



**BOARD OF DIRECTORS  
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**Notice of Time Change**

**PLANNING COMMITTEE  
MEETING**

**9:00 a.m.**

**Tuesday, October 13, 2015**

Notice is hereby given that on Tuesday, October 13, 2015 the Planning Committee Meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 9:00 a.m. The meeting will be held in the Training Resource Center of the Administration Building, 375 - 11th Street, Oakland, California.

Dated: October 8, 2015

A handwritten signature in cursive script, reading 'Lynelle M. Lewis', is written over a horizontal line.

Lynelle M. Lewis  
Secretary of the District





**BOARD OF DIRECTORS  
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11<sup>th</sup> Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**AGENDA**

**Planning Committee  
Tuesday, October 13, 2015  
9:00 a.m.**

**Training Resource Center  
(Committee Members: Directors McIntosh {Chair}, Linney and Young)**

**ROLL CALL:**

**PUBLIC COMMENT:** The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

**DETERMINATION AND DISCUSSION:**

1. Wet Weather Consent Decree - Implementation Update (Horenstein)
2. Water Quality Program Semi-Annual Update (Wallis)
3. Regulatory Compliance Semi-Annual Report – March 2015 through August 2015 (Wallis)

**ADJOURNMENT:**

**Disability Notice**

*If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.*

**Document Availability**

*Materials related to an item on this Agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours.*



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: October 8, 2015

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Bennett K. Horenstein, Director of Wastewater *BH*

SUBJECT: Wet Weather Consent Decree - Implementation Update

### SUMMARY

On September 22, 2014, the U.S. District Court approved a wet weather Consent Decree for the District and its seven satellite collection system agencies ("Satellites"). The Consent Decree requires the District and the Satellites to eliminate discharges from the District's three wet weather facilities by 2036 by reducing infiltration and inflow (I/I). Staff will provide a status update of the District's implementation of Consent Decree requirements at the October 13, 2015 Planning Committee meeting.

### DISCUSSION

The Consent Decree provides the framework for an asset management-based approach to eliminate discharges from the District's three wet weather facilities by concentrating on the rehabilitation of the older public and private infrastructure that allows stormwater to enter the regional collection system. As a result, rather than having the District spend significant capital funds to build excess storage and/or additional treatment, the Consent Decree requires action by the parties directly responsible for the aged infrastructure.

The District is developing the foundation for long-term compliance with the Consent Decree through a number of initiatives, including the Regional Technical Support Program (RTSP), the Regional Private Sewer Lateral (PSL) Program, flow modelling, and two capital improvement projects.

#### Regional Technical Support Program

The RTSP is a key element for achieving the flow reductions required by the Consent Decree. The RTSP focuses on identifying I/I sources through field investigations of Satellite-owned and operated sewer systems. The District is required to spend a minimum of \$2 million per fiscal year, for the 22-year Consent Decree term, on these field investigations and associated activities. The District will use field investigation results to identify I/I sources, with those deemed high priority reported to the regulators which will trigger repair/rehabilitation by the responsible party (i.e., Satellite Agency or private property owner).

In July 2015, the Board awarded a contract to support this program, comprising of eight contractors and fourteen investigative methodologies (e.g., sewer flow monitoring, closed-circuit television inspection, smoke testing, etc.). As the program is implemented, staff will develop recommendations regarding preferred technologies as well as any equipment and labor that could be provided by the District.

#### Regional Private Sewer Lateral Ordinance Activities

The Regional PSL Program began in 2011 and now includes all satellites except for Berkeley, who continues to implement its own stand-alone PSL program. As part of the Regional PSL Program, the District issues compliance certificates to property owners which demonstrate a leak-free PSL. To date, 16,275 compliance certificates have been issued, representing approximately 10% of the laterals in the wastewater service area with approximately 215-miles of new PSLs. For FY15, the compliance rate with the program was 90%, meeting the District's Key Performance Indicator.

#### Additional Consent Decree Activities

The District is implementing hydrologic and hydraulic modelling in order to assess wet weather facility discharge reductions. Results from the flow model will be reported to the regulators and used to determine Consent Decree compliance at check-in points in years 2022 and 2030, and final compliance in year 2036.

Lastly, the District is moving forward on two capital improvement projects, which are currently in design and will be transitioning to the construction phase this upcoming winter/spring. The Pump Station Q Force Main Reversal project is being implemented to provide additional capacity for flows from the north to the wastewater treatment plant, thereby reducing discharges from the Point Isabel Wet Weather Facility. The Urban Runoff Diversion Project is being developed to treat up to 500,000 gallons per day of dry weather urban runoff as a mitigation for continued operation of the wet weather facilities during the term of the Consent Decree.

#### **NEXT STEPS**

Staff will continue implementation of the Consent Decree. Staff will keep the Board informed on progress.

BKH:CD:akg

## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: October 8, 2015

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael J. Wallis, Director of Operations and Maintenance *MJW*

SUBJECT: Water Quality Program Semi-Annual Update

### INTRODUCTION

This memo provides a semi-annual update on the District's Water Quality Program and ongoing efforts to ensure delivery of high quality drinking water to our customers. This report covers the period from January 1, 2015, to June 30, 2015, in which the District met all federal and state drinking water quality standards. A presentation on the Water Quality Program will be made at the October 13, 2015 Planning Committee meeting.

### SUMMARY

In the first half of 2015, the District met 100 percent of federal and state drinking water quality standards and 96 percent of its water quality goals (5 of 120 were not met) as detailed in the attached Water Quality Report. The District's water quality goals are purposely more stringent than federal or state water quality standards. By establishing goals that are lower than federal or state standards, the District can manage its operations to prevent regulatory standards from being breached. While the District must meet water quality standards, the District strives to meet its own water quality goals. During this period, the District continued to experience low rain and snowfall in its watershed and began drawing from the Freeport supplemental supply in April 2015. The water quality goals for Total Coliform, taste and odor complaints, chlorate, Total Trihalomethanes (TTHM), and Five Haloacetic Acids (HAA5s) were exceeded. These contaminants are discussed below.

