



EAST BAY DISCHARGERS AUTHORITY
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A Joint Powers Public Agency

ITEM NO. 18

OPERATIONS & MAINTENANCE COMMITTEE AGENDA

Tuesday, November 19, 2019

9:00 A.M.

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

Committee Members: Cutter (Chair); Walters

OM1. Call to Order

OM2. Roll Call

OM3. Public Forum

OM4. EBDA Performance

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

OM5. Status Report

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

OM6. Renewal Replacement Fund Annual Recap FY 2018/2019

(The Committee will review the annual recap of the Authority's Renewal Replacement Fund for FY 2018/2019 and ongoing work carried over from prior fiscal years.)

OM7. 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.)

(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 Administrative Assistant at the EBDA office at (510) 278-5910 or kyambao@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 posted on the East Bay Dischargers Authority website located at <http://www.ebda.org>.)

**The next O&M Committee meeting will be held
Tuesday, December 17, 2019, at 9:00 a.m.**

ITEM NO. OM4 EBDA PERFORMANCE

The detailed package is included in the Regulatory Affairs Committee agenda. The NPDES report shows that EBDA continues to operate within the normal compliance range.

Please see the Regulatory Affairs Committee agenda, Item No. RA4 for permit compliance data.

ITEM NO. OM5 STATUS REPORT

Alvarado Effluent Pump Station (AEPS)

Pump Cavitation Study & Station Optimization

EBDA received the Draft Cavitation Study Project Memorandum and will provide comments to Carollo. After the comments are incorporated, the report will be sent to the MAC for review and a meeting will be scheduled with USD staff to review the memorandum.

Effluent Pump No. 5 Motor Bearing

On October 16, 2019, USD staff reported to EBDA that the Effluent Pump No. 5 upper motor bearing needed to be replaced. USD maintenance staff replaced the bearing and the pump was returned to service on October 24, 2019.

Effluent Pump No. 6 Refurbishment

On October 16, 2019, USD staff reported to EBDA that Effluent Pump No. 6 needed to be rebuilt. USD maintenance staff disassembled the pump and found impeller damage. EBDA is obtaining a quote to replace the impeller, and USD will be temporarily repairing the impeller and reassembling the pump so that it is available for wet weather. A new impeller has a lead time of 12 to 16 weeks.

Hayward Effluent Pump Station (HEPS)

Motor Control Center (MCC) Replacement Project

GSE Construction, Inc. (GSE) demolished the old pump station MCC and corrugated metal structure. Existing electrical pullboxes, bollards, and concrete slabs were also demolished in preparation for upcoming site paving.



Before Old MCC Demolition



After Old MCC Demolition

This month, GSE poured a new concrete slab around the HEPS Generator. The slab will support a new platform around the generator that will improve access for operations and maintenance activities.



New Concrete Slab Around Generator

Temporary fencing around the pump station was removed. A new chain link fence with barbed wire will be installed after the site is paved.

The grading and paving plan throughout the site is being revised. A contract change order for additional storm drains to improve site drainage is being added, along with additional paving to ease vehicle access to the north of the MCC building. EBDA will be receiving a credit to remove overlay of the existing asphalt to the south of the pump station. On November 13, 2019, the paving sub-contractor is scheduled start work on

the base material, and paving is scheduled to be completed by Thanksgiving. The final activities include installation of the permanent fence around the pump station and painting of the station piping. The project is expected to be substantially complete by the end of this year.

Oro Loma Effluent Pump Station (OLEPS)

Effluent Pump No. 1 Right Angle Gear Drive Shaft Seal & Motor Refurbishment

In October, OLSD maintenance staff replaced the input shaft seal on the No. 1 Effluent Pump right angle gear drive. The seal had become hard and brittle and started leaking oil. During the shaft seal replacement, the motor was removed and sent to Vincent Electric for refurbishment. The cost to have Vincent Electric refurbish the motor was \$3,048. The pump was returned to service on October 10, 2019.

