



EAST BAY DISCHARGERS AUTHORITY
2651 Grant Avenue
San Lorenzo, CA 94580-1841
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A Joint Powers Public Agency

ITEM NO. 11

OPERATIONS & MAINTENANCE COMMITTEE AGENDA

Tuesday, April 16, 2024

2:00 PM

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

**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: <https://us02web.zoom.us/j/88293365682>
Call-in: 1(669) 900-6833 and enter Webinar ID number: 882 9336 5682**

Committee Members: Johnson (Chair); Lathi

OM1. Call to Order

OM2. Roll Call

OM3. Public Forum

OM4. EBDA Permit Compliance

(The Committee will be updated on EBDA's NPDES compliance.)

OM5. Status Report

(The Committee will be updated on EBDA's O&M activities.)

OM6. NPDES Inspection of Marina Dechlorination Facility

(The Committee will review the Regional Water Board's Inspection Report.)

OM7. Solar Energy Study Results

(The Committee will discuss the results of this recent study.)

OM8. Adjournment

Any member of the public may address the Commission at the commencement of the meeting on any matter within the jurisdiction of the Commission. This should not relate to any item on the agenda. It is the policy of the Authority that each person addressing the Commission 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 Commission on an agenda item should do so at the time the item is considered. It is the policy of the Authority that oral comments be limited to three minutes per individual or ten minutes for an organization. Speaker's cards will be available in the Boardroom and are to be completed prior to speaking.

Agenda Explanation
East Bay Dischargers Authority
O&M Agenda
April 16, 2024

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, contact Juanita Villasenor at juanita@ebda.org or (510) 278-5910. 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 posted on the East Bay Dischargers Authority website located at <http://www.ebda.org>.

**Next Scheduled Operations and Maintenance Committee is
Tuesday, May 14, 2024, at 2:00 pm**

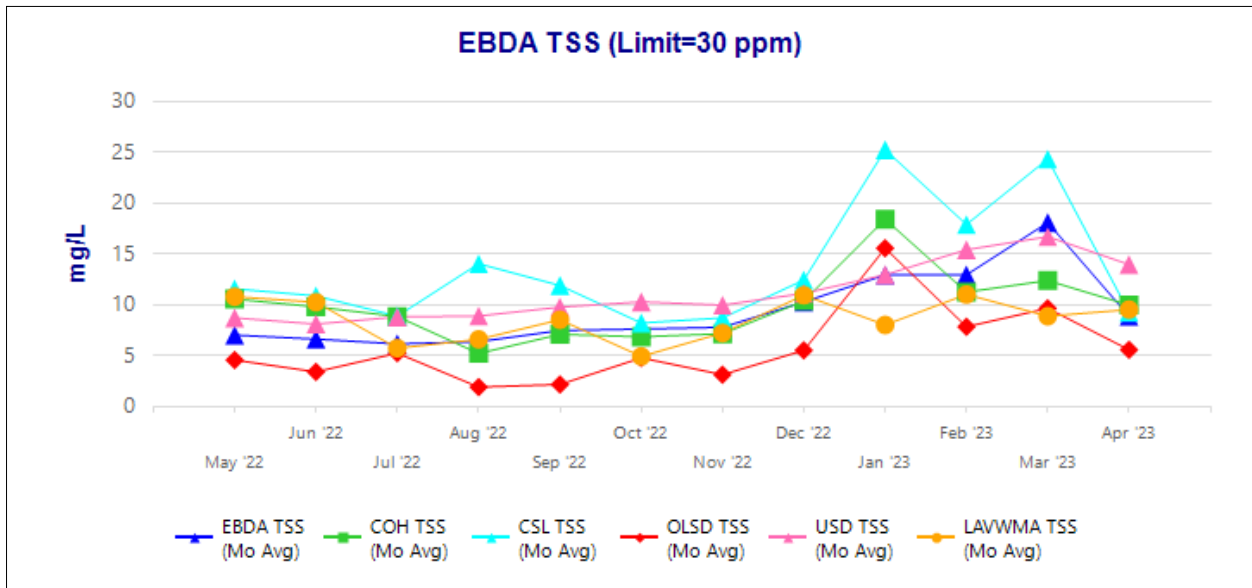
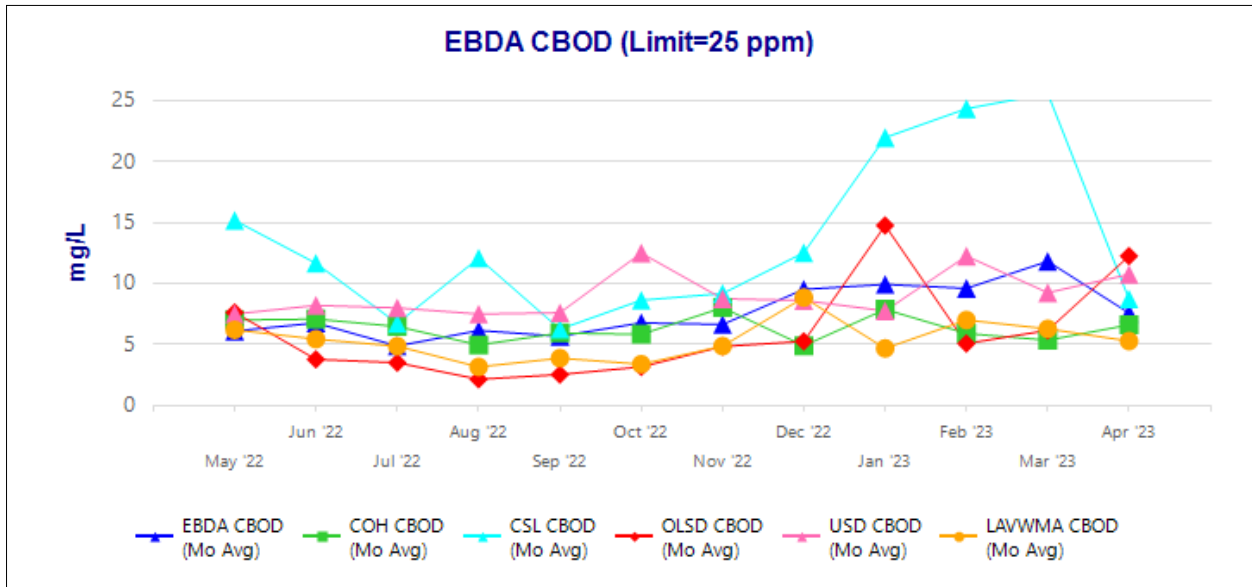
ITEM NO. OM4 EBDA PERMIT COMPLIANCE

Recommendation

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

Discussion

EBDA and its members continued our NPDES compliance in February, and preliminary March data indicates compliance as well. Member Agency CBOD and TSS performance are shown below. A table with bacterial indicators follows.



EBDA Bacterial Indicators

Date	FECAL	ENTERO
	MPN/ 100mL	MPN/ 100mL
Limit (90th Percentile)	1100	1100
Limit (Geomean)	500	280
April 2023 Geomean	10	7
May 2023 Geomean	15	122
June 2023 Geomean	8	83
July 2023 Geomean	7	18
August 2023 Geomean	17	5
September 2023 Geomean	47	4
October 2023 Geomean	18	3
November 2023 Geomean	8	8
December 2023 Geomean	7	5
January 2024 Geomean	12	4
2/5/2024	8	13
2/6/2024	< 2	6
2/7/2024	NA	22
2/12/2024	33	20
2/13/2024	7	130
2/14/2024	NA	24
2/19/2024	2	4
2/20/2024	17	6
2/26/2024	13	13
2/27/2024	7	15
February 2024 Geomean	8	15
3/4/2024	4	2
3/5/2024	13	4
3/11/2024	2	10
3/12/2024	2	163
3/13/2024	NA	2
3/18/2024	13	10
3/19/2024	8	4
3/20/2024	NA	6
3/25/2024	33	8
3/26/2024	2	4
March 2024 Geomean	6	7

ITEM NO. OM5 STATUS REPORT

Union Effluent Pump Station (UEPS)

No change; all equipment is operational.