### DISCUSSION

#### Total Coliforms

Compliance with the Total Coliform standard requires that less than 5 percent of the samples collected in a month be positive. The District has a water quality goal of less than 0.5 percent positive in a month and has been able to meet that goal consistently. In March 2015, two of 353 Total Coliform samples came up positive (0.57 percent). In April 2015, three of 356 Total Coliform samples were positive (0.84 percent). While the water quality goal was exceeded in two

out of six months, the rate was well below the compliance limit of 5 percent and none of the follow-up samples were positive.

After a period of evaluation, the District switched to Colilert, an approved analytical method used by major water utilities across the United States. Colilert offers a major advantage over the membrane filter technique previously used by the District, i.e., a faster turnaround time for results. However, it does have a slightly higher rate of false positives. Given the acute nature of waterborne pathogens, having a result in hand so corrective actions can start sooner is viewed as a major advantage.

### **Consumer Taste and Smell Complaints**

The District's goal of less than 30 water quality complaints in one month was exceeded in two months during this time period. This goal is measured using metrics from System Water Quality and reflects a tally of those customers that were referred to System Water Quality and does not include all calls handled by the call center. In March/April 2015, the call center received nearly 1,000 customer inquiries of which 275 were referred to System Water Quality. Of those 275, 75 were related to taste and smell requiring additional attention from the Water System Inspectors. The taste and smell was attributed to a gate change on the Pardee outlet tower made necessary by drought operations. In order to save cooler water for the late summer and fall fish runs, water withdrawal was switched to the upper portion of the reservoir. The biological activity in this part of the reservoir is higher and resulted in taste and smell producing organisms entering the treatment plants at levels higher than the plants were designed to accommodate.

The second event occurred in June. An algal bloom occurred on San Pablo Reservoir resulting in the production and release of geosmin, a known taste and smell compound. This event precipitated 67 taste and smell complaints from the customers. Ozone is normally sufficient to reduce geosmin concentrations to an acceptable level, but due to the unusual severity of this event, the plant was not able to reduce the geosmin levels to below taste and smell thresholds and still maintain production needed to maximize use of the Freeport supplemental supply.

Currently, the District is experiencing an increase in taste and smell inquiries resulting from treating the supplemental water supply at the Walnut Creek Water Treatment Plant.

Taste and smell compounds, like methylisoborneol (MIB) and geosmin, are not cyanotoxins (see Cyanotoxin section below) and USEPA clearly states that, while being obnoxious, MIB and geosmin are not toxic. The USEPA and State Water Resources Control Board regulate these compounds only for their aesthetic impacts on water quality (secondary maximum contaminant level) using a nonspecific general parameter (threshold odor number). A specific health-based primary drinking water standard for these compounds does not exist within Federal or State regulatory statutes.

## **Chlorate**

The water quality goal for chlorate (400 µg/L) was not met in one of 14 samples collected from the water treatment plants between January and June. The high chlorate concentration was recorded in a May sample from the Sobrante Water Treatment Plant and has not been traced to a specific source. Previous exceedances of the District's water quality goal for chlorate have been attributed to the degradation of hypochlorite.

## **Total Trihalomethanes (TTHM)**

Since January, the District had a total of five exceedances of its water quality goals or 16 percent. In January, two of 16 TTHM sample sites exceeded the water quality goal of 40 µg/L and in April, three of the 16 TTHM sample sites exceeded the District's water quality goal. Last year, during this same time period, the District had a total of three exceedances (9 percent). This year, the values ranged from 41 to 49 µg/L, well below the maximum contaminant level of 80 µg/L. These results may be attributed, in part, to supplemental supplies.

## **Five Haloacetic Acids (HAA5)**

In April, there was one exceedance of the HAA5 water quality goal of 30 µg/L (3 percent). During this same time period last year, there were no exceedances for HAA5. Like the TTHMs, the change in water quality may be due to drought operations. The increase in water conservation efforts means less demand and higher residence times in the distribution system giving disinfection by-products a longer time to form. Also, drought operations are bringing in a new source of supply with different water quality characteristics.

## **Regulatory Items**

### **Fluoridation**

Earlier this year, the US Health and Human Services changed its recommended optimal fluoride dose from an optimal concentration and control range that was consistent with EBMUD's permit range to a single concentration of 0.7 mg/L. The State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) advised water systems that they could change their fluoride practices to achieve a target concentration of 0.7 mg/L and operate within a control range of 0.6 to 1.2 mg/L. The SWRCB said they would issue a letter to each public water system and initiate a permit amendment process; however, the District has not received a letter.

Following conversations with the Division of Drinking Water, the District decided to revise operations to comply with the revised optimal dose while realizing that the difference between the optimal dose (0.7 mg/L) and lower end of the DDW control range (0.6 mg/L) might result in occasional distribution system readings below the lower end of the control range. At the beginning of September, the District began lowering the optimal dose from 0.8 mg/L to 0.7 mg/L. As a first step, all plants lowered their optimal fluoride doses to a range of 0.7 to 0.75 mg/L. For the month

of September, this resulted in fluoride concentrations ranging from 0.62 to 0.88 mg/L. Compared to a range of 0.34 to 0.93 mg/L, for the first eight months of this year, (the low concentration resulted from a water treatment plant shutting down the fluoridation system to initiate and complete repairs). The District is in a transitional period of operation as staff continues to optimize operations to conform to the new federal and state guidance.

