts. Including contract flows from the Livermore-Amador Valley Water Management Agency, EBDA efficiently and reliably manages the wastewater resources of one million East Bay residents and thousands of businesses to protect human and environmental health. Along with our partners in the Bay Area Clean Water Agencies (BACWA), EBDA has been an active participant in and advocate for the Nutrient Management Strategy since its inception. Our agencies believe strongly in collaborative, science-based decision-making. We appreciate the challenge the Regional Water Quality Control Board (Water Board) is facing in crafting a permit that is responsive to the 2022 Harmful Algal Bloom and protective of the Bay going forward, while acknowledging the magnitude of investments that will be required to meaningfully reduce nutrient discharges.

The EBDA agencies have long been viewed across the region as leaders in implementation of multi-benefit projects. Four of our six plants have significant recycled water programs, with Dublin-San Ramon Services District (DSRSD) recycling all of its effluent at times of peak summer demand. Four of the six plants also have nature-based projects in development that have the potential to provide flood control and habitat benefits while removing nutrients. This approach was famously demonstrated at the Oro Loma Horizontal Levee Demonstration Site, where research continues on the water quality benefits of subsurface treatment in natural systems.

EBDA will be providing proposed markups to the administrative draft permit as part of BACWA's. We wanted to take the opportunity in this letter to highlight two key requests, which are further detailed below:

- Provide early actors with more time to achieve ultimate load reductions.
- Incorporate compliance flexibility to address variability in recycled water demand.

CHAIR	VICE-CHAIR	COMMISSIONER	COMMISSIONER	COMMISSIONER	GENERAL MANAGER
Anjali Lathi	Fred Simon	Ralph Johnson	Bryan Azevedo	Angela Andrews	Jacqueline T. Zipkin
Union S.D.	Oro Loma S.D.	Castro Valley S.D.	City of San Leandro	City of Hayward	LEGAL COUNSEL

## **Early Action**

In 2019, the EBDA agencies moved forward with a suite of projects intended to provide the Bay with a head start on nutrient reduction. These projects are summarized in Attachment A to this letter. EBDA members secured financing, increased rates, and began implementing projects on the basis that they would be considered "Early Actors." In the second Watershed Permit, Fact Sheet p. F-16 states (emphasis added):

If the most up-to-date scientific information indicates that nutrient loads must be capped *or reduced*, the Regional Water Board will recognize early actions (i.e., Dischargers' capital or operational improvements or other means that significantly reduce nutrient loads during this Order term) when considering compliance with nutrient load caps or reductions in a subembayment. This will likely result in findings that no further actions by these Dischargers will be necessary for the design life of the associated capital improvements, provided that other Dischargers can implement capital improvements to reduce nutrient loads below the subembayment cap.

EBDA's member agencies have taken the vulnerability of the Bay to nutrients seriously and have invested in an "all of the above" approach to reducing our loads within the current permit term and beyond. As summarized in the table, EBDA has already reduced loads by 1000 kg/d from 2019 levels. These load reductions create an important bridge that provides ongoing environmental value while other agencies finalize their nutrient reduction strategies. In addition, significant projects are underway – both traditional upgrades and multi-benefit projects – that will result in additional reductions during the next permit term.

On the understanding that after implementing their planned projects, the EBDA agencies would be moved to the "back of the line" and not asked to make further upgrades until other agencies made reductions, the EBDA agencies went above and beyond what was required of us. The cost of these projects approaches \$1B, and the agencies have fully leveraged their financial resources to make them happen. Yet according to this administrative draft, our best efforts are still not enough. As shared with Water Board staff in presentations on December 20, 2023 and January 9, 2024, EBDA estimates that at the time that final limits would become enforceable under the proposed permit, after our major projects have been completed, our dry season total inorganic nitrogen load (TIN) will be 6,300 kg/d. Including all feasible optimization measures, and using "best case" assumptions for what the project designs can achieve and for recycled water demand, EBDA estimates our load could potentially get as low as 5,000 kg/d. However, this is still shy of EBDA's effluent limit of 4,500 kg/d, and would put us in noncompliance.

While we are willing to take additional steps to further reduce nutrient loads beyond these projects, we simply will not have the financial capacity to do so within a 10-year compliance schedule. Acknowledgement of this reality was the impetus behind the early actor language in the previous Watershed Permit. EBDA requests that the Water Board honor the previous permit language, or at a minimum, provide additional time (e.g. 10 years, 2044 compliance date) to comply for agencies that have achieved verifiable load reductions or have broken ground on improvements during the current permit term.

CHAIR Anjali Lathi Union S.D. VICE-CHAIR Fred Simon Oro Lomo S.D. COMMISSIONER Ralph Johnson Castro Valley S.D.