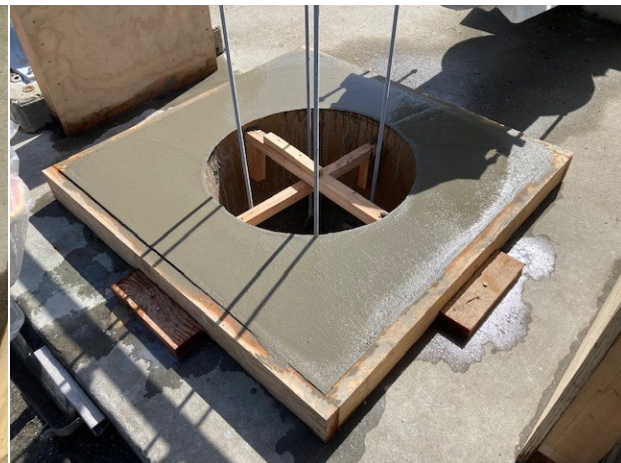
Hayward Effluent Pump Station (HEPS)

Effluent Pump Replacement Project

During the last week of March, DW Nicholson (DWN), the new concrete subcontractor for Pump Repair Service (PRS), started work on the new concrete base for Effluent Pump No. 4. This work involved demolishing the old concrete pump base, installing new rebar, and pouring the new concrete pump base. Once the concrete cures, DWN will core holes through the new pump base and into the pump station deck to install new threaded rod pump anchors. The new pump anchors should be installed during the last week of April, followed by the installation of the new Effluent Pump No. 4. Once the new pump is installed, it will be put in service and tested for several weeks before work is started on the next pump.



New Pump Base Rebar



New Concrete Pump Base

Pond 3 Valve Actuator Replacement

As part of the FY 2022/2023 RRF project list, EBDA agreed to split the cost of a new Pond 3 valve actuator with the City of Hayward. The actuator is the property of the City of Hayward, but replacing it will benefit both the City and EBDA. The current actuator does not have a feedback loop, so the information displayed on SCADA is limited. During wet weather storm events, having better information on SCADA will greatly improve EBDA operations. The ability to automatically divert flow to Pond 3 will save EBDA the cost of pumping the flow to Pond 7, which requires using the HEPS pumps. The ability to automatically divert flow to Pond 3 will also save the City the cost of adding sodium hypochlorite to the diverted flow. This project also includes the programming necessary

to add the valve operations to SCADA. The new valve actuator was delivered in late 2023, and EBDA is coordinating the installation with City of Hayward staff. Calcon, EBDA's contract electrical and instrumentation contractor, has already begun work on the project, including procuring the radios and the Programmable Logic Controller (PLC) that will communicate with and control the new valve actuator. Once City staff has installed the new actuator, Calcon will complete work on the controls.

Oro Loma Effluent Pump Station (OLEPS)

Automatic Transfer Switch Upgrade

Todd Beecher, EBDA's contract electrical engineer, has commenced the design of two new automatic transfer switches (ATs) at OLEPS. The two new ATs will improve reliability of the pump station in the event of a power outage. If PG&E power fails, the OLEPS emergency generator is the primary source of backup power. Currently, if the emergency generator fails to start, operators can manually switch to the secondary source of backup power from OLSD. The installation of two new ATs will allow the switch from primary to secondary backup to occur automatically. This AT work is being completed as part of Phase Two of the OLEPS Electrical Upgrades. Replacement of the breakers and refurbishment of the Main Switchboard was completed in Phase One of the OLEPS Electrical Upgrades last year.

Generator Repair

On March 21, during preventative maintenance activities at OLEPS, the emergency generator failed to start. As referenced in the section above, power from OLSD was manually transferred and became the primary source of OLEPS backup power. OLSD staff staged one of their portable generators at OLEPS to be used as a secondary source of backup power until the OLEPS generator could be repaired. EBDA staff contacted Scot Campbell with Bay Power to repair the generator. Mr. Campbell has performed this type of work in the past for EBDA and OLSD and is very familiar with the OLEPS generator. Unfortunately, Mr. Campbell is not local and was not available to immediately assist. EBDA staff then contacted Peterson Caterpillar, the company with which EBDA has a purchase order to perform routine and major preventative maintenance on diesel engines. On March 22, a Peterson Caterpillar repair technician worked on the generator's control panel and was able to get it to start; however, it was still only starting intermittently. On March 28, Mr. Campbell was in the Bay Area and available to troubleshoot the issue with the OLEPS generator. He determined that the fuel pump relay was not functioning properly and replaced it with a new, modern-style relay. The OLEPS generator is now functional and back to being the primary source of OLEPS backup power.

Skywest Pump Station

Recycled Water Production

During the month of March 2024, the Skywest Recycled Water System did not produce any recycled water.

Marina Dechlorination Facility (MDF)

Total Residual Chlorine (TRC) Effluent Limit Implementation

As discussed previously, EBDA’s new NPDES permit effluent limit for TRC, which took effect on January 1, 2024, is a one-hour average of 0.98 mg/L. On January 2, 2024, EBDA turned off its continuous feed of sodium bisulfite (SBS). The SBS savings at MDF have already been substantial. Below is the SBS usage before and after the new TRC effluent limit implementation on January 2, 2024:

Timeframe	Gallons of SBS Used
December 2023	10,912
January 1-2, 2024	484
New Limit Implemented	
January 3-31, 2024	1,176
February 2024	1,229
March 2024	688

In FY 2023/2024 Quarter 2 (October – December 2023), EBDA spent \$68,448 on SBS. In FY 2023/2024 Quarter 3 (January – March 2024), EBDA did not purchase any SBS.

Analyzer Upgrade Project

A previous RRF project list included \$75,000 to replace the chlorine and sodium bisulfite (SBS) analyzers at MDF. With the new TRC effluent limit pending at the time, the purchase of new analyzers was postponed. Now that the new TRC effluent limit has been implemented, staff is in the process of selecting and purchasing a new chlorine analyzer. The new analyzer will be installed in the location previously occupied by the SBS analyzer, which is no longer necessary now that EBDA does not discharge excess SBS. Once operational, the new chlorine analyzer will be used as a backup to the two existing online analyzers (one that measures influent chlorine residual and one that measures effluent chlorine residual). When the first new analyzer is operational for a period of time and demonstrates its reliability, staff will evaluate the purchase of additional new chlorine analyzers.

Force Main

No change; all equipment is operational.

Operations Center

No change; all equipment is operational.

Miscellaneous Items

Underground Service Alerts

EBDA received thirteen (13) Underground Service Alert (USA) tickets during the month of March 2024. Seven required an Electronic Positive Response (EPR), and of the seven, three required calls/emails to the excavators.

Wet Weather

During the month of March 2024, there were no significant rain events that required the operation of an OLEPS diesel pump, and there were no capacity exceedance events.

Total rainfall for the month of March 2024 (in inches) was as follows:

Oakland	Hayward	Livermore
2.80	2.80	2.84

Noteworthy daily rainfall for the month of March 2024 (in inches) was as follows:

Date	Oakland	Hayward	Livermore
3/01/2024	0.47	0.58	0.53
3/02/2024	0.35	0.18	0.47
3/03/2024	0.39	0.20	0.30
3/22/2024	0.34	0.60	0.30
3/23/2024	0.23	0.31	0.55
3/29/2024	0.49	0.47	0.18

Special Projects

Cargill Brine Project

As discussed at previous Commission Meetings, following certification of the Final Environmental Impact Report (EIR) for the proposed project, Cargill informed EBDA staff that they have made the decision to re-evaluate the “Bayside” pipeline route. Cargill is continuing to refine the route and expects it to be very similar to the Bayside alternative outlined in the EIR. Cargill has held several meetings with landowners along the new proposed route in recent weeks, including East Bay Regional Park District, City of Hayward, and California Department of Fish and Wildlife, City of San Leandro, and Alameda County Flood and Water Conservation District. Cargill is also investigating an alternative that would upgrade and repurpose a former Shell pipeline.