### **Lead/Copper Rule**

The USEPA uses their advisory bodies, such as the National Drinking Water Advisory Committee (NDWAC), for counsel on regulatory issues, such as the Lead/Copper Rule. The NDWAC formed a working group to study and formulate a response to the questions on the Lead/Copper Rule brought to them by the USEPA. The working group met several times over the past year by phone and in person, and is in the final stages of drafting their recommended responses to the NDWAC (expected in time for the NDWAC meeting in November). Two important developments appear to be coming from the working group. The first is to place a greater emphasis on copper as a contaminant from plumbing materials and the second is getting greater involvement from local health authorities for residences that have elevated lead levels at the tap. From a water utility perspective, it appears that involving the local health authorities might require identifying premises with high lead levels in their drinking water so they (local health officials) can work with the residents on decreasing their exposure to lead.

### **Cyanotoxins**

This past June, the USEPA released two provisional 10-day Health Advisories covering two cyanotoxins: microcystins (hepatotoxin; liver), and cylindrospermopsin (nephrotoxin; kidney). The Health Advisories focused on exposure to the cyanotoxins via drinking water. Each Health Advisory contains two advisory levels: one for children less than six years old, and one for those older than six. The Health Advisories are summarized in Table 1 below. The 10-day Health Advisory for children less than or equal to six years of age is 0.3 µg/L for microcystins and 0.7 µg/L for cylindrospermopsin. The 10-day Health Advisory for those more than six years of age is 1.6 µg/L for microcystins and 3.0 µg/L for cylindrospermopsin.

In conjunction with these Health Advisories, the USEPA has published a guidance manual which suggests water utilities develop a cyanotoxin monitoring plan incorporating the Agency's triggers into the water system's monitoring and response plans. The District is drafting such a plan. Because of the District's commitment to recreational activities, our response plan needs to be broader in scope than the monitoring and response plan envisioned by the USEPA. The District's plan will cover recreational activities as well as drinking water. To begin with, the plan will identify the necessary components that will be developed through outside contract or by District forces. Once these components are completed, they will be incorporated into the management plan.

Table 1. Cyanotoxin Drinking Water Health Advisory Summary

Cyanotoxin	10-day Health Advisory ≤six years old (µg/L)	10-day Health Advisory >six years old (µg/L)
Microcystins	0.3	1.6
Cylindrospermopsin	0.7	3

### **Naegleria fowleri**

There have been recent news reports covering the deaths of individuals exposed to *Naegleria fowleri* via drinking water. On their website, the Centers for Disease Control (CDC) have identified the primary route of exposure as water aspirated into the nasal cavity, such as by diving or immersion into a warm recreational body of water (lake, river, hot tub, etc.). Once in the nasal cavity, the organism works its way past the membrane barriers and into the brain. The disease is typically fatal. Exposure via drinking water typically occurs when water is forced up the nose and into the nasal cavity for sinus irrigation (neti pot) or traditional ablution practices. In these cases, the drinking water has usually not been properly prepared per CDC or manufacturer's recommendations before using. No cases of *Naegleria fowleri* have been reported in the District's service area.

Recent work in Louisiana, where the most recent cases occurred, has shown the presence of *Naegleria* in the distribution systems. These findings have initiated discussions regarding proper distribution disinfection practices and disinfectant residual levels. The American Water Works Association (AWWA) recently conducted a workshop to identify and frame the issues associated with distribution system disinfectant residuals. The issues identified during this workshop are likely to carry over into 2016 as part of the dialogue during USEPA's six-year review.

### **Legionnaires' Disease**

Another microbiological contaminant identified during the course of discussion at the AWWA Distribution Disinfectant Residual workshop was *Legionella*, the agent of Legionnaires' disease. *Legionella* control, from drinking water sources, was established in the 1989 Surface Water Treatment Rule (SWTR) which set treatment requirements to control several waterborne pathogens, including *Legionella*. However, as the recent Legionnaires' outbreak at San Quentin illustrates, the disease remains a public health issue in institutional settings such as medical, educational or high tech campuses which have extensive internal plumbing and water distribution networks and use water for heating, ventilation, and air conditioning (HVAC). The recent outbreaks at San Quentin and in New York City were traced to cooling towers that were not properly maintained. There have been no reports of Legionnaire's disease in the District's service area.

ARC:MJW:ss



Parameter	Units	MCL	PHG	DLR	SMCL	NL	other	Basis for WQG	Water Quality Goal (WQG)	Water Quality Goals (WQG)
<b>USEPA/State Water Quality Regulations</b>										
<b>Primary (Health Standards)</b>										
<b>Inorganic Chemicals</b>										
Aluminum	µg/L	1,000	600	50	200			½SMCL	100	met
Antimony	µg/L	6	20	6				DLR	6	met
Arsenic	µg/L	10	0.004	2				DLR	2	met
Asbestos	MFL	7	7	0.2				½MCL	3.5	met
Barium	µg/L	1,000	2,000	100				½MCL	500	met
Beryllium	µg/L	4	1	1				PHG/DLR	1	met
Cadmium	µg/L	5	0.04	1				DLR	1	met
Chromium (total)	µg/L	50		10				½MCL	25	met
Cyanide	mg/L	0.15	0.15	0.1				DLR	0.1	met
Fluoride (source water)	mg/L	2.0	1	0.1				PHG	1.0	met
Hexavalent chromium	µg/L	10	0.02	1				DLR	1	met
Mercury	µg/L	2	1.2	1				DLR	1	met
Nickel	µg/L	100	12	10				PHG	12	met
Nitrate + Nitrite Total (as N)	mg/L	10	10	0.4				½MCL	5	met
Nitrate as N [x4.5 for NO3]	mg/L	10	10	0.4				½MCL	5	met
Nitrite (as N)	mg/L	1	1	0.4				½MCL	0.5	met
Perchlorate	µg/L	6	1	4				DLR	4	met
Selenium	µg/L	50	30	5				½MCL	25	met
Thallium	µg/L	2	0.1	1				DLR	1	met
<b>Organic Chemicals</b>										
<b>Volatile Organic Compounds (VOCs)</b>										
1,1,1-Trichloroethane (1,1,1-TCA)	µg/L	200	1,000	0.5				½MCL	100	met
1,1,2,2-Tetrachloroethane	µg/L	1	0.1	0.5				DLR	0.5	met
1,1,2-Trichloroethane (1,1,2-TCA)	µg/L	5	0.3	0.5				DLR	0.5	met
1,1-Dichloroethane (1,1-DCA)	µg/L	5	3	0.5				½MCL	2.5	met
1,1-Dichloroethylene (1,1-DCE)	µg/L	6	10	0.5				½MCL	3	met
1,2,4-Trichlorobenzene	µg/L	5	5	0.5				½MCL	2.5	met
1,2-Dichlorobenzene (o-DCB)	µg/L	600	600	0.5				½MCL	300	met
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5	0.4	0.5				DLR	0.5	met
1,2-Dichloropropane	µg/L	5	0.5	0.5				DLR	0.5	met