Electrical Improvements

EBDA received a Technical Memorandum from Beecher Engineering, Inc. (Beecher), EBDA's contract Electrical Engineer, indicating that OLSD has capacity to provide the required standby power to OLEPS. The OLSD standby power would only be used in the event of a PG&E power failure and a failure of the OLEPS emergency generator.

In October, the contractor working on OLSD's Nutrient Optimization Project started the installation of the two electrical conduits, a one-inch #1 water line, and a two-inch #4 water line from OLSD to OLEPS. One of the electrical conduits is for the OLEPS standby power, and the other is to replace the Skywest main electrical feed. The Skywest main electrical feed was hit by the contractor working on OLSD's Nutrient Optimization Project and was found to be in need of replacement. If EBDA is going to continue to operate the Skywest system for years to come, the main power feed will need to be replaced. Bringing a conduit under the asphalt from OLEPS to the OLSD wall at this time is cost-effective for Skywest and will reduce the cost of the backup power conduit for EBDA.

The #1 water line supplies water to the OLEPS safety shower and eyewash station and was also broken several times by the OLSD contractor. The #4 water line will be used in the event the OLEPS water system fails. The current contingency plan if the OLEPS water system fails is for OLSD staff to drag hoses from OLEPS to OLSD for the pump gear drive cooling water. The new #4 water line will eliminate that need. The #4 water will also be used to hose the OLEPS wet wells when they are taken down for maintenance activities.

San Leandro Effluent Pump Station (SLEPS)

No change; all equipment is operational.

Skywest Pump Station

Recycled Water Production

During the month of October 2019, the Skywest Recycled Water System produced 6.2 million gallons of recycled water.

Marina Dechlorination Facility (MDF)

No change; all equipment is operational.

Force Main

No change; all equipment is operational.

Operations Center

Cyber Security

The first Quarterly Network Security Management & Coordination meeting was held on October 9, 2019. The meeting was attended by EBDA, OLSD, Woodard & Curran, Calcon (EBDA's SCADA consultant) and Cayuga Information Systems (EBDA's business IT consultant). On October 15, 2019, a meeting was held to demonstrate/discuss managed network monitoring services. EBDA, in partnership with OLSD, is in the process of implementing 24x7x365 real-time managed network monitoring services at a cost to EBDA of approximately \$250 per month. This is in addition to continued support from Woodard & Curran on cyber security upgrades.

SCADA System Upgrade Project

On October 17, 2019, the SCADA System Upgrade Project was completed. There are still SCADA issues related to cyber security that will be addressed in the next several months as part of the network security upgrade project.

Miscellaneous Items

Underground Service Alerts

EBDA received twenty-six (26) Underground Service Alert (USA) tickets during the month of October 2019. Two required field verification.

Special Projects

PG&E Large Integrated Audit Program

EBDA is participating in PG&E's Large Integrated Audit (LIA) program. The LIA Program is a PG&E-sponsored assessment of customer facilities, with a goal of an energy action plan that identifies and prioritizes potential energy and demand savings

from energy conservation, energy efficiency, time-of-use management, demand response, and self-generation measures. EBDA's study is being conducted by Alternative Energy Systems Consulting, Inc. A site visit/walk was conducted on October 10, 2019, and EBDA staff is currently gathering data to provide to the consultant for their analysis.

Transport System Seismic Reliability Plan

Brown & Caldwell (BC) submitted a preliminary draft of the Transport System Seismic Reliability Plan. The draft permitting section had previously been forwarded to Kermani Consulting Group to be incorporated in EBDA's Disaster Cost Recovery Plan. Staff is reviewing the full Draft Transport System Seismic Reliability Plan and providing feedback to BC.

EBDA Facilities Electrical Evaluation

Beecher Engineering, Inc. will provide a final draft of the EBDA Facilities Electrical Evaluation Report following the incorporation of the OLEPS Standby Power Assessment Report discussed above.

Disaster Cost Recovery Planning Services

EBDA staff is continuing to work with Kermani Consulting Group (KCG) on disaster cost recovery planning. KCG delivered an updated draft of EBDA's Disaster Cost Recovery Plan for review, which incorporates staff's feedback on the initial July draft. Staff is in the process of reviewing the latest draft. Following refinement of the Plan, the project will conclude with an overview session for member agency staff, likely in early 2020, per the MAC's request.

