California Regional Water Quality Control Board

Linda S. Adams
Secretary for
Environmental Protection

San Francisco Bay Region
1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

TENTATIVE ORDER NO. R2-2011-XXXX

AMENDMENT TO ADD PCBs WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL AND INDUSTRIAL WASTEWATER DISCHARGES OF MERCURY TO SAN FRANCISCO BAY

WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter "Regional Water Board"), finds that:

1. The Regional Water Board issued waste discharge requirements for mercury (R2-2007-0077) that serve as a National Pollutant Discharge Elimination System (NPDES) permit for most wastewater discharges of mercury in the San Francisco Bay Region that discharge to San Francisco Bay.

2. This Order amends Order R2-2007-0077 to add or revise Polychlorinated Biphenyls (PCBs) effluent limits and monitoring and reporting requirements for the dischargers listed in Table 1. Those dischargers covered in R2-2007-0077 but who are not in Table 1 of this Order are not affected by this Order. The limits and requirements in this Order are based on the wasteload allocations and implementation requirements of the PCBs total maximum daily load (TMDL) and implementation plan for San Francisco Bay. The Regional Water Board adopted the TMDL on February 13, 2008, and the TMDL became effective on March 29, 2010, after approvals by the State Water Resources Control Board, the Office of Administrative Law, and the U.S. EPA.

3. The Fact Sheet attached to this Order as Attachment F contains background information and rationale for this Order's requirements. It is hereby incorporated into this Order and therefore constitutes part of the findings for this Order.

4. This Order is exempt from the provisions of the California Environmental Quality Act pursuant to California Water Code §13389.

5. The Regional Water Board notified the dischargers listed in Table 1 and interested agencies and persons of its intent to consider adoption of this Order, and provided an opportunity to submit written comments.

6. In a public meeting, the Regional Water Board heard and considered all comments pertaining to this Order.

Table 1
DISCHARGERS SUBJECT TO PCBs LIMITS AND REQUIREMENTS

Discharger	NPDES Permit No.	Existing Order No.[1]	Existing Order Adoption Date	Existing Order Expiration Date
American Canyon, City of	CA0038768	R2-2006-0036	6/14/06	6/30/11
Benicia, City of	CA0038091	R2-2008-0014	3/12/08	5/30/13
Burlingame, City of	CA0037788	R2-2008-0008	1/30/08	3/31/13
Calistoga, City of	CA0037966	R2-2010-0104	9/08/10	10/31/15
Central Contra Costa Sanitary District	CA0037648	R2-2007-008	1/23/07	3/31/12
Central Marin Sanitation Agency	CA0038628	R2-2007-007	1/23/07	3/31/12
Contra Costa County Sanitation District No. 5, Port Costa	CA0037885	R2-2008-0005	1/30/08	3/31/13
Delta Diablo Sanitation District	CA0038547	R2-2009-0018	3/11/09	4/30/14
East Bay Dischargers Authority	CA0037869	R2-2006-0053	8/09/06	9/30/11
Union S.D. Wet Weather Outfall	CA0038733	R2-2010-0097	7/14/10	8/31/15
Union S.D. Hayward Marsh	CA0038636	R2-2006-0031	5/10/06	5/09/11
Dublin San Ramon Services District	CA0037613	R2-2006-0054	8/09/06	9/30/11
City of Livermore	CA0038008	R2-2006-0055	8/09/06	9/30/11
LAVWMA Wet Weather Outfall	CA0038679	R2-2006-0026	4/12/06	6/08/11
East Bay Municipal Utilities Dist. WWTP	CA0037702	R2-2010-0060	3/10/10	4/30/15
Fairfield-Suisun Sewer District	CA0038024	R2-2009-0039	4/8/09	5/31/14
Las Gallinas Valley Sanitary District	CA0037851	R2-2009-0070	10/14/09	11/30/14
Marin County (Paradise Cove), Sanitary District No. 5 of	CA0037427	R2-2006-0037	6/14/06	6/30/11
Marin County (Tiburon), Sanitary District No. 5 of	CA0037753	R2-2008-0057	7/9/08	8/31/13
Millbrae, City of	CA0037532	R2-2008-0071	8/13/08	9/30/13
Mt. View Sanitary District	CA0037770	R2-2010-0114	11/10/10	12/31/15
Napa Sanitation District	CA0037575	R2-2011-		