COMMISSIONER Bryan Azevedo City of San Leandro COMMISSIONER Angela Andrews City of Hayward GENERAL MANAGER Jacqueline T. Zipkin LEGAL COUNSEL Eric S. Casher Page 71 of 140 If the permit fails to recognize early actors, it will have a chilling effect on agencies considering whether to go beyond minimum requirements in the future. As we heard at the February 28 workshop, this issue is also important to Baykeeper, as they recognize the consequences for future water quality improvement if agencies fear that moving forward in advance of regulation may invite additional requirements rather than relief.

While we appreciate the Water Board's statement in the Fact Sheet that it "will consider available regulatory mechanisms to provide Dischargers that identify multi-benefit projects likely to result in total inorganic nitrogen loads below the final effluent limitations more time to comply," we believe that this additional time should be afforded to early actors as well. Moreover, we request that the Water Board include a compliance pathway in the permit provisions as well to provide additional certainty that our agencies will not be forced into an enforcement context after having done everything that was asked of us and more. EBDA would support development of a TMDL, Water Quality Attainment Strategy, or similar implementation approach to comprehensively establish appropriate limits and timelines for protecting the Bay from future algal blooms.

## **Recycled Water Demand Variability**

EBDA's agencies have been leaders in water recycling, with DSRSD serving as a model for the region and exploring agreements to take on additional agencies' effluent to meet peak summer demands, and Hayward recently expanding its recycled water deliveries. Continuing to support and expand water recycling as a strategy for dry season nutrient load diversion is a stated priority for the wastewater community, environmental NGO community, and the Water Board. However, recycled water demands are not within wastewater agencies' control, and are highly variable. For example, a very wet spring can significantly depress recycled water demand in May, leading temporarily to higher nutrient discharges. As illustrated in the figure below, recycled water demands reached their maximum in 2021, followed by two years of decline due to wet weather. Recycled water demands were notably lower in May 2023 following a historically wet winter (25% lower compared to 2021).



#### DSRSD RECYCLED WATER PRODUCTION 2021 – 2023

CHAIR Anjali Lathi Union S.D. VICE-CHAIR Fred Simon Oro Lomo S.D. COMMISSIONER Ralph Johnson Castro Valley S.D. COMMISSIONER Bryan Azevedo City of San Leandro COMMISSIONER Angela Andrews City of Hayward GENERAL MANAGER Jacqueline T. Zipkin LEGAL COUNSEL Eric S. Casher Page 72 of 140 EBDA believes it is counter to our common goals to penalize agencies for temporary demand decreases and force investment in plant upgrades, diverting financial resources from expanding water recycling programs. DSRSD estimates that adding nutrient reduction at its wastewater treatment plant could cost approximately \$54 million and divert future funding away from expanding the recycled water program. This expansion, in contrast, would reduce nutrient loads to the Bay overall by diverting wastewater from neighboring agencies to meet recycled water peak demands.

To address this inherent variability and incentivize expansion of recycled water programs, EBDA requests two revisions to the administrative draft:

- **Exclude the month of May** which historically has the largest variation in recycled water demand. Wet hydrologic conditions result in lower demand and risk of algal blooms. Drier hydrologic conditions naturally result in higher recycled water demands and increased nutrient reductions.
- Base compliance with final seasonal limitations on a **3-year rolling average** of from discharges from June 1 September 30.

## **Conclusion**

EBDA's members have done everything that has been expected of us and more. We have invested significant capital in treatment plant upgrades to remove nutrients. We have maximized water recycling to provide water supply and nutrient diversion. We have pioneered multi-benefit nature-based approaches to nutrient removal. We might be able to do more – further optimize our processes, explore sidestream treatment, expand water recycling – but we need more time. We respectfully request that the Water Board include concrete assurances in the third Watershed Permit that longer compliance pathways will be available so that agencies that are engaged in multi-benefit projects and those that have implemented early action will not be held in violation of effluent limits in 2034.

We welcome your questions and continued collaboration on these challenging issues. You can reach me at (510) 278-5910 or jzipkin@ebda.org.

Sincerely,

Jackie Zipkin, P.E. General Manager

Cc:

Eileen White, Tom Mumley, Bill Johnson, Robert Schlipf – Regional Water Board Ellen Blake, Peter Kozelka – USEPA Region 9 Lorien Fono – Bay Area Clean Water Agencies Jon Rosenfield, Ian Wren – San Francisco Baykeeper

