OPERATIONS & MAINTENANCE COMMITTEE AGENDA

Monday, February 11, 2013
9:00 A.M.

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

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. Resolution Accepting the Bid and Authorizing the General Manager to Issue a Purchase Order to Philadelphia Gear in the Amount of $127,207 for the Overhaul of Oro Loma Effluent Pump Station No. 4 Right Angle Drive
(The Committee will consider a resolution accepting the bid and authorizing the General Manager to issue a Purchase Order to Philadelphia Gear in the amount of $127,207 for the overhaul of the Oro Loma Effluent Pump Station No. 4 Right Angle Drive.)

OM7. Adjournment

(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 (510) 278-5910 or ladams@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 http://www.ebda.org.

(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. 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.)

The next O&M Committee meeting is scheduled on
Monday, March 18, 2013 at 9:00 a.m.
ITEM NO. OM4 EBDA PERFORMANCE

This information is a standing agenda item for both the O&M Committee and the Regulatory Affairs Committee. The detailed package is included in the Regulatory Affairs Committee agenda. The NPDES report shows that EBDA’s performance continues to operate within the normal range.

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

ITEM NO. OM5 STATUS REPORT

Alvarado Effluent Pump Station (AEPS)

Operations and Infrastructure Optimization Project (OIOP)
All comments have been received on the final OIOP report. Carollo is still working on making changes as necessary. Anticipated completion was to be January 21, 2013, however Carollo requested a short delay due to an unexpected circumstance. Once the report has been received, it will be submitted to the Board for approval.

AEPS #4 Effluent Pump
USD reported that the #4 effluent pump vibrates when not operating only during low flow. It is believed that the check valve is not fully seating. This was confirmed when USD staff closed the downstream valve and the vibration stopped.

DW Nicholson was contacted to make an emergency inspection on December 10, 2012. Preliminary results of that inspection were that no physical damage was noted in the internal mechanisms. However, the face-to-seat was checked and was found to have over 1/8” clearance from approximately 4:00 o’clock to 8:00 o’clock position on the sealing surface. All shafts and bushings were checked for tightness; nothing was noted as being out of normal. The check valve was reassembled and the pump is in the #6 lag standby position.

Staff contacted the local manufacture representative for the APCO/ Willamette check valve to assist in troubleshooting. Eric Hurt, the field technician with Frank A. Olson Company, believes that two pins that connect the flapper plate to the pivot arm are not correctly aligned.

The two courses of action are to either replace the check valve at a cost of $48,700 plus $11,004 for labor for a total replacement cost of a new check valve at $59,704. The other is to refurbish the existing check valve by replacing the internal parts at a cost of $28,557 plus $14,829 for a total cost of $43,386.
The difference in the cost of installing a new replacement vs. refurbishing is approximately $16,318 less for the refurbishing. The existing check valve was originally installed in 1981 with a major repair completed in 2009 to repair broken pins on the flapper arm. Staff believes that due to its age, there is a potential likelihood that repairing the check valve with new internal parts may not be cost effective. In order to make a sound recommendation, key principles of a quality asset management plan will be followed.

Asset planning decisions are based on:
- evaluating alternatives, which assesses risks and benefits;
- applying the procurement principle of value for money across the asset's life-cycle; and
- establishing standards for asset condition, use and performance.

Staff is taking the following steps to determine the best course of action:
1. Verifying that the existing check valve is correct for the application;
2. Contacting other suppliers for replacement cost; and
3. Working with the existing local supplier to obtain a better cost.

NOTE: The #4 pump is operational and can be used in the #6 lag standby position if required.

Hayward Effluent Pump Station (HEPS)

Equipment Assessment
The City of Hayward is currently conducting a Utility Master Plan (UMP). The UMP has identified that the City may need to construct a new pump closer to their facility. Much of the equipment at HEPS is reaching the end of its useful life and is scheduled for replacement as part of EBDA’s Repair and Replacement Fund (RRF). The outcome of the City of Hayward’s UMP directly affects both short- and long-term planning for the equipment replacement. Staff was requested to assess the electrical components at the HEPS.

Staff is currently following up with Todd Beecher to develop a scope of work for the design and replacement of the electrical switch gear at HEPS. Additionally staff contacted TJC and Associates, Inc. to obtain a second scope of work for the electrical switch gear replacement project.

Projected costs for replacement of existing electrical switch gear equipment are estimated to be approximately $150,000. Additional asset equipment replacements that have been identified by the current Asset Management Plan include new pumps, motors, and variable drive units over the next two years. The total funds required in order to meet operational demand is approximately $446,462.
Staff anticipates each of the two engineering firms to submit a scope of work with project cost no later than February 28, 2013.

**Oro Loma Effluent Pump Station (OLEPS)**

**No. 4 Right-Angle Drive Replacement**
Staff recommends a complete overhaul of the No. 4 right angle drive to be done by Philadelphia Gear for a total cost not to exceed $127,207. Labor to remove and replace the gear drive will be done by DW Nicholson for a cost not to exceed $7,495. Total project cost is $134,702.