Discharger	NPDES Permit No.	Existing Order No.[1]	Existing Order Adoption Date	Existing Order Expiration Date
		xxxx		
Novato Sanitary District	CA0037958	R2-2010-0074	5/12/10	6/30/15
Palo Alto, City of	CA0037834	R2-2009-0032	4/08/09	5/31/14
Petaluma, City of	CA0037810	R2-2011-xxxx		
Pinole, City of	CA0037796	R2-2007-0024	3/14/07	5/31/12
Rodeo Sanitary District	CA0037826	R2-2006-0062	9/13/06	11/30/11
Saint Helena, City of	CA0038016	R2-2010-0105	9/08/10	10/31/15
San Francisco, City and County of, San Francisco International Airport, Sanitary	CA0038318	R2-2007-0058	8/8/07	9/30/12
San Francisco (Southeast Plant), City and County of	CA0037664	R2-2008-0007	1/30/08	3/31/13
San Jose/Santa Clara, Cities of	CA0037842	R2-2009-0038	4/8/09	5/31/14
San Mateo, City of	CA0037541	R2-2007-0075	11/1/07	1/31/13
Sausalito-Marin City Sanitary District	CA0038067	R2-2007-0054	8/8/07	9/30/12
Sewerage Agency of Southern Marin	CA0037711	R2-2007-0057	8/8/07	9/30/12
Sonoma Valley County Sanitation District	CA0037800	R2-2008-0090	10/8/08	11/30/13
South Bayside System Authority	CA0038369	R2-2007-0006	1/23/07	3/31/12
South San Francisco and San Bruno, Cities of	CA0038130	R2-2008-0094	11/12/08	12/31/13
Sunnyvale, City of	CA0037621	R2-2009-0061	8/12/09	9/30/14
US Naval Support Activity, Treasure Island	CA0110116	R2-2010-0001	1/13/10	2/28/15
Vallejo Sanitation and Flood Control District	CA0037699	R2-2006-0056	8/09/06	9/30/11
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	CA0038539	R2-2008-0003	1/30/08	3/31/13
Yountville, Town of	CA0038121	R2-2010-0017	5/12/10	6/30/15

Discharger	NPDES Permit No.	Existing Order No.[1]	Existing Order Adoption Date	Existing Order Expiration Date
Industrial Wastewater Discharger (Petroleum Refinery)				
Chevron Products Company	CA0005134	R2-2006-0035	6/14/06	6/13/11
ConocoPhillips	CA0005053	R2-2005-0030	6/15/05	8/31/10
Shell Oil Products US and Equilon Enterprises LLC	CA0005789	R2-2006-0070	10/11/06	10/31/11
Tesoro Refining & Marketing Co.	CA0004961	R2-2010-0084	6/09/10	6/30/15
Valero Refining Company	CA0005550	R2-2009-0079	11/18/09	12/31/14
Industrial Wastewater Discharger (Non-Petroleum Refinery)				
C&H Sugar and Crockett Community Services District	CA0005240	R2-2007-0032	4/11/07	5/31/2012
Pacific Gas and Electric Company (PG&E)	CA0030082	R2-2006-0010	2/8/06	3/31/11
Rhodia, Inc.	CA0006165	R2-2010-0058	3/10/10	4/30/15
San Francisco, City and County of, San Francisco International Airport, Industrial	CA0028070	R2 2007-0060	8/8/08	9/30/12
USS-Posco Industries	CA0005002	R2-2006-0029	5/10/06	6/30/11

[1] The orders shown are for the individual permits and do not include permit amendments (if any).

IT IS HEREBY ORDERED, pursuant to the provisions of California Water Code Division 7 and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, that the PCBs requirements in this Order supercede all existing PCBs requirements in the Orders listed in Table 1 as amended, or impose new PCBs requirements for the dischargers listed in Table 1, and that these dischargers shall comply with Order R2-2007-0077, as amended by this Order:

1. **Add to R2-2007-0077, at section III. Effluent Limitations and Discharge Specifications the following new subsection:**

   C. PCBs Effluent Limitations and Discharge Specifications

   Each Discharger subject to PCBs effluent limitations shall comply with the PCBs limitations set forth for it in Tables 6A and 8A, below, with compliance measured at the monitoring location described in the MRP (Attachment E) of that Discharger's individual permit for treatment plant effluent or treated wastewater as discharged.