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. Cargill has requested that EBDA consider an interim Project Approval Agreement between the parties that would allow Cargill to begin construction on elements of the project that do not directly affect EBDA, such as reconfiguration of intakes and pond structures at Cargill’s Newark salt facility. Staff is

currently working with Meyers Nave to review and revise a draft agreement and expects to bring it to the Commission for consideration in the coming months. The Project Approval Agreement would be superseded by the final Operating Agreement, once negotiated.

Advanced Quantitative Precipitation Information (AQPI) Project

The regional AQPI project continues to move forward with a goal of improving prediction of rainfall events in the Bay Area. Following a series of delays, the East Bay radar was installed at [Rocky Ridge](#) in Las Trampas Regional Wilderness Park in December 2022. Data from the Rocky Ridge site finally became available in early December 2023, and can be viewed and downloaded from the AQPI [website](#). Program Management of AQPI is shifting from Colorado State University to the Center for Western Weather and Water Extremes (CW3E) at Scripps Institution of Oceanography, UC San Diego. CW3E will be developing an updated website and data management tools, which they expect to make available before the 2024-2025 wet season. Staff will be planning a site visit to Rocky Ridge for interested Commissioners and other parties in the coming months.

ITEM NO. OM6 NPDES INSPECTION OF MARINA DECHLORINATION FACILITY

Recommendation

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

Background

Regional Water Quality Control Board (Water Board) staff conducts periodic inspections of permitted facilities including EBDA's Marina Dechlorination Facility (MDF). Inspections are generally performed every other year. The prior inspection at MDF was in 2022.

Discussion

Water Board staff conducted an inspection at MDF on February 8, 2024. The inspection included a walkthrough of the facility and a review of EBDA's recent and planned facility upgrades. In particular, staff showcased new operating protocols implemented in January when EBDA's new effluent limit for total residual chlorine took effect. Water Board staff also reviewed documentation, including EBDA's Emergency Operating Contingency Plan, O&M Manuals, flow meter calibration records, and auxiliary power check logs.

Water Board staff was very complimentary regarding EBDA's operation and compliance record. The complete Inspection Report is attached.

NPDES Compliance Evaluation Inspection (CEI) Report

Facility Name and Location			Entry Date	Entry Time
Marina Dechlorination Facility at EBDA Joint Outfall 14150 Monarch Bay Drive San Leandro, CA 94577			02/08/2024	9:00 AM
			Permit Effective Date	Permit Expiration Date
			09/01/2022	08/31/2027
Mailing Address	Same as facility location?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Notified?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
East Bay Dischargers Authority 2651 Grant Avenue San Lorenzo, CA 9458			If no, rationale:	
CIWQS Inspection ID	54481691	Receiving Water Name	Lower San Francisco Bay	
NPDES Permit Number	CA0037869	County	Alameda	
Order Numbers	R2-2022-0023	Plant Classification	POTW	
Types of Discharge	Major	CIWQS Place ID	222123	
Names and Titles of Onsite Representatives				
Name	Title	Phone	Email	
Jacqueline Zipkin	General Manager	510-278-5910	jzipkin@ebda.org	
Howard Cin	Operations and Maintenance (O&M) Manager	510-362-2501	hcin@ebda.org	
Angelica Berumen	Laboratory Supervisor	510-577-6042	aberumen@sanleandro.org	
Name and Title of Responsible Official				
Name	Jacqueline Zipkin			
Title	General Manager			
Phone	510-278-5910			
Email	jzipkin@ebda.org			
Does responsible official match permit-based contact information on file?			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Does grade level comply with plant classification?			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Inspector Information		Presented Credentials?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Organization Name	San Francisco Bay Regional Water Quality Control Board			
Title	Natie Lee			
Phone	(510) 622-2325			
Email	Natie.Lee@waterboards.ca.gov			
Organization Name	San Francisco Bay Regional Water Quality Control Board			
Title	Marcos De la Cruz			
Phone	(510) 622-2365			
Email	Marcos.Delacruz@waterboards.ca.gov			
Organization Name	San Francisco Bay Regional Water Quality Control Board			
Title	D'Andre (DJ) Alejandro			
Phone	(510) 622-2308			
Email	Dandre.Alejandro@waterboards.ca.gov			

I. PRE-INSPECTION PERMIT REVIEW

		Yes	No	N/A
Is the facility as described in the permit?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the Water Board been notified of any process/production modifications?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Was a permit reissuance application submitted to the Water Board on time?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Was the permit modified prior to any facility or discharge changes?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Discharge Points				
001 – Lower San Francisco Bay (EBDA Common Outfall)				
Facility Class				
Chief Plant Operator	Howard Cin	Grade	III	
Current ADWF	57 MGD (Jun 1 – Aug 31, 2023)			
Permitted ADWF	107.8 MGD			
Peak Design Flow	189.1 MGD			
		Yes	No	N/A
Are current loads less than 80% of design loads?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If no, does annual report describe timing of next plant expansion?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Permitting concerns that might affect inspection process				

II. PRE-INSPECTION MONITORING REPORT REVIEW

Summary of effluent limit violations since last inspection			
Constituent	No. of Violations	Corrective Action Reported	No action reported
-	-	No violations occurred since the last inspection (6/07/2022)	<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
Summary of receiving water violations since last inspection			
Parameter	No. of Violations	No action reported	
Dissolved oxygen	None	<input type="checkbox"/>	
Turbidity	None	<input type="checkbox"/>	
pH	None	<input type="checkbox"/>	
Temperature	None	<input type="checkbox"/>	
Aesthetic issues (e.g., excessive algae, bottom deposits, etc.)	None	<input type="checkbox"/>	
Corrective Actions Reported			
Not applicable.			
Monitoring and Reporting Program violations since last inspection			
	Yes	No	N/A
Responsible person signs and certifies the DMRs and/or SMRs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discharger monitors at frequency required by permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All data collected are summarized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coliform concentrations are calculated as required by permit (median, mean, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Detection limits are reported	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
“Less than” and estimated values are properly carried through the calculations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flow measurement period used for load calculations brackets sampling period	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loading rates are properly calculated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data reported in time frame and frequency required by permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have any spills/bypasses been reported to the Regional Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dates and times of spills/bypasses			
EBDA has not had any spills or bypasses that reached waters of the State since the Water Board’s last inspection on June 7, 2022.			

III. RECORDS AND REPORTS REVIEW

	Required onsite?		Available onsite?			Not Inspected	Comments
	Yes	No	Yes	No	N/A		
Current NPDES permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permit modifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Permit amendments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	See note below.
Compliance orders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Monitoring and reporting program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Standard provisions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Industrial pretreatment program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Maintenance records and logbook	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Plant operation and maintenance manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See note below.
Equipment manuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Plant engineering drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Collection system drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Maintenance records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spill and bypass records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pollution prevention plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Contingency Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See note below.
Spill prevention control and countermeasure (SPCC) plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See note below.
Operational logs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Auxiliary power check logs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Notes							
<p><u>Permit Amendment</u> EBDA staff were aware of Order R2-2023-0023, effective January 1, 2024, which amended its NPDES permit with an updated total residual chlorine limit.</p> <p><u>Operations and Maintenance (O&M) Manual</u> EBDA shared a portion of its O&M manual, which was a comprehensive, digital, and interactive interface for joint-use facilities, such as the Oro Loma Effluent Pump Station. The manual included pictures of equipment and step-by-step instructions for operations. EBDA last reviewed and revised the O&M Manual in January 2024 to include a revised Chlorine Process Control Plan for the Marina Dechlorination Facility.</p> <p><u>Contingency Plan</u> EBDA has an Emergency Operating Contingency Plan coordinating actions to be taken between the Marina Dechlorination Facility, EBDA member agency treatment plants, LAVWMA facilities, and joint-use facilities. The plan included emergency contacts and addressed all seven elements required under the Regional Standard Provisions (Attachment G) section I.C.1 as they pertained to the EBDA system. EBDA last reviewed the Contingency Plan in January 2024.</p>							

Spill Prevention Control and Countermeasure (SPCC) Plan

According to the General Manager, the Facility is not required to maintain an SPCC Plan because it does not store, use, consume, or distribute oil above several exemption thresholds described in 40 C.F.R. section 112.1(d) (Oil Pollution Prevention – Generally Applicability). The Facility only holds and consumes sodium bisulfite.