Advanced Quantitative Precipitation Information (AQPI) Project

As discussed previously, AQPI is a Bay Area regional project funded by the California Department of Water Resources (DWR) aimed at improving prediction of precipitation, streamflow, and storm surge through data gathering and model improvement. EBDA is part of a consortium of East Bay agencies working to install a permanent radar. The plan is for each of the participating agencies to approve a Memorandum of Understanding (MOU) with Sonoma Water as the contracting agency. The MOU would commit to funding the installation through the end of the grant in December 2021. EBDA staff is still waiting for all agencies to complete legal review on the MOU document, and then will bring the MOU to the Commission for consideration. Based on the most recent negotiation, the EBDA contribution to this two-year project is \$29,000, which is included in EBDA's FY2019/2020 budget. The current target is for the East Bay radar to be installed by January 2020. The application for lease of the site from American Tower is currently under development, and the X-band Radar is ready for deployment as soon as agreements and permits are in place.

Agenda Explanation
East Bay Dischargers Authority
O&M Agenda
November 19, 2019

It is expected that a broader regional MOU or JPA will be developed for post-grant funding beyond 2021. EBDA staff is representing the East Bay agencies in a regional committee that is beginning to discuss the long-term funding and governance plan. The group is working on a Planning Agreement that staff would sign in 2019, documenting intent to work together toward a long-term agreement. The Planning Agreement would contain no funding commitments. The next meeting of the regional committee is scheduled for November 20.

EAST BAY DISCHARGERS AUTHORITY
MONTHLY OPERATION AND MAINTENANCE REPORT
Oct-2019

1. Summary sheets from the NPDES Report submitted to the RWQCB and EPA are attached for the month of: Sep-19
2. Number of violations reported in the above NPDES Report: **None to Report**
3. The violations included the following: **None Noted**
4. Preventive Maintenance for the month of: Sep-19

LOCATION	NO. TASKS SCHEDULED	NO. TASKS COMPLETED	# TASKS UNFINISHED	PERCENT COMPLETED
San Leandro Pump Station	3	3	0	100%
Oro Loma Pump Station	59	59	0	100%
Sky West Pump Station	12	12	0	100%
Hayward Pump Station	10	10	0	100%
Alvarado Pump Station	20	20	0	100%
Marina Dechlorination Facility	18	18	0	100%
EBDA Responsibility	14	14	0	100%
Force Main - USD	4	4	0	100%
Force Main - San Leandro	78	78	0	100%
Total	218	218	0	100%

5. Unscheduled Maintenance for the month of: Oct-19

LOCATION	NO. OF WORK ORDERS
San Leandro Pump Station	0
Oro Loma Pump Station	2
Hayward Pump Station	0
Alvarado Pump Station	2
Marina Dechlorination Facility	2
Skywest Pump Station	0
Force Main	0

6. Other Items of significance: Oct-19

- a. FM: Transport System Seismic Reliability Plan
- b. AEPS: Effluent Pump No. 5 Motor Bearing / Effluent Pump No. 6 Refurbishment
- c. OLEPS: Electrical Improvements / Effluent Pump No. 1 Shaft Seal & Motor Refurbishment
- d. MDF: No Items
- e. HEPS: MCC Replacement Project
- f. SLEPS: No Items

ITEM NO. OM6 RENEWAL REPLACEMENT FUND ANNUAL RECAP FY 2018/2019

In July 2018, the Commission authorized an expenditure of \$474,000 in Renewal Replacement Fund (RRF) project funds for FY 2018/2019, which included \$100,000 in contingency funds. For FY 2018/2019, the RRF total expenditures were \$1,791,558, which included projects authorized in FY 2018/2019, as well as several carry-over projects. The largest project expenditure in FY 2018/19 was \$1,566,827 for the HEPS MCC Project, bringing the total expenditure on that project through the fiscal year to \$2,198,788.