Staff researched three options for repair of the No. 4 right angle drive.
1. Local Vendor repair
2. New Replacement
3. Factory repair

The recommendation to issue a Purchase Order to Philadelphia Gear for the overhaul is based on the following.

Dahl-Beck, a local vendor, submitted a bid to overhaul (replace all bearings, seals and gaskets) the No. 4 right-angle drive at a cost of $20,000. This cost does not include the new or repaired gears but does include the cost to remove, reinstall, laser-align and pin the unit. The disadvantages to utilizing a local vendor are:
1. The local vendor does not have the required specifications to install the new gears due to Philadelphia Gears’ proprietary rights.
2. The local vendor offers a two year warranty, while Philadelphia Gear offers a three year warranty.

Falk Gear Drive was contacted to determine if a new replacement gear drive would meet the specific standards. The manufacture exhausted all resources in identifying a correct replacement gear drive. The disadvantages in replacing with new are:
1. The new gear box is a splash-oiled type. The current gear box utilizes pumped-oil lubrication which extends the service life of the unit.
2. The new gear box is significantly heavier due to “all steel” construction. The additional weight would require structural calculations to be done. These calculations may require a seismic evaluation due to the additional structural support.
3. The new gear drive would require a special adaptor plate to be fabricated. This adaptor plate would require special machining to ensure that the new gear drive can be both horizontally and vertically aligned with the pump and
motor. Completing this task would be by trial and error thus requiring additional downtime and labor costs.

Philadelphia Gear, the manufacture of the gear drive, submitted a bid not to exceed $127,207. Their bid includes all new gears, bearings, and seals. The benefits of using Philadelphia Gear are:

1. Factory certified repair
2. Three year warranty
3. Expedited 2 week delivery
4. Spin Test unit per Philadelphia Gear specifications

Additionally, Philadelphia Gear will factory check the gearing that is removed for no cost to determine serviceability. Depending on the condition, the gear set that is removed may be used for a future rebuild of the No. 1 unit.

**San Leandro Effluent Pump Station (SLEPS)**

No change; all equipment is operational.

**Sky West Pump Station**

**System Improvements to maintain Compliance**

As approved, Staff is working with Calcon System to complete the following work.

1. Move the existing CL2 meter from its current location, which is approximately 100 yards away from where the process sample is taken, to a more suitable location at the end of the Sky West Contact channel. This will provide tighter process control by reducing the lag time between sample pickup and analysis.

2. Install an automated valve that will be SCADA logic-controlled to allow the processed water to be returned to the inlet of the channel to allow for post chlorination before discharge into the distribution system. This will ensure that recycled water meets permit limit for coliform.

3. Install a small chemical metering pump to better control the CL2 dosing. This new metering pump will provide precise CL2 control ensuring that an adequate amount of CL2 is being added while limiting an over dose condition.

Projected completion is scheduled for the middle of March 2013.

**Recycled Water Discharge to Bockman Canal**

On January 10, 2013 Sky West required recycled water for golf course irrigation. Sky West Recycled Water Channel was cleaned thoroughly and was prepared for operation. On the morning of January 10 staff received a phone call from Sky West Golf Course
that the pond used for storing recycled water for irrigation was not filling. Staff responded to the request and found that the pond level had only slightly increased in an 8 hours’ time.

Staff found that a recycled water stand pipe connection near the Bockman Canal and Southern Pacific railroad tracks was missing the shut off valve. Staff immediately stopped all recycled water flow to Sky West Golf Course.

Bockman Canal was sampled at six locations downstream of the point of discharge and analyzed for CL2. The highest CL2 value of 0.28 mg/L was found 900 yards downstream of the point of discharge. Staff also visually inspected 500 yards upstream and 1,200 yards downstream of the point of point to determine if there was any effect on the fish or fowl. No adverse effect to either fish or fowl was detected.

This incident was reported to both the Regional Water Board and CA Department of Fish and Game. The Regional Water Board requested follow-up information that included cause of the discharge and corrective actions to be taken to mitigate future occurrences.

The cause was determined to be that someone had removed the valve assembly (brass in construction) presumably to sell for scrap. It is believed that this occurred during the month of December when the system was shut down.

Staff has taken the following corrective actions:

- The a new cap (PVC) was installed with a locking mechanism
- For the near term Staff will conduct daily checks of the distribution system
- Cross check projected flow rate with pond level rise rates

**Marina Dechlorination Facility (MDF)**

**Sewage Pump Replacement**
Staff is working with Monterey Mechanical on reviewing project submittals. Replacement of the sewage pumps and piping is scheduled for May 2013.

**Standby Generator Fuel Transfer Pump Leak**
Staff has issued a Purchase Order in the amount of $3,300 to California Generator Service for the repair of the fuel transfer pump. Due to the complexity of having a portable standby generator connected while the current standby is down for repairs. Staff will be scheduling the work to be completed during the next long break between storm events.

**Force main**
No change; all equipment is operational.
Asset Management Plan (AMP) formerly Renewal & Replacement Fund

Staff is transitioning into using the historical data and projected cost information from the AMP to project short-term and medium-range budget forecasting. Based on the current information entered into the AMP, the following table shows capital expenditures required to meet future asset replacement costs for years 2013 through 2017.