Compounds highlighted in blue appear more than once in this table

Parameter	Units	MCL	PHG	DLR	SMCL	NL	other	Basis for WQG	Water Quality Goal (WQG)	Water Quality Goals (WQG)
1,3-Dichloropropene (Total)	µg/L	0.5	0.2	0.5				DLR	0.5	met
1,4-Dichlorobenzene (p-DCB)	µg/L	5	6	0.5				½MCL	2.5	met
Benzene	µg/L	1	0.15	0.5				DLR	0.5	met
Carbon Tetrachloride	µg/L	0.5	0.1	0.5				DLR	0.5	met
Dichloromethane (Methylene Chloride)	µg/L	5	4	0.5				½MCL	2.5	met
Ethylbenzene	µg/L	300	300	0.5				½MCL	150	met
Freon 113 (1,1,2 trichloro 1,2,2 trifluoroethane)	µg/L	1,200	4,000	10				½MCL	600	met
Methyl-tert-butyl ether (MTBE)	µg/L	13	13	3	5			DLR	3	met
Monochlorobenzene (Chlorobenzene)	µg/L	70	200	0.5				½MCL	35	met
Styrene	µg/L	100	0.5	0.5				PHG	0.5	met
Tetrachloroethylene (PCE)	µg/L	5	0.06	0.5				DLR	0.5	met
Toluene	µg/L	150	150	0.5				½MCL	75	met
Trichloroethylene (TCE)	µg/L	5	1.7	0.5				PHG	1.7	met
Trichlorofluoromethane (Freon 11)	µg/L	150	700	5				½MCL	75	met
Vinyl Chloride (VC)	µg/L	0.5	0.05	0.5				DLR	0.5	met
Xylenes (Total)	µg/L	1,750	1,800	0.5				½MCL	875	met
cis-1,2-Dichloroethylene (c-1,2-DCE)	µg/L	6	100	0.5				½MCL	3	met
trans-1,2-Dichloroethylene (t-1,2-DCE)	µg/L	10	60	0.5				½MCL	5	met
<b>Synthetic Organic Compounds (SOCs)</b>										
Dibromochloropropane (DBCP)	µg/L	0.2	0.0017	0.01				DLR	0.01	met
2,3,7,8-TCDD (Dioxin)	µg/L	30	0.05	5				DLR	5	met
2,4,5-TP (Silvex)	µg/L	50	25	1				PHG	25	met
2,4-D	µg/L	70	20	10				PHG	20	met
Alachlor (Alanex)	µg/L	2	4	1				DLR	1	met
Atrazine (Aatrex)	µg/L	1	0.15	0.5				DLR	0.5	met
Bentazon (Basagran)	µg/L	18	200	2				½MCL	9	met
Benzo(a)pyrene	µg/L	0.2	0.007	0.1				DLR	0.1	met
Di(2-ethylhexyl)phthalate (DEHP)	µg/L	4	12	3				DLR	3	met
Carbofuran	µg/L	18	1.7	5				DLR	5	met
Chlordane	µg/L	0.1	0.03	0.1				DLR	0.1	met