Table 6A
MUNICIPAL PCBs EFFLUENT LIMITATIONS

Discharger	Average Monthly Effluent Limit (µg/L)	Maximum Daily Effluent Limit (µg/L)
American Canyon, City of	0.00039	0.00049
Benicia, City of	0.012	0.017
Burlingame, City of	0.012	0.017
Calistoga, City of	0.012	0.017
Central Contra Costa Sanitary District	0.012	0.017
Central Marin Sanitation Agency	0.012	0.017
Contra Costa County Sanitation District No. 5, Port Costa	0.012	0.017
Delta Diablo Sanitation District	0.012	0.017
East Bay Dischargers Authority, including City of Hayward, City of San Leandro, Oro Loma Sanitary District, Castro Valley Sanitary District, Union Sanitary District, Livermore-Amador Valley Water Management Agency (LAVWMA), Dublin San Ramon Services District, and City of Livermore	0.012	0.017
East Bay Municipal Utilities District, Wastewater Treatment Plant	0.012	0.017
Fairfield-Suisun Sewer District	0.00039	0.00049
Las Gallinas Valley Sanitary District	0.012	0.017
Marin County (Paradise Cove), Sanitary District No. 5	0.012	0.017
Marin County (Tiburon), Sanitary District No. 5	0.012	0.017
Millbrae, City of	0.012	0.017
Mt. View Sanitary District	0.00039	0.00049
Napa Sanitation District	0.012	0.017
Novato Sanitary District	0.012	0.017
Palo Alto, City of	0.00039	0.00049
Petaluma, City of	0.012	0.017
Pinole, City of	0.012	0.017
Rodeo Sanitary District	0.012	0.017
Saint Helena, City of	0.012	0.017
San Francisco, City and County of, San Francisco International Airport, Sanitary	0.012	0.017
San Francisco (Southeast Plant), City and County of	0.012	0.017
San Jose/Santa Clara, Cities of	0.00039	0.00049
San Mateo, City of	0.012	0.017
Sausalito-Marin City Sanitary District	0.012	0.017
Sewerage Agency of Southern Marin	0.012	0.017
Sonoma Valley County Sanitary District	0.012	0.017
South Bayside System Authority	0.012	0.017
South San Francisco and San Bruno, Cities of	0.012	0.017
Sunnyvale, City of	0.00039	0.00049
US Naval Support Activity (Treasure Island)	0.012	0.017
Vallejo Sanitation and Flood Control District	0.012	0.017
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	0.012	0.017
Yountville, Town of	0.012	0.017

Table 8A
INDUSTRIAL PCBs EFFLUENT LIMITATIONS

Discharger	Average Monthly Effluent Limit (µg/L)	Maximum Daily Effluent Limit (µg/L)
Industrial Wastewater Discharger (Petroleum Refinery)		
Chevron Products Company	0.00095	0.0015
ConocoPhillips	0.00095	0.0015
Shell Oil Products US	0.00095	0.0015
Tesoro Refining & Marketing Co.	0.00095	0.0015
Valero Refining Company	0.00095	0.0015
Industrial Wastewater Discharger (Non-Petroleum Refinery)		
C&H Sugar and Crockett Community Services District	0.012	0.018
Pacific Gas and Electric Company (PG&E)	0.012	0.018
Rhodia, Inc.	0.012	0.018
San Francisco, City and County of, San Francisco International Airport, Industrial	0.012	0.018
USS-Posco Industries	0.012	0.018

2. Add to R2-2007-0077, at Attachment E, Monitoring and Reporting Program, section III. Effluent Monitoring Requirements the following new subsection:

A. PCBs Monitoring Requirements

Dischargers subject to PCBs effluent limitations in this Order shall comply with the monitoring requirements outlined in Table E-2A, below. These Dischargers shall conduct monitoring at the same locations required by Order No. R2-2007-0077, Monitoring and Reporting Program, Section II Monitoring Locations.

Table E-2A
PCBs MONITORING REQUIREMENTS

Parameter	Sample Type	Minimum Sampling Frequency[1]
Total PCBs (as aroclors)[2]	Grab[3]	Semi-annually for Major Dischargers
		Annually for Minor Dischargers
Total PCBs (as congeners)[4]	Grab[3]	Quarterly for Major Dischargers with Design Flow[5] > 5.0 mgd
		Semi-annually for Major Dischargers with Design Flow $\leq$ 5.0 mgd
		Annually for Minor Dischargers

1. Intermittent or seasonal dischargers shall collect samples during those months for which a discharge occurs. Major and minor discharge designations are indicated on each Discharger's individual permit and are also shown on Tables 1A and 1B of R2-2007-0077.
2. Dischargers shall use USEPA Method 608 for this monitoring. These data will be used for assessing compliance with the limits in Tables 6A and 8A. Non-detected and/or estimated values shall be treated as zeros in the calculation of Total PCBs.