IV. OPERATIONS AND MAINTENANCE REVIEW

	Yes	No	N/A	Not Inspected
Were all records and reports required by permit organized and available?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was influent flow meter calibration available onsite?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Date of last calibration	December 21, 2023 (Marina Dechlorination Facility)			
Calibration performed by...	Calcon Systems			
Was effluent flow meter calibration available onsite?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Date of last calibration	December 21, 2023 (Marina Dechlorination Facility)			
Calibration performed by...	Calcon Systems			
Were flow measurement records maintained for past 3 years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is a maintenance management program in place?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of open work orders	2 (corrective maintenance only)			
Oldest date of open work order	January 10, 2024			
Are entries to the operational logs made in pen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all operational log entry modifications made with suitable cause?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were reported spills and bypasses recorded in operational logs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the facility staffing requirement described in O&M manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the facility staffed in accordance with O&M manual?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were there auxiliary power check logs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Board permit number	Not inspected			

Notes

Calibration Records

The flow meters for the Hayward Effluent Pump Station, San Leandro Effluent Pump Station, Oro Loma Effluent Pump Station, Union Effluent Pump Station, and Marina Dechlorination Facility are calibrated annually.

Work Orders

Work orders for the Facility are sent to the City of San Leandro Water Pollution Control Plant for action by San Leandro staff, who perform maintenance on EBDA’s behalf. At the time of the inspection, the Facility had two outstanding work orders. The oldest open work order was for the replacement of the motor of one of the Facility’s injector pumps. According to the O&M Manager in a follow-up call, the motor was making loud noises, and EBDA has ordered a new motor to replace it. The O&M Manager also stated the injector pump would be kept in back-up position until replacement, but loud noises aside, the pump could still be operated as usual.

Staffing

The Facility is staffed four hours a day for three days a week. Operations are controlled and monitored via a SCADA system. The SCADA system is equipped with an alarm system in the event of equipment malfunction, and a call system is in place to notify operators on their mobile phones.

V. MONITORING RECORDS REVIEW

		Yes	No	N/A	Not Inspected
Are monitoring records and laboratory reports retained for 5 years?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are data reported on DMRs/SMRs consistent with analytical results?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the onsite laboratory ELAP certified?		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certification Number	2281*				
Expiration Date	11/30/2025				
Parameters measured onsite				N/A	Not Inspected
				<input type="checkbox"/>	<input checked="" type="checkbox"/>
Total Residual Chlorine Sodium bisulfite Temperature Dissolved Oxygen pH					
Additional parameters used for internal monitoring and process control				<input type="checkbox"/>	<input checked="" type="checkbox"/>
Constituents analyzed with hand-held equipment				<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Most recent calibration date		Standard expiration date	
Monitoring and Records Review Notes					
*The City of San Leandro Water Pollution Control Plant laboratory staff analyzes EBDA's combined effluent for pH, dissolved oxygen, and bacteria (enterococcus and fecal coliform).					
EBDA's contract laboratory, Caltest Analytical Laboratory, analyzes the combined effluent for priority pollutant metals and organics, and subcontracts analyses for PCBs, dioxins, and furans to other certified labs. Pacific Eco-Risk Laboratory analyzes the combined effluent for acute and chronic toxicity.					

VI. MONITORING REPORT REVIEW

	Yes	No	N/A	Not Inspected
Are loading calculations prepared correctly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are contract laboratory records and chains of custody available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Do sampling and analytical records include:				
a. Dates, times, and locations of sampling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Names of individuals performing sampling	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Analytical methods	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Results of analyses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Dates of analyses	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Times of analyses, as necessary to verify holding times	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Analysts names or initials	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Instantaneous flow at grab sample locations, if required	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MONITORING PROCEDURES				
Are adequate equipment and procedures used for onsite analyses?				
pH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dissolved oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Turbidity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
UV transmittance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is refrigeration satisfactory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are grab samples collected during representative discharge conditions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do monitoring locations appear to be appropriate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do composite sampling procedures comply with the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are automatic samplers properly cleaned and maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are samples adequately preserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are sample containers appropriate for the samples collected?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are samples collected using appropriate protocols?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are coliform samples collected directly into sterile containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does coliform sampling occur after the last introduction of wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the number of discharge points as described in the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the locations of the discharge outfalls as described in the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the name of the receiving water as described in the permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is site free of any evidence of spills or bypasses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the sampling and monitoring appear representative of the discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are groundwater monitoring wells capped and locked?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Notes				
Within the Facility's control and sampling room was a four-faucet sink that produced four different streams to sample from: (1) chlorinated influent north of the Facility (effluent from City of San Leandro); (2) chlorinated influent south of the Facility (combined effluent from Oro Loma Sanitary District, City of Hayward, Union Sanitary District, and the Livermore-Amador Valley Water Management Agency); (3) Total combined influent;				

and (4) Total combined dechlorinated effluent. The O&M Manager explained that the separate sample streams help EBDA track where certain pollutants may be coming from.

VII. FINAL EFFLUENT AND RECEIVING WATER MONITORING

		Yes	No	Not Inspected	
APPEARANCE OF FINAL EFFLUENT					
Condition during the inspection					
Clear (not cloudy)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Colorless		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Free of sheen		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Free of scum		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Free of foam		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other		<input type="checkbox"/>	<input type="checkbox"/>		
Notes					
		Yes	No	Upstream condition is similar	Not Inspected
APPEARANCE OF RECEIVING WATER					
Condition during the inspection					
Free of distinctly visible plume		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of foam and sheen		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of snails		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of erosion at the discharge point		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of bottom deposits		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of filamentous algae growth		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Free of microbial layers on aquatic plants		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Notes					
The receiving water near the discharge point could not be observed because the effluent was discharged through the deepwater outfall about seven miles offshore from the Marina Dechlorination Facility.					

VIII. SITE WALK INSPECTION

Weather and site conditions present during time of inspection					
The weather was clear. Facility site was walkable without any obstruction or significant hazard.					
Treatment Process (described in permit)	Appeared Compliant	Not Present	Non- Operational	Lacking Maintenance	Not Inspected
Wastewater Treatment					
Dechlorination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notes					
<p><u>Background</u></p> <p>The Facility dechlorinates secondary-treated effluent from the following EBDA member agencies:</p> <ul style="list-style-type: none"> - Oro Loma and Castro Valley Sanitary Districts Water Pollution Control Plant - City of Hayward Water Pollution Control Facility - City of San Leandro Water Pollution Control Plant - Union Sanitary District Wastewater Treatment Plant <p>Additionally, the Facility dechlorinates secondary-treated effluent from the Livermore-Amador Valley Wastewater Management Agency (LAVWMA) pipeline, which includes combined effluent from the Dublin San Ramon Services District Wastewater Treatment Plant and the City of Livermore Water Reclamation Plant.</p> <p>The effluent from the above facilities (i.e., EBDA’s influent) is received by two converging force mains: one 48 inches in diameter from the City of San Leandro Water Pollution Control Plant (i.e., influent entering the Facility from the north) and one 96 inches in diameter from all other contributing facilities (i.e., influent entering the Facility from the south). Dechlorination occurs through injecting sodium bisulfite into the pipeline after convergence of the force mains. Two 6,000-gallon tanks of sodium bisulfite (previously maintained at 5,500 gallons each when refilled but has since been adjusted to 1,500 gallons each following the adoption of Order R2-2023-0023) supply the dechlorinating agent through a metering pump at proportions dependent on flow and residual chlorine concentration. The Facility has two flow meters and sodium bisulfite is dosed based on total residual chlorine (TRC) analyzer readings (see details below under “Facility Upgrades/Operation Changes”). The Facility maintains three sodium bisulfite metering pumps and one is operated at a time while two are backups. The active pump is regularly rotated to ensure all three are functional.</p> <p><u>Observations</u></p> <p>The Facility appeared well maintained and free of potential hazards. The O&M Manager and General Manager provided all requested documents prior to the onsite visit and answered all questions. The O&M Manager also provided documents on the day of the inspection showing operations and maintenance records, with entries made each day personnel are on site (at least three days per week).</p> <p>EBDA used Micro2000 chlorine analyzers to continuously measure total residual chlorine (TRC) in the influent and effluent. EBDA was also continuously monitoring the effluent for sodium bisulfite. The influent and effluent chlorine readings were displayed clearly on screens in the Facility’s control room. At the time of the inspection, the influent chlorine analyzer read 0.52 mg/L and the effluent chlorine analyzer read 0.39 mg/L. The O&M Manager explained that EBDA plans to replace the sodium bisulfite analyzer with a new chlorine analyzer that would run concurrently with the Facility’s existing chlorine analyzers. The O&M Manager stated this would help determine the efficiency of the current analyzers and whether upgrading them would significantly improve the Facility’s monitoring and performance. According to the General Manager in follow-up correspondence, sodium bisulfite monitoring is no longer necessary because, in compliance with Order R2-2023-0023, EBDA plans to always discharge a small amount of chlorine and will not be overdosing sodium bisulfite.</p>					