Compounds highlighted in blue appear more than once in this table

Parameter	Units	MCL	PHG	DLR	SMCL	NL	other	Basis for WQG	Water Quality Goal (WQG)	Water Quality Goals (WQG)
Dalapon	µg/L	200	790	10				½MCL	100	met
Di(2-ethylhexyl)adipate	µg/L	400	200	5				½MCL	200	met
Dinoseb (DNBP)	µg/L	7	14	2				½MCL	3.5	met
Diquat	µg/L	20	15	4				½MCL	10	met
Endothall	µg/L	100	580	45				½MCL	50	met
Endrin	µg/L	2	1.8	0.1				½MCL	1	met
Ethylene dibromide (EDB)	µg/L	0.05	0.01	0.02				DLR	0.02	met
Glyphosate	µg/L	700	900	25				½MCL	350	met
Heptachlor	µg/L	0.01	0.008	0.01				DLR	0.01	met
Heptachlor Epoxide	µg/L	0.01	0.006	0.01				DLR	0.01	met
Hexachlorobenzene	µg/L	1	0.03	0.5				DLR	0.5	met
Hexachlorocyclopentadiene	µg/L	50	50	1				½MCL	25	met
Lindane (Gamma BHC)	µg/L	0.2	0.032	0.2				DLR	0.2	met
Methoxychlor	µg/L	30	0.09	10				DLR	10	met
Molinate (ORDRAM)	µg/L	20	1	2				DLR	2	met
Oxamyl (Vydate)	µg/L	50	26	20				½MCL	25	met
PCB's	µg/L	0.5	0.09	0.5				DLR	0.5	met
Pentachlorophenol (PCP)	µg/L	1	0.3	0.2				PHG	0.3	met
Picloram	µg/L	500	500	1				½MCL	250	met
Simazine (Princep)	µg/L	4	4	1				½MCL	2	met
Thiobencarb (Bolero)	µg/L	70	70	1	1			DLR	1	met
Toxaphene	µg/L	3	0.03	1				DLR	1	met
<b>Disinfection By-Products (DBPs)</b>										
Bromate	µg/L	10	0.1	1				DLR	1	met
Chlorite	µg/L	1,000	50	20				PHG	50	met
Haloacetic Acids (HAA)	µg/L	60		1				½MCL	30	97%
Total Trihalomethanes (TTHM)	µg/L	80	0.8	0.5				½MCL	40	84%
<b>Radionuclides</b>										
Alpha	pCi/L	15		3				½MCL	7.5	met
Beta	pCi/L			4			50	½ other <sup>1</sup>	25	met
Radium 226 + 228	pCi/L	5	0.019	1				½MCL	2.5	met
Strontium-90	pCi/L	8	0.35	2				DLR	2	met
Tritium	pCi/L	20,000	400	1,000				DLR	1,000	mMet
Uranium	pCi/L	20	0.43	1				DLR	1	mMet

<sup>1</sup> ½ screening level

Parameter	Units	MCL	PHG	DLR	SMCL	NL	other	Basis for WQG	Water Quality Goal (WQG)	Water Quality Goals (WQG)
<b>Microbiological</b>										
%Total Coliforms Positive/Mo.	Organisms /100 ml	5.0%					0.5%	PHG	0.5%	67%
<b>Treatment Techniques</b>										
Individual Filter Effluent (IFE) Turbidity	NTU						< 0.10 NTU more than 95% of the time.	Exceed Partnership for Safe Water	< 0.10 NTU more than 99% of the time.	met
Filter Startup Turbidity	NTU						Max individual backwash recovery period <sup>2</sup> of 15 minutes.	Partnership for Safe Water	Max individual backwash recovery period <sup>3</sup> of 15 minutes.	met
Combined Filter Effluent (CFE) Turbidity	NTU						CaSWTR <sup>3</sup>	Exceed Partnership for Safe Water <sup>4</sup>	< 0.10 NTU more than 99% of the time	met
Fluoride added at WTP Effluent	mg/L						0.7-1.4	other <sup>5</sup>	0.7-1.0	met
CT Ratio							1	other <sup>6</sup>	>1	met
SUVA	L/mg-m						2	other <sup>7</sup>	1.8	met
Lead 90 <sup>th</sup> percentile	µg/L		0.2	5			15	½ AL <sup>8</sup>	7.5	met
Copper 90 <sup>th</sup> percentile	µg/L		300	50			1,300	½ AL <sup>9</sup>	650	met
Acrylamide							0.05% monomer by wt. dose not to exceed 1 mg/L	other <sup>10</sup>	0.05% monomer by wt. dose not to exceed 1 mg/L	met

<sup>2</sup> Backwash recovery period is the time the turbidity is  $\geq 0.10$  NTU after a filter is placed in operation following a backwash or filtering to waste.

<sup>3</sup> California Surface Water Treatment Rule (SWTR); combined filter effluent turbidity < 0.3 NTU 95% for conventional plants and 0.2 NTU for in-line filtration plants more than 95% of the time.

<sup>4</sup> <0.10 NTU 95 percent of the time.

<sup>5</sup> Optimal Fluoride Dose (0.8) to cover temperature differences between east and west of hills.

<sup>6</sup> CT ratio of 1 is the minimum for compliance; goal is be greater than or equal to 1 at all times.

<sup>7</sup> Based on operational experience

<sup>8</sup> ½ Action Level

<sup>9</sup> ½ Action Level; compliance based on in-home samples.

<sup>10</sup> USEPA Treatment Technique

Compounds highlighted in blue appear more than once in this table

Parameter	Units	MCL	PHG	DLR	SMCL	NL	other	Basis for WQG	Water Quality Goal (WQG)	Water Quality Goals (WQG)
<b>Secondary (Aesthetic) Standards</b>										
Aluminum	ug/L	1,000	600	50	200			½SMCL	100	met
Chloride	mg/L				250			½SMCL	125	met
Color	Color unit				15			½SMCL	7.5	met
Copper	µg/L		300	50	1,000			PHG	300	met
Foaming agents (MBAS)	µg/L				500			½SMCL	250	met
Iron	µg/L				300		100	other <sup>11</sup>	100	met
Manganese	µg/L				50	500	15	other <sup>12</sup>	15	met
Methyl tertiary butyl ether (MTBE)	µg/L	13	13	3	5			DLR	3	met
Odor threshold	TON				3			SMCL	3	met
Silver	µg/L				100			½SMCL	50	met
Specific Conductance	uS/cm				900			½SMCL	450	met
Sulfate	mg/L				250			½SMCL	125	met
Thiobencarb	µg/L	70	70	1	1			DLR	1	met
Total Dissolved Solids	mg/L				500			½SMCL	250	met
Turbidity (distribution)	NTU				5			½SMCL	2.5	met
Zinc	µg/L				5,000			½SMCL	2,500	met
<b>Customer Expectations</b>										
District-caused complaints	Complaint(s)/month						30	other <sup>13</sup>	30	67%
<b>Emerging Contaminants</b>										
<b>Inorganic Chemicals</b>										
Boron	µg/L			100		1,000		½NL	500	met
Chlorate	µg/L					800		½NL	400	93%
<b>Organic Chemicals</b>										
1,2,4-Trimethylbenzene	µg/L					330		½NL	165	met
1,3,5-Trimethylbenzene	µg/L					330		½NL	165	met
N-Nitrosodi-methylamine [NDMA]	ng/L		3			10		PHG	3	met
N-Nitrosodiethylamine [NDEA]	ng/L					10		½NL	5	met
Naphthalene	µg/L					17		½NL	8.5	met