3. Grab Samples shall be collected coincident with composite samples collected for the analysis of other regulated parameters.
4. This monitoring is for informational purposes. Dischargers shall use USEPA Proposed Method 1668c and report the results for all 209 congeners.
5. The design flows for each facility are included in Tables F-1A and F-1B of the Fact Sheet.

3. Add to R2-2007-0077, at Attachment E, Monitoring and Reporting Program section IV. Reporting Requirements the following new subsection:

D. Reporting of PCBs Monitoring Data

Each Discharger subject to PCBs effluent limitations of this Order shall submit PCBs monitoring data collected in its regular monthly or quarterly Self Monitoring Reports (SMR) required in that Discharger's individual permit. These data shall include detection limits, reporting levels, estimated values, or quantified values for all Aroclors using EPA Method 608, and for all 209 PCB congeners using USEPA Proposed Method 1668c.

4. Add to R2-2007-0077, at section V.C Special Provisions the following new subsection:

7. PCBs Source Identification and Control

By February 28, 2012, and every two years afterwards, each Discharger subject to PCBs effluent limitations of this Order shall evaluate and identify controllable sources of PCBs to its treatment system (e.g., industrial uses of equipment that contain PCBs, buildings with PCB containing sealants that are scheduled for remodeling or demolition). Each Discharger shall submit the results of this evaluation, including any proposed control actions, in its annual pollution prevention reports required by its individual NPDES permit.

5. Add to R2-2007-0077, at section V.C the following new subsection:

8. PCBs Discharge Adjustment for Recycled Wastewater Use by Industrial Dischargers and for Urban Stormwater Treatment by Municipal Dischargers

a. ***Adjustment for Recycled Water Use by Industrial Dischargers***
When an industrial Discharger uses recycled wastewater from a municipal Discharger, the industrial Discharger may, at its option, apply an adjustment (hereinafter PCBs Adjustment) to its PCBs discharge concentration when determining compliance with its concentration limits specified in Table 8A of this Order. The PCBs Adjustment shall be based on measured influent PCBs levels from the recycled wastewater in accordance with the following:

i. The Industrial Discharger shall sample and analyze the influent recycled wastewater and the effluent discharge at least quarterly. Influent sampling shall include measurement of daily flow volume for the entire duration that Adjustments are applied. Influent sampling shall occur at an appropriate influent sampling station as identified in the Discharger's individual permit.

ii. The Industrial Discharger shall determine the time interval between introduction of a given constituent of concern in the influent recycled water and a lag time for when the constituent appears in the final effluent. The basis for this determination must be included in any calculation of a PCBs Adjustment.

iii. Calculation of PCBs Adjustment.

Influent concentration multiplied by total influent recycled water flow volume for that monitoring interval will yield an influent mass, which is valid for that monitoring interval. This influent mass is then divided by the total effluent flow volume for the time interval following the appropriate lag time described in 8.a.ii. above, for that monitoring period to give a PCBs Adjustment that will apply for the monitoring interval. The monitoring interval is the monitoring frequency expressed in days. For example, quarterly monitoring yields a 90-day monitoring interval. An example follows:

ex. PCBs is monitored quarterly. The lag time is Y days.

Step 1: {(Influent concentration of PCBs in Recycled Wastewater) – (Influent concentration of PCBs in potable water)} x (Total Influent Volume of Recycled Wastewater for the quarter) = (Influent mass of PCBs from Recycled Wastewater)