The force mains at the Facility appeared to be in good condition, and all operating pumps appeared to be in working order. The Facility doses its discharge with sodium bisulfite using two inductors that inject sodium bisulfite into the effluent pipeline. The inductors appeared to be in working order. The O&M Manager explained that, in the past, the Facility also dosed its discharge with sodium bisulfite using a chemical mixer called the Water Champ, which provided rapid mixing and diffusion of sodium bisulfite in the effluent pipeline, but the Water Champ was decommissioned due to the impracticality of replacing parts.

EBDA's bacteria sampling location was just prior to where sodium bisulfite was injected into the EBDA pipeline so that operators could collect chlorinated, but representative, samples uninterrupted by bacteria growths in the sampling line.

Sodium bisulfite was stored within secondary containment in a locked building. The O&M Manager explained that the building contains heaters to prevent sodium bisulfite from crystallizing in cold temperatures. The heaters were set to prevent temperatures from dipping below 18 degrees Celsius. Within the sodium bisulfite containment building were three sodium bisulfite pumps, three sodium bisulfite flow meters, and three uninterruptible power supply boxes for the three sodium bisulfite pumps. There is also an uninterruptible power supply to support EBDA's programmable logic controller in the control room in the event of a power outage. The sodium bisulfite pumps were equipped with manual operating procedures. The O&M Manager explained that EBDA replaced the heaters and uninterruptible power supply boxes with new ones in the latter half of 2022.

Facility Upgrades/Operation Changes

Operational Changes due to new Water Quality-Based Chlorine Effluent Limit

With the adoption of Order R2-2023-0023, EBDA's chlorine effluent limit increased from an instantaneous maximum of 0.0 mg/L to an initial dilution-based one-hour arithmetic mean of 0.98 mg/L (to decrease to 0.94 mg/L after EBDA begins accepting Cargill brine). This has dramatically reduced EBDA's reliance on sodium bisulfite. The O&M Manager explained that, prior to this change, EBDA dosed sodium bisulfite at two to three times the necessary amount to ensure compliance with its previous effluent limitation of 0.0 mg/L. The O&M Manager showed graphs of sodium bisulfite consumption at the Facility over several months before and after this change; in December 2022 and January 2023, the Facility used approximately 1000 gallons of sodium bisulfite in a single storm, averaging approximately 335 gallons of sodium bisulfite per day, to meet effluent limit requirements. In comparison, during a similar storm in 2024, the Facility only used 168 gallons of sodium bisulfite. Some days, only 3 gallons of sodium bisulfite were needed. General Manager estimated that this reduction in sodium bisulfite dosing would reduce annual costs by about \$250,000.

The O&M Manager explained that EBDA set a total residual chlorine (TRC) target value of 0.6 mg/L because it is a conservative estimate of an acceptable concentration that would result in 0.0 mg/L TRC at the EBDA Common Outfall. EBDA has set sodium bisulfite to be deployed when TRC is detected at concentrations at or above 0.5 mg/L in its effluent to ensure there is no exceedance of the new effluent limit while also maintaining zero TRC at the EBDA Common Outfall. The O&M Manager explained that EBDA has also implemented a secondary failsafe that adds additional sodium bisulfite if analyzers detect TRC concentrations at or above 0.6 mg/L at the Facility's sampling point. Every 30 seconds, the sodium bisulfite pump would increase by 5 gallons per hour (gph), with a maximum increased value of 30 gph. Once the effluent TRC dropped below 0.5 mg/L for 30 seconds, the sodium bisulfite pump would reduce its speed by 5 gph every 30 seconds until the pump turned off.

The O&M Manager explained that because the sodium bisulfite system was now being used infrequently, EBDA regularly runs exercises to ensure its proper function. Every 8 hours, if the dosing system has not been run in that time, the pump would automatically turn on for 3 minutes, dosing at a rate of about 20-30 gph of sodium bisulfite. The O&M Manager explained that this process was still in a calibration period to determine whether this frequency of maintenance is necessary.

Main Breaker and Automatic Transfer Switch Upgrades

The O&M Manager explained that EBDA waited to replace the Facility's main breaker and automatic transfer switch (for backup power) until after the adoption of Order R2-2023-0023 because replacing them when EBDA had to comply with a chlorine limit of 0.0 mg/L increased the risk of noncompliance with the limit. According to the O&M

Manager, the automatic transfer switch needs replacement not because it is broken but because the display screen is scrambled and difficult to read. The display screen cannot be replaced by itself, so the whole automatic transfer switch must be replaced. The General Manager explained that the main breaker and automatic transfer switch replacement would likely occur in the summer because it will require a PG&E shutdown.

Force Main Adaptation

The General Manager explained that the portion of the converging force mains located at the Facility, which conveys influent and discharges effluent to and from the Facility, is made of steel, despite its concrete exterior. Because EBDA may accept up to 2 MGD of brine from Cargill, and because steel is vulnerable to corrosion caused by brine, EBDA would need to adapt the interior of the force mains to prevent corrosion, which will require EBDA to bypass the force mains. Another option under consideration is to convey brine from Cargill to EBDA by constructing a pipeline along paths near the Bay that would ultimately connect downstream of the Facility to avoid corrosion impacts to EBDA’s force mains. The General Manager explained that this option appeared to be not only feasible but more practical and that EBDA will contact the Regional Water Board for further discussion as the project progresses.

EMERGENCY OPERATION	Yes	No	N/A	Not Inspected
	Is available back-up power appropriate for emergency conditions?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there alarms systems for power and equipment failure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are treatment control procedures established for emergencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes

The Facility has a 150-kilowatt backup generator, which can power the entire Facility for 10-12 hours before requiring additional diesel. The Facility was also equipped with an alarm system that will notify personnel present at the Facility, the O&M Manager, EBDA’s operations center, and the City of San Leandro when a power failure occurs. The Air Board allots 20 hours a year to test the generator. According to the General Manager, the generator is tested every 1-2 months for 10-15 minutes at a time.

According to the O&M Manager, during the winter storms on December 31, 2022, through January 2, 2023, the Facility ran the generator for 36 hours straight with no issues. To ensure the generator kept running, EBDA refueled the tank every 6 hours with diesel supplied by the City of San Leandro.

CHEMICALS ONSITE	MSDS Available?		Secondary Containment?		Not Inspected
	Yes	No	Yes	No	
Sodium bisulfite	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is spill clean-up and containment equipment available?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Notes

The Facility was equipped with a chemical spill kit in its storage room.