<sup>11</sup> Operational experience<sup>12</sup> Operational experience<sup>13</sup> Based on historical data

Compounds highlighted in blue appear more than once in this table



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: October 8, 2015

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael R. Ambrose, Manager of Regulatory Compliance *M. Ambrose*

SUBJECT: Regulatory Compliance Semi-Annual Report – March 2015 through August 2015

### INTRODUCTION

This memorandum summarizes the key regulatory issues and compliance activities since the last Regulatory Compliance Semi-Annual Report on March 10, 2015, and provides an assessment of compliance during FY15. Specific details are contained in the attached report. A presentation updating the status of regulatory compliance issues will be provided at the October 13, 2015 Planning Committee meeting.

### SUMMARY

The District's Key Performance Indicator (KPI) in the strategic plan for wastewater discharges is to have no violations of the National Pollutant Discharge Elimination System (NPDES) and Waste Discharge Requirements (WDR) permits issued by the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Boards (RWQCBs). In the past fiscal year the District received a total of six Notices of Violation (NOVs) associated with NPDES and WDR permits. Four of these NOVs, however, are being contested as they were simple reporting errors or did not reach receiving waters. It is anticipated some or all will be rescinded accordingly.

A significant environmental incident occurred on April 8, 2015, when approximately 170 cubic yards of cellular concrete spilled into Glen Echo Creek while an abandoned water main was being filled. Effects from the spill extended about one mile from the source, impacting both open creek sections and City of Oakland storm drains. This event resulted in an extensive clean-up effort, multiple regulatory agencies visiting the spill site, and significant media coverage the first week after the incident. The initial spill response was completed in May 2015 and long-term impacts that will require restoration measures are currently being evaluated.

The strategic plan KPI for Lost Time Injury Rate (LTIR) is less than or equal to 3.0. The District's LTIR for FY15 was 1.79. The LTIR measures the number of work-related injuries or illnesses resulting in days away from work per 100 employees.

## **DISCUSSION**

An overview of compliance issues during the last fiscal year follows. More details on these and other efforts are provided in the attached report.

### **Environmental Compliance**

In August 2014, the District received an NOV for a missed water quality sample in the second quarter of 2014 at the Clay Station Raw Water Pumping Plant. Staff implemented new communication procedures to prevent reoccurrence. Also in August 2014, an NOV was received for samples not having been collected at the Camanche North Shore Water Treatment Plant in June 2014. This NOV was contested as there was no flow to sample at that time. In February 2015, the District received an NOV for settleable solids and total suspended solids exceedances in a discharge from the Folsom South Canal Connection (FSCC) pipeline project. Staff explained that this discharge never reached receiving waters. In March 2015, the District received an NOV for missed sampling at Camanche North Shore Water Treatment Plant in the first and second quarters of 2014. Staff contested these NOVs because there were no discharges occurring and report cover letters have since been amended to indicate when there is no flow to sample. In June 2015, the District received an NOV for an unreported flow volume at the Camanche South Shore Water Treatment Plant. This NOV was contested as this was a simple reporting error that has been corrected. Lastly, also in June 2015, the District received an NOV for a chlorine residual exceedance at the Pardee Area Water Treatment Plant for a low-level chlorine residual in a discharge to land from the filter backwash system. Staff explained to the RWQCB that this water did not reach receiving waters, therefore, there were no impacts to beneficial uses. This NOV may result in a minimum mandatory penalty of \$3,000.

No air permit violations were received during the reporting period.

A cellular concrete spill into Glen Echo Creek on April 8, 2015, was one of the largest environmental spill responses ever undertaken by the District. Flowing cellular concrete was present about a half mile from the spill origin and concrete fines were found settling in the creek about a mile downstream. The response was managed under incident command in the field for 21 days. During the first nine days, the response was managed jointly with the California Department of Fish and Wildlife (CDFW). Other agencies visiting the site initially included the City of Oakland Public Works, the San Francisco RWQCB, and the Alameda County Department of Public Health. The clean-up recovered about 97 percent of the spilled material. The District has issued a contract to evaluate the creek for damage and propose a restoration plan to address any lingering effects from the spill. The District will be meeting with the SWRCB, RWQCB and CDFW to discuss potential enforcement actions.

The District and the Bureau of Land Management (BLM) completed a value engineering study to confirm the preferred remediation alternative for three abandoned mine tailings impoundments northeast of the Camanche Reservoir. District staff met with BLM staff on February 13, 2015, to discuss cost sharing, funding for the remediation project, and next steps to move the project

forward. On May 27, 2015, District staff met BLM staff from California, Denver, and Washington D.C., in the field so that their risk assessors could make final recommendations to the selected alternative. Staff continues to discuss remediation options with BLM to finalize this project and complete the remediation.

### **Workplace Health and Safety**

A Water Distribution Plumber experienced a serious injury on February 25, 2015, which was immediately reported to Cal/OSHA. The injury resulted in the employee losing a small portion of his finger while installing a valve box. A valve box allows access to operate a valve in a buried pipeline. Cal/OSHA visited a job site performing similar work on March 9, 2015, in order to perform an investigation of the injury. The investigation resulted in the District receiving a General Citation of Title 8 §3203(a)(4) and (a)(6) for not having an effective Injury and Illness Prevention Program. The District was fined \$340 for the citation. The corrective actions for the incident included updating the standard drawing for valve box installations to prevent pinch points, and a Job Hazard Analysis (JHA) which was completed and presented to all plumbers. This inspection is now closed.