Additional detail on project expenditures is provided in the attached table. Projects authorized for FY 2018/19 were as follows:

EBDA Facilities Electrical Evaluation

Beecher Engineering, Inc. is conducting an electrical evaluation and providing recommendations for emergency back-up power options. See OM5 for a project status report.

AEPS Pump Cavitation Study & Station Optimization

Several of the AEPS effluent pumps experience cavitation. Cavitation is the formation of air bubbles or cavities inside the pump around the impeller. The imploding or collapsing of the air bubbles trigger shockwaves inside the pump that can cause significant damage to the impeller and the pump housing. Carollo Engineers, Inc. is performing a cavitation study of AEPS and an evaluation of pump sequencing. See OM5 for a project status report.

OLEPS Diesel Engine Control & PAC/SCADA Programming Upgrade

A major portion of this project was to upgrade the diesel engine controls. In light of the new JPA reduced flows at OLEPS, staff will evaluate the need for this portion of the project. This project also includes upgrades to the PLC & SCADA programming to optimize the pump station operation and add information from the OLEPS satellite PLCs to the SCADA system.

OLEPS Paving Repair/Upgrade

During FY 2018/19, OLSD was planning on starting a plant paving project and agreed to include the area next to the new Above Ground Diesel Storage Tank in the project. EBDA will be reimbursing OLSD for the work. OLSD delayed the project until the beginning of FY 2020/21. The funds spent on this project to date were for engineering and design.

OLEPS Effluent Pumps No. 1 & 4 Discharge Valve Actuators & Gear Drives

The discharge valve actuator & gear drive replacement project was completed in September 2019. The funds spent as of June 2019 were for the purchase of the actuators and gear drives, and staff time.

Asset Management Plan (AMP) Update

Phase 1 of the AMP Update is complete, and staff is evaluating the scope and timing of Phase 2.

EBDA Office Upgrade & Dry Rot Remediation

This project includes upgrades to EBDA's administrative office. Remediation of dry rot will be the highest priority task. Staff is also evaluating other potential improvements including painting and flooring.

RRF Contingency Fund

The purpose of the contingency fund is to provide additional funding for unidentified projects and/or equipment that may need to be replaced or refurbished during the fiscal year. Much of the smaller ancillary equipment and components that the Authority owns are operated with the intent to "run to failure". This is a common practice at wastewater facilities with these types of assets, which include fans, valves, actuators, and small pumps and motors. While preventive maintenance is completed on a regular basis, forecasting an exact date of failure is not possible. The criteria for "run to failure" are both that the equipment can be readily procured and that there is sufficient redundancy to meet system firm capacity. In some cases, staff will purchase critical items and have them on the shelf, thereby reducing system equipment downtime. The contingency fund is also used for unexpected projects that arise throughout the year. The contingency budget for FY 2018/19 was \$100,000. The contingency expenditures for FY 2018/19 were \$65,450. Each project undertaken is discussed in more detail below.

OLEPS Diesel Engines Air Intake Modifications

The diesel engines that power OLEPS Effluent Pumps No. 2 & 3 are inside noise containment enclosures. The enclosures are metal structures with 4-inch thick insulated walls. The enclosures are equipped with large ventilation fans that draw in fresh air from the outside. The fresh air passes over the engines and the air is then vented outside the pump station. The diesel engines were experiencing high combustion air manifold temperature alarms. To stop the alarms, operators had been keeping the doors to the enclosures open. Peterson Caterpillar was consulted, and they recommended modifications to the diesel engine air intakes. The modifications consist of redirecting the air intakes and adding additional piping so that fresh air is drawn into the engines and not the hot air that is trapped near the ceiling of the enclosures. OLSD maintenance staff completed the modifications.

OLEPS Wet Well Bird Net

The installation of a bird net was completed over the OLEPS wet wells. OLSD staff initiated this project and contracted with Birds Away to complete the work. The net will prevent birds from nesting under the ledges of the wet wells, prevent nesting bird droppings from entering the wet wells, and prevent bird droppings from covering surfaces around the wet wells. The net has large zippers to allow for entry into the wet wells for maintenance activities and hatches to facilitate wet well sampling.

AEPS Effluent Pump No. 2 Rebuild

USD maintenance staff rebuilt AEPS No. 2 Effluent Pump.