IX. SITE WALK OPERATION AND MAINTENANCE INSPECTION

	Yes	No	N/A	Not Inspected
Maintenance program appears to be in place and being followed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lift stations appear properly maintained and have back-up power	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Odors are adequately controlled, including...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Headworks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sludge processing facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Storage appears to control leachate and runoff	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public access to storage is prevented	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No safety concerns were observed that might interfere with proper O&M or monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flow devices appear to be properly installed and maintained, and operating without interference	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notes				
<p>The O&M Manager showed an upgraded guard (Figure 13) that blocked the ladder attached to the sodium bisulfite storage building after evidence of people climbing onto the roof during after hours, which provides a nice view of Lower San Francisco Bay. The Facility has a barbed wire fence surrounding it to prevent people from climbing over. All buildings remain locked and inaccessible to the public.</p>				

Photo Log

February 8, 2024

EAST BAY DISCHARGERS AUTHORITY MARINA DECHLORINATION FACILITY

DAILY INFORMATION & CHECKLIST

Operator: <u>KU-YR</u>					
Day/Date: <u>Wed 2/7/24</u>		Time: <u>1015</u> HR			
Instantaneous Outfall Flow Rate @ Time Of Sampling: <u>110.4</u> MG					
TOTAL RESIDUAL CHLORINE PPM			24 Hour Average Influent TRC & Effluent Flow		
	Analyzer No.	DPD Analysis	No. 1 Flow Meter	No. 2 Flow Meter	
Inf. TRC	<u>0.31</u>	<u>0.33</u>	<u>105.1</u> MG	<u>91.8</u> MG	
Eff. TRC	<u>0.30</u>	<u>0.25</u>	Influent TRC <u>0.160</u> PPM		
Eff. TRC			SBS TRIM ADJUST		
			Today: <u>1.00</u> Previous: <u>1.00</u>		
Total Residual Chlorine Analyzers			SBS Tanks		
Reagent Levels	Analyzer No. 1 TRC	Analyzer No. 2 TRC	Gallons Recd	Tank No. 1	Tank No. 2
pH 4 Buffer	<u>Full</u>	<u>Full</u>	Level Previous	<u>2438</u>	<u>2450</u>
125 Gram KI	<u>Full</u>	<u>Full</u>	Level Today	<u>2300</u>	<u>2300</u>
Adjustments Made	<u>Yes</u>	<u>Yes</u>	Total Gal SBS Used	<u>135</u>	<u>150</u>
Y Strainer Cleaned	<u>Yes</u>	<u>Yes</u>	No. of Days	<u>2</u>	<u>258</u>
				<u>144</u>	<u>OPD</u>
Chemical Feed Pumps			Sump Pumps		Sewage Pumps
Meter Readings	Pump No. 1	Pump No. 2	Pump No. 3	Pump No. 1	Pump No. 2
Today				<u>17318.4</u>	<u>9633.3</u>
Previous				<u>3259.8</u>	<u>3582.1</u>
Run Time Hrs				<u>0.3</u>	<u>0.2</u>
				<u>18</u>	<u>20.4</u>
Injector Pumps				Dechlor Pumps	
Meter Readings	Pump No. 2	Pump No. 3	Pump No. 3	Pump No. 4	
Today	<u>15679.5</u>	<u>15438.1</u>	<u>60538.5</u>	<u>47146.6</u>	
Previous	<u>15631.2</u>	<u>15438.4</u>	<u>60490.2</u>	<u>47146.6</u>	
Run Time Hrs	<u>48.3</u>	<u>0</u>	<u>483</u>	<u>0</u>	
Cleaning & Station Checks Attended To					
Fire Alarm Panel <input checked="" type="checkbox"/>					
Valve Box Sump Pump Float Switch <input checked="" type="checkbox"/>					
Sampler: No. 1 <input checked="" type="checkbox"/> No. 2 <input checked="" type="checkbox"/>					
Analyzer Sample Supply Strainers <input checked="" type="checkbox"/> Injector Pump Suction Line <input checked="" type="checkbox"/>					
#4 Sample Tap DO					
DO @ Temp					
<u>2.40</u> @ <u>10.00</u> <u>17.6</u>					
Clean sampler head tank every day: <input checked="" type="checkbox"/> Flush #4 sample line every day: <input checked="" type="checkbox"/>					
Remarks: <input checked="" type="checkbox"/> Is the bioassay in progress? If so, do not flush or change Q regime.					
<input checked="" type="checkbox"/> Is the bisulfite storage room fan on?					
AV/V Valves Exercised? Main: <input checked="" type="checkbox"/> Meter: <input checked="" type="checkbox"/>					
SBS Pump psi range:					
Injector Pump Vac range: <u>-22</u> - <u>-20</u> Injector Pump psi range: <u>78</u> / <u>76</u>					

Figure 1. EBDA personnel use a checklist to ensure proper operation and maintenance at the Facility.

**EAST BAY DISCHARGERS AUTHORITY
MARINA DECHLORINATION FACILITY
TOTAL RESIDUAL CHLORINE BENCH SHEET**

ANALYZE TRC GRAB SAMPLES WITHIN 15 MINUTES FROM TIME OF COLLECTION

SINGLE-LINE-STRIKE-THROUGH FOR MISTAKES

DATE	STD #	DCLOR-COLOR-02 Secondary Check Standards	Acceptable Range (mg/L)	ANALYZER #	FAUCET #	Time of Collection	Time of Analysis	Total Residual Chlorine mg/L	
2/2/24									
2/2/24									
FLOW, MGD	STD #1	0.26	0.15 - 0.33		1	1100	1103	0.57	
	STD #2	0.67	0.74 - 0.94			1110	1113	0.70	
	STD #3	1.66	1.43 - 1.71			1115	1118	0.38	
ANALYST				2	4	1145	1148	0.16	
2/5/24									
2/5/24									
FLOW, MGD	STD #1	0.26	0.15 - 0.33		1	0844	0847	0.76	
	STD #2	0.88	0.74 - 0.94			0849	0852	0.77	
	STD #3	1.67	1.43 - 1.71			0854	0857	0.63	
ANALYST				2	4	0858	0901	0.24	
2/7/24									
2/7/24									
FLOW, MGD	STD #1	0.87	0.15 - 0.33		1	0952	0955	0.38	
	STD #2	0.66	0.74 - 0.94			1005	1008	0.55	
	STD #3	1.66	1.43 - 1.71			1010	1013	0.33	
ANALYST				2	4	1015	1018	0.25	
FLOW, MGD	STD #1		0.15 - 0.33		1				
	STD #2		0.74 - 0.94			2			
	STD #3		1.43 - 1.71			1	3		
ANALYST				2	4				

DPD ST#:

TRC: SM4500-CI-G-2011

Sec. gel standards ST#:

https://sanleandro.sharepoint.com/sites/WPCPStaff/Shared Documents/LABORATORY/LAB_WORKSHEETS/EBDA/EBDA_MASTER_012524

Figure 2. EBDA personnel record internal sample readings each day they are present onsite.



Figure 3. The influent chlorine analyzer read 0.52 mg/L at the time of the inspection.



Figure 4. The effluent chlorine analyzer read 0.39 mg/L at the time of the inspection.



Figure 5. The Facility's storage room contained a spill kit (yellow bag) in the event of a chemical spill.



Figure 6. The Facility's sodium bisulfite storage building contained two 6,000-gallon tanks of sodium bisulfite.



Figure 7. Three sodium bisulfite pumps.



Figure 8. The three sodium bisulfite flow meters.



Figure 9. The three uninterruptible power supply boxes support the Facility's programmable logic controller during a power outage. EBDA last replaced these in September 2022. According to the O&M Manager, the power supply boxes are replaced every four years.