Cal/OSHA investigated an asbestos-related employee complaint at the South Reservoir construction project on March 10, 2015. The complaint was related to asbestos removal work that was being conducted at the reservoir. The inspection resulted in a “Notice of No Violation After Inspection.” This inspection is now closed.

The District continues to make progress in reducing the number of lost time injuries. The District has lowered its LTIR from 4.16 in FY10 to 1.79 in FY15 and lowered the number of lost time injuries from 63 in FY10 to 28 for FY15. The LTIR measures the number of injuries or illnesses resulting in days away from work per 100 employees. During the last few years, staff increased focus on preventing injuries by increasing supervisor presence in the field; tracking more leading indicators such as number of local safety committee meetings held, safety training hours completed, and injury investigation reports completed; and presenting lost time injury investigation results at management staff meetings.

Staff continues to review health and safety programs for areas of improvement. Musculoskeletal injuries (e.g., sprains, strains, etc.) are the most common type of injury for District employees. Staff focuses on engineering controls to reduce hazards that cause these types of injuries. Examples include the use of mechanical drive devices to open and close gate valves rather than doing this task manually, and increased use of a pavement breaker fitted to a backhoe to remove pavement rather than manual use of pavement breakers.

### **Key Upcoming Regulatory Compliance Activities**

During the next six months, the District will continue to work with the SWRCB, the San Francisco RWQCB, and Bay Area water agencies to implement the state’s new General NPDES Permit for Drinking Water Discharges. The permit was adopted by the state on November 18,

2014, and went into effect on February 26, 2015. The District submitted its Notice of Intent (NOI) application package on June 26, 2015, to the SWRCB and is presently awaiting a Notice of Applicability. Implementation activities such as training and updates to applicable Standard Operating Procedures and manuals are currently being developed or updated. The District will continue to train staff on permit requirements and create the necessary procedures to ensure compliance with the state's General NPDES Permit for Drinking Water Discharges.

The District completed negotiations on a new NPDES permit for the Orinda Water Treatment Plant with the San Francisco RWQCB. Staff successfully reduced monitoring requirements to ensure consistency with the SWRCB's new permit for drinking water discharges. The new permit was adopted by the RWQCB in September 2015 and will become effective on January 1, 2016.

The Penn Mine landfill continues to be monitored to verify reductions in leachate generation following completion of a \$650,000 project to reduce stormwater intrusion into the landfill. The project was jointly funded by the Central Valley RWQCB, the original landfill construction contractor and the District.

The District is finalizing the pilot remediation study and reports, overseen by the US Army Corps of Engineers at the former Lake Chabot Machine Gun Range on Miller Road in Castro Valley, jointly with the Department of Toxic Substances Control, to formally close out the site. A public meeting was held October 6<sup>th</sup> in the Castro Valley Library to present the results.

ARC:MRA:ss

Attachment

## **REGULATORY COMPLIANCE SEMI-ANNUAL REPORT**

### **March 2015 through August 2015**

In accordance with District Policies 7.05 (Sustainability) and 7.09 (Workplace Safety and Health), this report provides the status of the District's efforts to meet the objectives of those policies and comply with environmental, health, and safety regulations.

### **CONTENTS**

- Status of compliance with National Pollutant Discharge Elimination System (NPDES) and Water Discharge Requirements (WDR) permits.
- Status of compliance with air permits and regulations.
- Review of facility and job site audits, inspections, and training provided to District staff.
- A summary of other environmental issues.

### **NPDES PERMITS/WDR ISSUES**

Main Wastewater Treatment Plant (MWWTP) and Wet Weather Facilities (WWFs) Compliance: No reportable incidents occurred during the reporting period. On May 13, 2015 the San Francisco RWQCB adopted a new NPDES order for the MWWTP after significant negotiation with staff.

Richmond Advanced Recycled Expansion (RARE) Facility: The recycled water facility located at the Chevron property in the City of Richmond exceeded the lower pH limit in the wastewater discharge permit to West County Wastewater District (WCWD) on June 14, 2015. The exceedance was caused by too many acidic clean-in-place (CIP) filter washes during a relatively short period of time. Operations staff is now spacing out the CIP washes to avoid the discharge of low pH wastewater. The exceedance was reported to WCWD and no NOV is expected for this event.

Orinda Water Treatment Plant Compliance: On May 27, 2015, the District exceeded the permit discharge limit for Dichlorobromomethane (DCBM) from the discharge location which allows Sacramento River water to flow from the FSCC into the San Pablo Reservoir. The exceedance was related to high chlorination disinfection concentrations. DCBM is a by-product of the chlorination process. The high chlorination levels were necessary to prevent the potential transfer of invasive and predatory species from Sacramento River water. After disinfection is accomplished, the water is dechlorinated before discharge to the local terminal reservoirs, however the DCBM remains. The District conducted monitoring of San Pablo Reservoir during the high DCBM discharge and data indicated that the discharge had no impacts on the reservoir. The District discussed with San Francisco RWQCB staff the exceedance and operational challenges required to meet potable water demands during the drought while protecting the native species in local reservoirs. No violation notice has been received from the RWQCB regarding this discharge.