MDF Replaced 4 Sump Pumps

CSL staff replaced the two sump pumps in the main vault (basement) and the two sump pumps in the SBS building.

EBDA Office Network Server Replacement

The office network server was replaced.

EBDA Network Security Upgrade

Phase 1 of EBDA's network security upgrade concluded with the completion of Woodard & Curran's IT/SCADA System Cybersecurity Vulnerability Assessment Report, the installation of additional network security hardware, and the implementation of quarterly network security management & coordination meetings.

RRF FY 2018/2019 Summary

Updated as of: June 30, 2019

Project Name	2018/2019 Expenditures	Prior Years' Expenditures	Total Expenditures through 2018/2019	Percent Spent	Percent Complete	Budget Estimate	FY Project on List	Projected Completion Date	Notes
Prior Years' Planned Projects									
FM Manhole Coating Project				0%	0%	\$25,000	2016/2017	Postponed	
SLEPS Refurbish 4 Pumps		\$46,661	\$46,661	62%	50%	\$75,000	2016/2017	Postponed	Delayed rebuild of 2 pumps due to low run hours
HEPS MCC Project	\$1,566,827	\$631,961	\$2,198,788	72%	72%	\$3,050,000	2016/2017	January 2020	Budget based on current project cost estimate
FM Replace Valves & Misc. Equipt.				0%	0%	\$50,000	2017/2018	Postponed	
MDF Analyzer		\$616	\$616	1%	0%	\$75,000	2017/2018	Postponed	Pending result of chlorine permit modification
SCADA System Upgrade	\$14,677	\$78,933	\$93,610	94%	95%	\$100,000	2017/2018	October 2019	Includes \$11,115 for comm upgrade
Prior Years' Planned Project Subtotal	\$1,581,504	\$758,170	\$2,339,674			\$3,375,000			
2018/2019 Planned Projects									
Facilities Electrical Evaluation	\$24,301		\$24,301	101%	93%	\$24,000	2018/2019	January 2020	Overage due to staff time billed to project
AEPS Cavation Study & Station Opti.	\$13,667		\$13,667	39%	40%	\$35,000	2018/2019	January 2020	
OLEPS DE-PLC-SCADA	\$12,417	\$17,478	\$29,895	30%	30%	\$100,000	2018/2019	June 2021	
OLEPS Paving Repair/Upgrade	\$6,550		\$6,550	26%	22%	\$25,000	2018/2019	August 2020	Pending OLSD paving project
OLEPS Valve Actuators	\$32,729	\$310	\$33,039	55%	60%	\$60,000	2018/2019	September 2019	
Asset Management Plan Update	\$54,940		\$54,940	61%	50%	\$90,000	2018/2019	Completed	Phase 1 Complete, Phase 2 Postponed
EBDA Office Upgrade				0%	0%	\$40,000	2018/2019	June 2020	
2018/2019 Planned Project Subtotal	\$144,604	\$17,789	\$162,393			\$374,000			
2018/2019 Contingency Projects									
OLEPS Diesel Engines Air Intake Mods.	\$6,077		\$6,077	81%	100%	\$7,500		Completed	
OLEPS Wet Well Bird Net	\$11,748		\$11,748	98%	100%	\$12,000		Completed	
AEPS Pump #2 Rebuild	\$10,735		\$10,735	72%	100%	\$15,000		Completed	
MDF Replace 4 Sump Pumps	\$10,386		\$10,386	87%	100%	\$12,000		Completed	
EBDA Office Network Server	\$9,893		\$9,893	99%	100%	\$10,000		Completed	
EBDA Network Security Upgrade	\$16,611		\$16,611	111%	100%	\$15,000		Completed	Phase 1 Complete, Phase 2 FY 2019/2020
Unspent Contingency Budget						\$28,500			
2018/2019 Contingency Subtotal	\$65,450		\$65,450	65%	100%	\$100,000			
2018/2019 Projects Total									
	\$210,054		\$227,843			\$474,000			
Total									
	\$1,791,558		\$2,567,517			\$3,849,000			