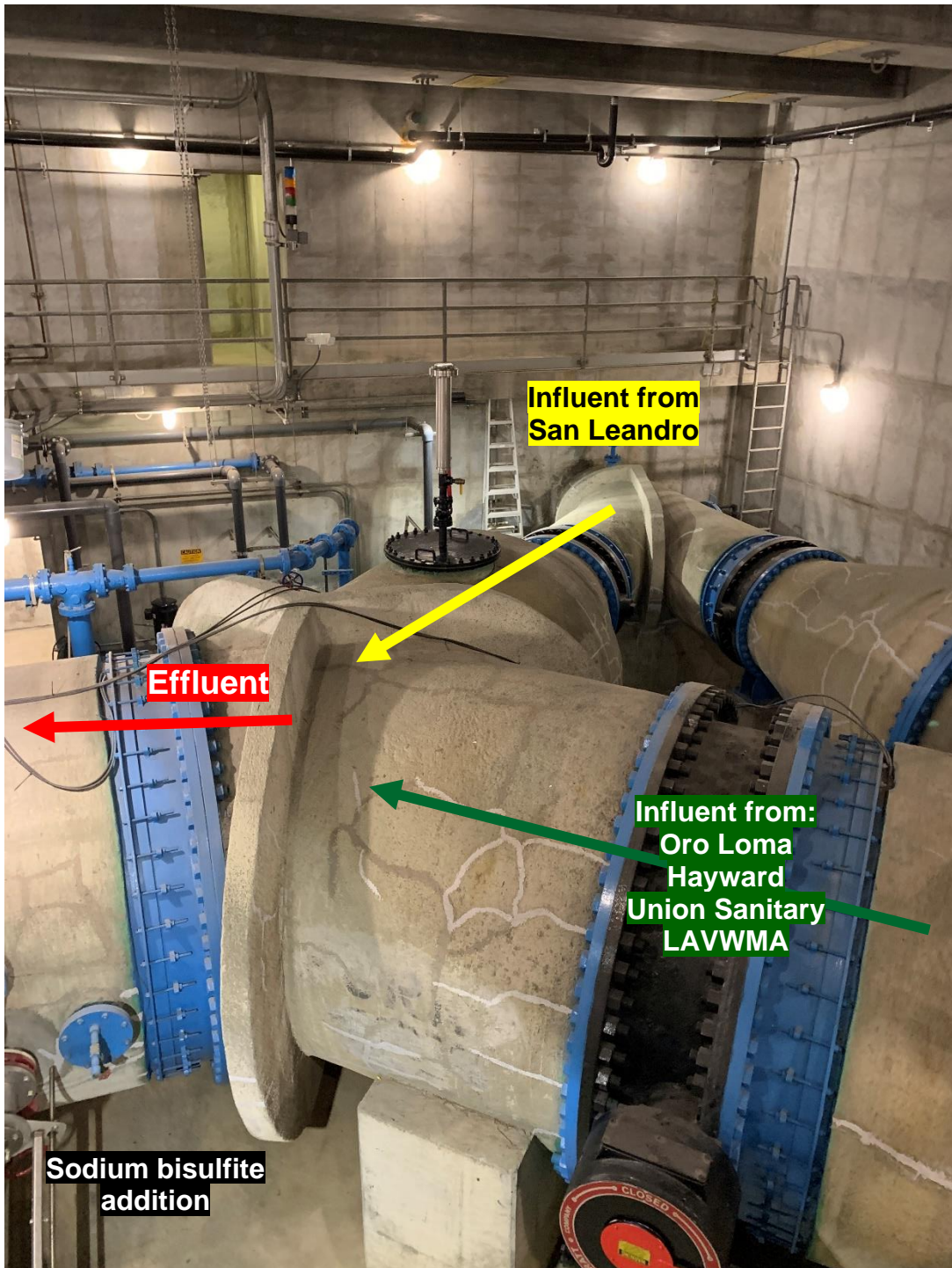


Figure 10. Influent from EBDA member agencies and LAVWMA is pumped to the Facility through converging force mains. Sodium bisulfite is injected into the converged influent.



Figure 11. Sodium bisulfite is injected into effluent pipeline by two inductors immediately following the convergence of the two influent force mains. The decommissioned chemical mixer, or Water Champ, used to be EBDA's primary method of dechlorinating its effluent.

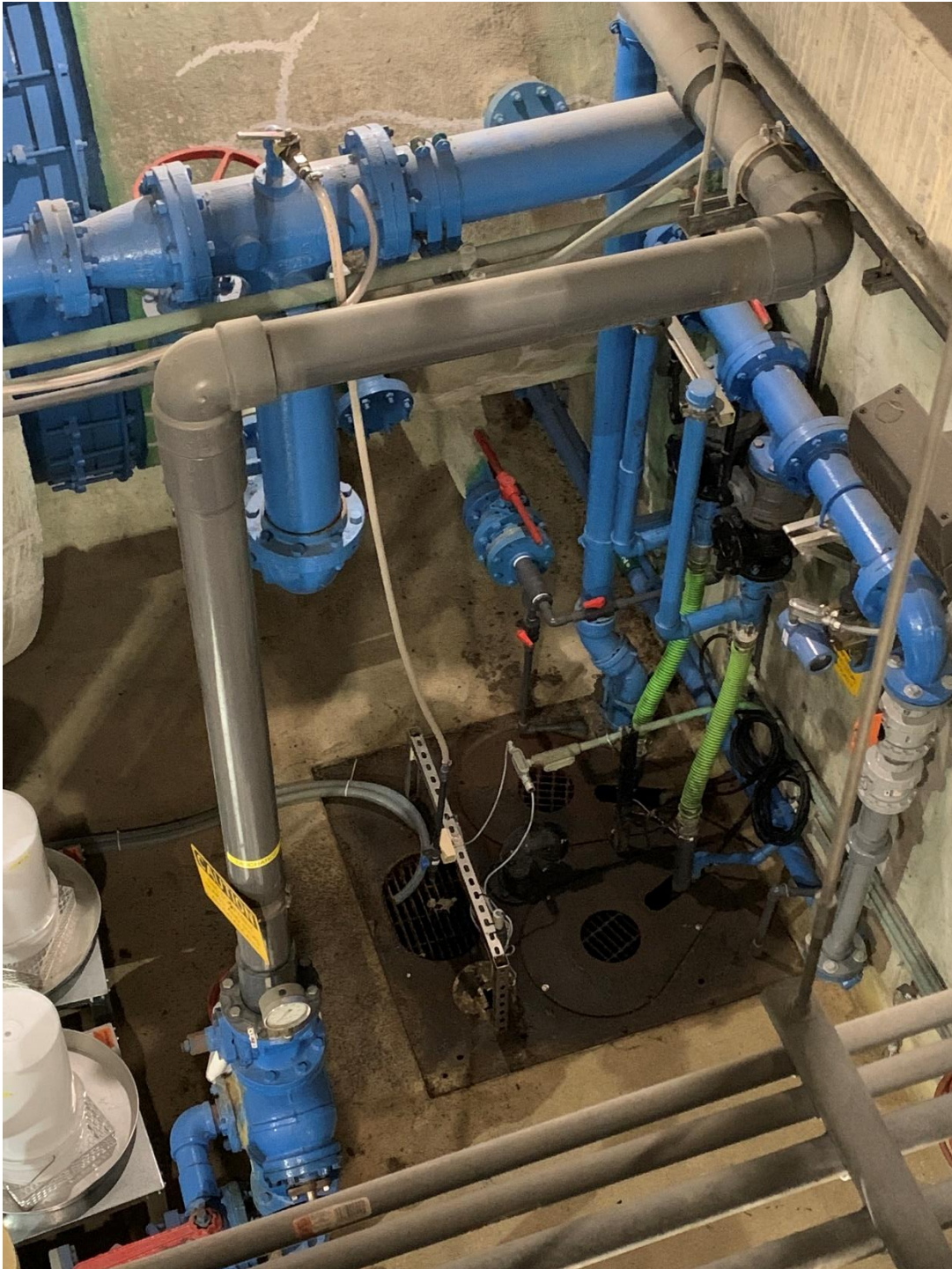


Figure 12. The bacteria sampling location just precedes the addition of sodium bisulfite.



Figure 13. EBDA installed metal guards on the front and sides of the ladder to prevent people from climbing to the roof of the sodium bisulfite storage building after hours.

ITEM NO. OM7 SOLAR ENERGY STUDY RESULTS

Recommendation

Review information and provide direction to staff.

Background

Solar photovoltaic energy generation and battery energy storage systems (BESS) are important tools for providing renewable energy to reduce greenhouse gases, improve reliability and self-sufficiency, and reduce diesel particulate emissions. At the Commission's direction, EBDA engaged consultant Black & Veatch (BV) to evaluate solar and BESS options at three facilities – Oro Loma Effluent Pump Station (OLEPS), Hayward Effluent Pump Station (HEPS), and Marina Dechlorination Facility (MDF). Union Effluent Pump Station (UEPS) was not included because USD provides UEPS power and because the station will soon be relocated as part of USD's upgrade project. The solar and BESS study was conducted as an addition to a solar and resiliency study BV was conducting for USD facilities.