Statewide General NPDES Permit for Drinking Water Discharges: On November 18, 2014, the SWRCB adopted a new statewide General NPDES Permit for Drinking Water Discharges. The state's new permit went into effect on February 26, 2015, and all NOIs to apply for coverage under the new permit were due no later than September 1, 2015. The District submitted its NOI on June 26, 2015 and is still awaiting a Notice of Applicability from the SWRCB confirming the District's coverage. Staff has contacted the SWRCB and there is currently a backlog of NOI reviews by SWRCB staff. It is estimated the SWRCB will have an opportunity to review the District's NOI by November 2015. The new permit will provide coverage for all drinking water discharges at East Bay facilities as well as upcountry, with the exception of water treatment plant filter backwash. Staff continues to collaborate with Alameda County Water District, California Water Service Company, Contra Costa Water District, Marin Municipal Water District, San Francisco Public Utilities Commission, San Jose Water Company, and Zone 7 Water Agency during the implementation process to share information and compliance resources.

Upcountry Water Treatment Plants NOV's: The District received three NOV's during this reporting period, but staff has contested two of the NOV's. The first NOV was issued on March 19, 2015 for uncollected samples in receiving waters during the third and fourth quarter of 2014 at the Camanche North Shore Recreation Area Water Treatment Plant. The District has contested this NOV. No samples could be collected because the receiving waters were dry during this reporting period. Staff has modified the quarterly reports to clearly state when samples are not collected due to dry receiving waters. A second NOV was received on June 30, 2015, for a missed flow measurement at the Camanche South Shore Water Treatment Plant. A letter was provided to the Central Valley RWQCB clarifying that the violation was in error because there was no discharge from the facility; therefore, no flow could be reported. The third NOV, also received on June 30, 2015, was for a chlorine residual violation from the Pardee Recreation Area Water Treatment Plant which discharged to land. There were no environmental impacts from the low chlorine residual which measured only slightly above permit limits. The District has installed holding tanks to better control the discharge of the filter backwash to land which allow for a more controlled discharge and longer retention times to control both pH and chlorine residual.

Upcountry Wastewater Treatment Plants – Individual and General WDRs: The District is operating under expired WDRs at several facilities. The facilities and their permit adoption dates are as follows: Camanche North Shore (1995), Camanche South Shore (2002), Pardee Recreation (2001), and Pardee Center (2003). The SWRCB adopted General Order 2014-0153-DWQ on September 23, 2014, for discharges to land by small domestic wastewater treatment systems. District staff is working on a strategy for eventual long term compliance under the new revised general order.

Camanche North Shore Wastewater Treatment Plant Compliance: The District missed a weekly coliform sampling event during June 2015 at the facility due to a scheduling error. A make-up sample was collected the following week. No NOV is expected from the incident per conversations with the Central Valley RWQCB.

FSCC Compliance: On March 2, 2015, the District received an NOV from the Central Valley RWQCB regarding an exceedance of settleable solids and total suspended solids for a discharge of drinking water from the FSCC Pipeline in San Joaquin County. The July 16, 2014 discharge, which resulted from a pipe dewatering operation, was directed towards a tributary of Bear Creek. However, the tributary was dry at the time of the discharge and all of the flow infiltrated the ground, never reaching surface waters. Staff does not anticipate any penalties from the RWQCB

on these exceedances as there were no impacts to receiving waters. Furthermore, in the future, such discharges will be covered by the state's recently adopted General NPDES Permit for Drinking Water Discharges and the discharge in this case would have been in full compliance with the new permit requirements. On April 28, 2015, staff sent a letter to the RWQCB that explained in detail that this discharge did not impact receiving waters.

## **AIR PERMITS AND REGULATORY COMPLIANCE**

MWWTP – Title V Permit and Permit to Operate: On June 24 and June 30, 2015, minor air exceedances occurred at the MWWTP blend tank odor control unit. An emissions test of the odor control unit exhaust indicated emissions exceeded the limit for organics. Several actions were taken to improve the performance of the odor control unit, most notably, topping off the carbon in the carbon canister to reduce short circuiting of the air through the odor control unit. The exceedances were reported to the Bay Area Air Quality Management District and no violation has been issued at this time.

## **AUDITS, INSPECTIONS, AND TRAINING**

Jobsite Inspections: Jobsite inspections of construction and maintenance worksites are conducted on a random, unannounced basis to review jobsite safety and environmental compliance. During FY15, staff conducted 97 of 100 planned jobsite inspections. Any unsatisfactory items were communicated to the site supervisor and manager to be addressed.

Training: Staff delivers almost all of the business continuity, security, emergency preparedness, health and safety, and environmental compliance training for the District's workforce. In FY15, 17,868 student-hours of training were delivered. Typically, training includes safety academies, new employee safety orientation, section staff/tailgate meetings, and open enrollment training.

## **OTHER ENVIRONMENTAL ISSUES**

Former Lake Chabot Machine Gun Range – Miller Road, Castro Valley: The area downstream from the Upper San Leandro Reservoir Dam was used during World War II as a training facility for naval aircraft gunners. The range included barracks, maintenance facilities, and water and sewage systems for 150 men. The District currently leases a portion of this land to a Christmas tree farm. The US Army Corps of Engineers (Army Corps) is completing their Remedial Investigation/Feasibility Study (RI/FS) activity. The Army Corps conducted a soil removal pilot study that involved vacuum excavating the top one foot of soil in two delineated sampling grids that have been identified as having elevated levels of polycyclic aromatic hydrocarbons in the shallow soil. A final report on the remediation study was completed in October 2014 and was reviewed by the District and the Department of Toxic Substances Control (DTSC) jointly with the Army Corps. The group determined that no additional remediation steps are necessary and no future use restrictions are required. In December 2014, the District sent a letter to DTSC confirming that because no land use restrictions would be placed on the property, the District intends to move forward to finalize the RI/FS process with the Army Corps. The Army Corp is finalizing their proposed plan that will recommend (and request) no further action at the site. DTSC has contacted the District to inform staff that regulatory closure of the site has been approved with the caveat that some contamination will remain in place and that the District not build a school or childcare facility on the property in the future. Official closure is pending formal written notice from DTSC of their action.