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>5 year Total</th>
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<tbody>
<tr>
<td>ALVARADO EFFlUENT PUMP STATION</td>
<td>$354,919</td>
<td>$82,610</td>
<td>$4,956</td>
<td>$880,516</td>
<td>$8,508</td>
<td>$1,331,509</td>
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<td>HAYWARD PUMP STATION</td>
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<td>$149,886</td>
<td>$6,076</td>
<td>$7,373</td>
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<td>$9,000</td>
<td>$273,631</td>
<td>$82,514</td>
<td>$-</td>
<td>$368,145</td>
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<tr>
<td>SAN LEANDRO PUMP STATION</td>
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<td>$-</td>
<td>$16,441</td>
<td>$150,460</td>
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<td>$246,901</td>
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<td>MARINA DECHLORINATION STATION</td>
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<td>$93,768</td>
<td>$63,145</td>
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<td>$-</td>
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<td>SKY WEST PUMP STATION</td>
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<td>$-</td>
<td>$21,178</td>
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<td><strong>Sub Total</strong></td>
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<td><strong>$251,343</strong></td>
<td><strong>$413,372</strong></td>
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<td><strong>$180,204</strong></td>
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It should be noted that the table above is only a guide to project funding needs for future asset management that staff will need to continually update as needed. It is staff’s responsibility to determine each asset’s condition, ensure proper preventive maintenance and predictive maintenance is being performed to maximize each asset’s serviceability, and develop refurbishment cycles that can extend asset equipment life cycle.

As identified there are several large capital cost projections.

**Funding Year 2013**

- Alvarado Effluent Pump Station for $354,919
  - Replacement of all 6 VFD’s and Harmonic Filters

- Hayward Effluent Pump Station for $296,576
  - Switch Gear Replacement and 2 New Pump & Motor & Variable Frequency Drives

**Funding Year 2014**

- Hayward Effluent Pump Station for $149,886
  - 2 New Pump & Motor & Variable Frequency Drives
Funding Year 2015

- Oro Loma Pump Station for $273,631
  - Main Service Switchgear and Feeder Electrical Panels

Funding Year 2016

- Alvarado Effluent Pump Station $880,516
  - Replacement of all 6 Effluent Pump Motors, Inlet, and Discharge valves.

Funding Year 2017

- San Leandro Effluent Pump Station for $80,000
  - Replacement of all 4 VFD's

The short term goal for EBDA staff is to conduct a thorough assessment of the identified assets for funding years 2013 & 2014 to determine whether a replacement is required or only a refurbishment.

Miscellaneous Items:

Under Ground Service Alerts
Twenty Six (26) Underground Service Alert (USA) tickets were received by EBDA during the month of January 2013. One required marking of the force main and/or a field meeting at Breakwater Way and Highway 92 in Hayward.

Total rainfall for the month of January

<table>
<thead>
<tr>
<th>San Leandro</th>
<th>Hayward</th>
<th>Dublin</th>
<th>Union City</th>
<th>Oakland</th>
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<td>0.19</td>
<td>0.46</td>
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Status of Transition
Staff continues to work with Karl Royer the follow tasks

- Computerized Maintenance Management System
- Marina DeChlorination Facility Operation
- Asset Management Plan
- Force Main Management
- Historical Records
RESOLUTION ACCEPTING THE BID AND AUTHORIZING THE GENERAL MANAGER TO ISSUE A PURCHASE ORDER TO PHILADELPHIA GEAR IN THE AMOUNT OF $127,207 FOR THE OVERHAUL OF ORO LOMA EFFLUENT PUMP STATION NO. 4 RIGHT ANGLE DRIVE

WHEREAS, the East Bay Dischargers Authority advertised for bids for replacement of the Oro Loma Effluent Pump Station (OLEPS) No. 4 Right Angle Drive unit in compliance with the requirements of the Public Contracts Code; and

WHEREAS, it has been determined by staff that the bid from Philadelphia Gear is the lowest responsible bid, is in conformance with the bid specifications, and is an acceptable bid.

WHEREAS, the Operation & Maintenance Committee has recommended acceptance of the bid and authorization for the General Manager to issue a Purchase Order to Philadelphia Gear for replacement of the OLEPS No. 4 Right Angle Drive unit.

NOW, THEREFORE BE IT RESOLVED, the Commission of the East Bay Dischargers Authority hereby accepts the bid from Philadelphia Gear.

BE IT FURTHER RESOLVED, the General Manager is hereby authorized to issue a Purchase Order on behalf of the Authority in the amount of $127,207 in accordance with the accepted bid.

SAN LORENZO, CALIFORNIA, ON FEBRUARY 21, 2013, ADOPTED BY THE FOLLOWING VOTE:

AYES:
NOES:
ABSENT:
ABSTAIN:

__________________________________________
ATTEST:

__________________________________________
CHAIR
EAST BAY DISCHARGERS COMMISSION

__________________________________________
GENERAL MANAGER
EAST BAY DISCHARGERS AUTHORITY
EX OFFICIO SECRETARY