Discussion

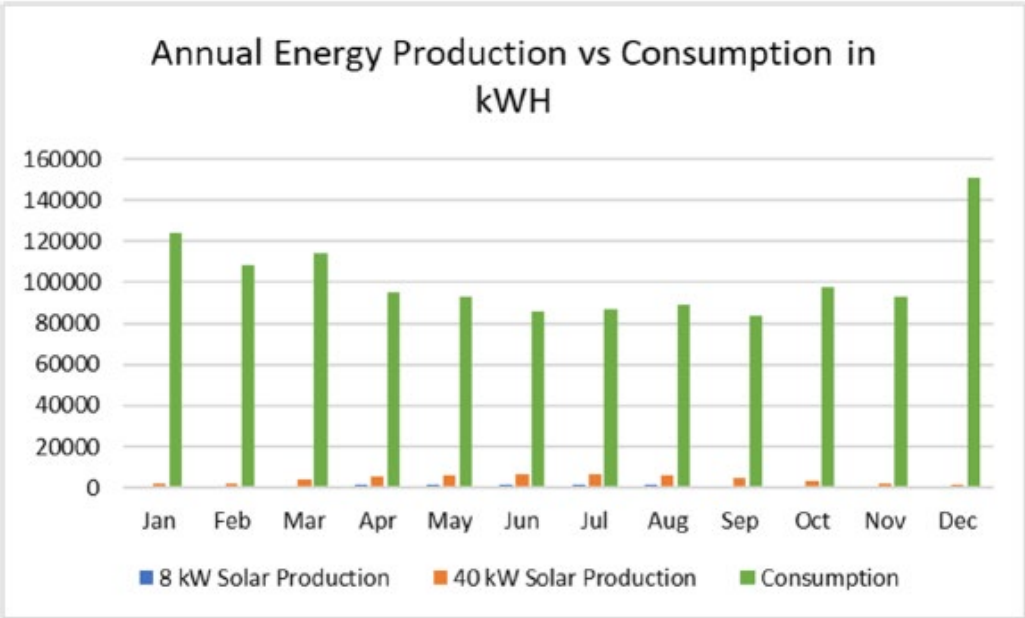
As noted above, EBDA's goals were to improve resiliency of the facilities and to decrease fossil fuel use and related emissions. Economic analyses of solar and BESS options at each of the facilities provided by BV are shown on the following pages. Conclusions were as follows:

- While BESS could theoretically add resiliency by supplying power when PG&E power is unavailable, there are technical limitations imposed by PG&E that would likely diminish the overall reliability of the facility power system. Therefore, staff is not recommending installation of BESS at any facilities at this time.
 - Utilizing a BESS for system resiliency would require the addition of new electrical system protection and control devices, which are primarily intended to ensure that PG&E grid integrity and safety is maintained. The introduction of these added protection features, aside from being costly to implement on existing facility switchgear equipment, result in a significantly more sensitive protection scheme at the facility, which ultimately reduces overall facility robustness and reliability.
 - Utilizing a BESS for peak shaving rather than for resiliency reduces the burden on the PG&E grid during peak power supply time periods, thus reducing energy costs, but it does not bolster facility resiliency. When a BESS is implemented for peak shaving, PG&E requires that the BESS shut down should a PG&E outage occur. For peak shaving applications, the

BESS would operate solely in parallel with the PG&E source and will not be permitted to operate as a power “island” absent the PG&E source.

- MDF and HEPS each have very low power demands, which lead to long pay-back periods for any solar investments, even with available financial incentives. Generally, the useful life of PV panels is 10 to 20 years, with efficiency decreasing after 10 years. Therefore, staff does not recommend investing in solar at these facilities at this time, as the equipment is likely to lose efficiency before EBDA would see a return on investment in 13-18 years. The Authority may continue to reevaluate this if incentives increase and/or equipment costs decrease.
- OLEPS has greater potential for solar to add value because it has a much greater power demand. However, not much real estate is available to site a meaningful solar array. Assuming panels are sited on the rooftop, the project supplies only a very small portion of the OLEPS demand (see Figure 1 below), resulting in a 14-year payback. Once again, staff does not recommend proceeding with a solar project when the payback exceeds 10 years.

Figure 1. OLEPS Solar Energy Production vs. Consumption



While staff is not recommending proceeding with a solar or BESS project at any Authority facilities at this time, staff will continue to look for opportunities to partner with member agencies on renewable energy projects where feasible. Staff also notes that all EBDA facilities are currently on Ava Community Energy (formerly East Bay Community Energy)’s Renewable 100 plan, where 100% of power is sourced from California solar and wind energy.

Table 4-3: MDF Summary of Economic Analysis

	61 kW Ground-Mounted Solar + 60 kW 258 kWh BESS	60 kW 258 kWh BESS
Simple Payback Period	13 years	>25 years
Net Exports	3%	0%
Annual O&M Costs	\$2,400	\$900
Total Payments (without incentives)	\$500,000	\$280,000
Solar	\$220,000	-
BESS	\$280,000	\$280,000
NPV	\$42,000	-\$110,000
Carbon Offset (in metric tons)	1,500	N/A
LCOE	\$0.18 / kWh	N/A
Incentives	\$150,000	\$90,000
Lifetime Savings	\$750,000	\$140,000

Table 4-1: HEPS Summary of Economic Analysis

	142 kW Ground-Mounted Solar + 60 kW 258kWh BESS	BESS Only (60kW 258kWh)
Simple Payback Period	18 years	>25 years
Net Exports	38%	-
Annual O&M Costs	\$4,200 / year	\$900 / year
Total Payments (without incentives)	\$1,110,000	\$280,000
Solar	\$430,000	-
BESS	\$280,000	\$280,000
Security Costs	\$280,000	-
NPV	-\$194,000	-\$160,000
Carbon Offset (in metric tons)	4,000	-
LCOE	\$0.15 / kWh	-
Incentives	\$210,000	\$90,000
Lifetime Savings	\$1,100,000	\$60,000

Agenda Explanation
 East Bay Dischargers Authority
 O&M Agenda
 April 16, 2024

Table 4-2: OLEPS Summary Economic Analysis

	240kW 1030kWh BESS	40 kW Roof+ 240 kW 1030 kWh BESS	8 kW Roof Solar + 240 kW 1030 kWh BESS
Battery Use	Used for peak shaving and outages only	Used for peak shaving and outages only	Used for peak shaving and outages only
Simple Payback Period	14 years	12 years	14 years
Net Exports	0%	0%	0%
Annual O&M Costs	\$3,600	\$4,600	\$3,800
Total Payments (without incentives)	\$1,130,000	\$1,300,000	\$1,165,000
Solar	-	\$160,000	\$32,000
BESS	\$1,130,000	\$1,133,000	\$1,133,000
NPV	-\$230,000	\$100,000	-\$210,000
Carbon Offset (in metric tons)	N/A	875	190
LCOE	N/A	\$0.81 / kWh	\$3.31 / kWh
Incentives	\$340,000	\$390,000	\$350,000
Lifetime Savings	\$840,000	\$1,800,000	\$920,000

	120 kW 516 kWh BESS	120 kW 516 kWh BESS	8 kW Roof Solar + 120 kW 516 kWh BESS
Battery Use	Use as back-up power only	75kWh of battery reserved for back-up power only	75kWh of battery reserved for back-up power only
Simple Payback Period	-	14 years	14 years
Net Exports	-	-	0%
Annual O&M Costs	\$1,800	\$1,800	\$1,800
Total Payments (without incentives)	\$550,000	\$550,000	\$582,000
Solar	-	-	\$32,000
BESS	\$550,000	\$550,000	\$550,000
NPV	-	-\$112,000	\$4,000
Carbon Offset (in metric tons)	-	-	190
LCOE	-	-	\$1.40 / kWh
Incentives	-	\$165,000	\$175,000
Lifetime Savings	-	\$400,000	\$500,000