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					Fric S Casher

## EBDA Nutrient Reduction Early Action and Multi-Benefit Projects

Agency	Plant Upgrade	Water Recycling	Nature-based Solutions
Agency Oro Loma/Castro Valley Sanitary Districts	\$20M Nutrient Optimization Project was placed into operation in 2020. Oro Loma's load in 2022 was 304 kg/d. Using their 2022 flows and pre-upgrade concentrations, their load would	Recycled Water provided to former Skywest Golf Course during dry season.	The pioneering Oro Loma Horizontal Levee Demonstration Project has provided the data and framework to support many projects around the Bay that will achieve water quality improvement while also enhancing habitat and offering flood protection. EBDA is also
	have been 1388 kg/d - a reduction of over 1000 kg/d that potentially decreased the severity of the algal bloom.		continuing to pursue the First Mile Horizontal Levee Project, which was recently funded for final design and permitting and would receive Oro Loma effluent.
Union Sanitary District	Currently in construction on a \$509M upgrade, designed to achieve a 50% nutrient load reduction. Expected project completion in 2029.	Participating in Regional Purified Water Pilot Project with Alameda County Water District, Zone 7, San Francisco PUC, Dublin San Ramon Services District, and others.	Horizontal levee project being evaluated in cooperation with South Bay Salt Ponds as part of continuing work by BACWA assessing Nature-Based Solutions for Nutrient Removal.
City of Hayward	Currently in design on a \$300M upgrade, designed to achieve a 30% nutrient load reduction. Expected project completion in 2029.	Currently send 1-2 MGD of recycled water to Russel City Energy Center year-round (subject to RCEC's demands). An additional ~0.5 MGD is provided to irrigation customers.	Feasibility studies completed and design underway for a treatment wetland and horizontal levee at the former Hayward Oxidation Ponds.
City of San Leandro	Currently evaluating optimization strategies and sidestream treatment options.	Recycled water provided to Monarch Bay Golf Course for irrigation.	Construction expected to commence this summer on a treatment wetland at the plant site. Studies will begin this Spring on expanded treatment wetland concepts on additional land owned by the City.
Dublin San Ramon Services District (DSRSD)		DSRSD maximizes water recycling during the dry season. At times, demand exceeds the capacity of DSRSD's effluent, and no flow (or corresponding nutrient load) is sent to EBDA.	
City of Livermore		Recycled water program diverts approximately 1/3 of Livermore's flow and load in the dry season.	

Agenda Explanation East Bay Dischargers Authority Regulatory Affairs Committee March 18, 2024

ITEM NO. <u>RA10</u> MOTION AUTHORIZING THE GENERAL MANAGER TO EXECUTE AMENDMENT NO. 1 TO THE PROFESSIONAL SERVICES AGREEMENT WITH PACIFIC ECORISK FOR EFFLUENT TOXICITY TESTING IN THE AMOUNT OF \$10,020, FOR A TOTAL NOT TO EXCEED AMOUNT OF \$129,639

## Recommendation

Approve a motion authorizing the General Manager execute an amendment to the contract with Pacific EcoRisk.

## Strategic Plan Linkage

- 3. **Regulatory Compliance:** Proactively meet or exceed regulatory requirements for protection of the environment and public health.
  - b. Maintain consistent compliance with EBDA's National Pollutant Discharge Elimination System (NPDES) Permit.

### Background

EBDA's NPDES discharge permit requires testing of the effluent's acute and chronic toxicity to ensure that the discharge is not impacting the biota living around the outfall. Tests are performed using live organisms, and their survival and growth response are measured while exposed to a range of concentrations of effluent. The Authority has used Pacific EcoRisk, an independent contract laboratory, for bioassay testing services for the past thirteen years. City of San Leandro staff previously conducted acute toxicity testing at the Marina Dechlorination Facility (MDF), while chronic toxicity was contracted to Pacific EcoRisk. Conducting toxicity testing is very labor intensive and contains significant inherent risk, since you are dealing with live organisms. Only a handful of large wastewater agency labs currently maintain chronic toxicity testing in-house.

In May 2022, the EBDA Commission authorized a five-year contract with Pacific EcoRisk to perform all toxicity testing through the current NPDES permit term.

### Discussion

Per the NPDES permit, EBDA sends samples of final effluent collected at MDF to Pacific EcoRisk for toxicity testing. Historically, those samples had zero chlorine, as EBDA removed all chlorine prior to discharge to comply with a 0.0 mg/L instantaneous maximum total chlorine residual limit. As discussed previously, EBDA's permit was recently amended to allow a chlorine residual of 0.98 mg/L as a one-hour average. EBDA is therefore no longer fully dechlorinating the final effluent.

Having chlorine present interferes with toxicity tests, so Pacific EcoRisk must now add a step to their testing process to dechlorinate EBDA's samples. The cost of implementing this dechlorinating step was not included in Pacific EcoRisk's original quote, so staff is recommending amending the contract to add it to the scope. The following table summarizes the projected cost increase. Staff notes that Pacific EcoRisk only bills EBDA for work actually conducted.

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2022				2024			
Estimate				E	Estimate		
			Price				
Fiscal Year	Cost		Escalation	Cost			
2022/2023	\$	21,648		\$	21,648		
2023/2024	\$	22,730	5%	\$	23,768		
2024/2025	\$	23,867	5%	\$	26,716		
2025/2026	\$	25,060	5%	\$	28,052		
2026/2027	\$	26,313	5%	\$	29,455		
Total	\$	119,619		\$	129,639		