Step 2: (Influent mass) ÷ (Total effluent discharge volume for the 90-day period, Y days after influent sampled) = (PCBs Adjustment to be subtracted from concentration of PCBs in the discharge, valid for that quarter)

b. ***Adjustment for Urban Runoff Treatment by Municipal Dischargers***
When a municipal Discharger accepts and treats in all or parts of its municipal wastewater treatment facility urban runoff that is diverted from municipal separate storm sewer systems, the municipal Discharger may, at its option, apply an adjustment (hereinafter Runoff Adjustment) to its PCBs discharge concentration when determining compliance with its concentration limits specified in Table 6A provided the total mass used in Runoff Adjustments from all municipal dischargers does not exceed one kg/year. The Runoff Adjustment shall be based on measured influent PCBs levels from urban runoff in accordance with the following:

i. The municipal Discharger shall have data from representative sample or samples of the urban runoff targeted for diversion. Separate sampling will be necessary to characterize dry weather diversions and wet weather diversions. The Discharger shall measure daily flow volumes for the entire duration that Runoff Adjustments are to be applied. The Discharger shall measure these flows at an appropriate influent sampling station as identified in the Discharger's individual permit, and shall categorize each diversion as a dry weather diversion or a wet weather diversion.

ii. Calculation of Runoff Adjustment

Influent concentration multiplied by total influent urban flow volume for that monitoring interval will yield an influent mass, which is valid for that monitoring interval. This influent mass is then divided by the total effluent flow volume for the time period that PCBs effluent monitoring is applicable (e.g., 90 days for quarterly monitoring, 180 days for semi-annual monitoring). For this period, this will give a Runoff Adjustment that will apply for the monitoring interval, which is based on

the frequency of effluent monitoring. For example, sampling effluent quarterly yields a 90-day monitoring interval. An example follows:

ex. PCBs is monitored in effluent quarterly.

Step 1: {(Influent concentration of PCBs in Dry Weather) x (Volume of Dry Weather Diversion for the quarter) + (Influent concentration of PCBs in Wet Weather) x (Volume of Wet Weather Diversion for the quarter)} = (Influent mass of PCBs from Urban Runoff)

Step 2: (Influent mass) ÷ (Total effluent discharge volume for the 90-day period) = (Runoff Adjustment to be subtracted from concentration of PCBs in the discharge, valid for that quarter)

6. This Order shall become effective on April 1, 2011.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on **date**.

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Bruce H. Wolfe
Executive Officer

ATTACHMENT F

FACT SHEET

This Fact Sheet describes the legal requirements and technical rationale that serve as the basis for this Order's requirements. This Fact Sheet constitutes a portion of the findings for the Order.

Purpose

The purpose of the Order is to include Polychlorinated Biphenyls (PCBs) limits in the orders listed in Table 1 with WQBELs based on current performance. Tables F-1A and F-1B provide information about the facilities this Order covers. This Order implements the San Francisco Bay PCBs TMDL adopted by the Regional Water Board on February 13, 2008, approved by the State Water Board on October 20, 2009, and approved by the USEPA on March 29, 2010. Upon this Order's effective date, it will supersede PCBs requirements in the Orders listed in Table 1.

TABLE F-1A
MUNICIPAL FACILITY INFORMATION

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Design Flow (mgd)
American Canyon, City of	Robert C. Weil Public Works Director (707) 647-4550	300 Crawford Way American Canyon, CA 94503	Advanced Secondary	2.5
Benicia, City of	Jerry Gall Superintendent (707) 746-4336	Same as Facility Address	Secondary	4.5
Burlingame, City of	Phil Scott Public Works Superintendent (650) 738-4663	501 Primrose Burlingame, CA 94010	Secondary	5.5
Calistoga, City of	Dan Takasugi Public Works Director (707) 942-2828	414 Washington Street Calistoga, CA 94515	Secondary	0.84
Central Contra Costa Sanitary District	Margaret Orr Director of Operations (925) 228-9500	Same as Facility Address	Secondary	53.8
Central Marin Sanitation Agency	Robert Cole Environmental Services Manager (415) 459-1455	1301 Andersen Drive San Rafael, CA 94901	Secondary	10
Contra Costa County Sanitation District No. 5, Port Costa	Warren Lai (925) 313-2253 wlai@pw.co.contra-costa.ca.us	Contra Costa County Public Works 255 Glacier Drive Martinez, CA 94553	Secondary	0.033

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Design Flow (mgd)
Delta Diablo Sanitation District	Gary W. Darling General Manager (925) 756-1920	Same as Facility Address	Secondary	16.5
East Bay Dischargers Authority: EBDA Common Outfall	Mike Connor General Manager (510) 278-5910	2651 Grant Avenue San Lorenzo, CA 94580	Secondary	105.8
Hayward Water Pollution Control Facility				
San Leandro Water Pollution Control Plant				
Oro Loma/Castro Valley Sanitary Districts Water Pollution Control Plant				
Raymond A. Boege Alvarado Wastewater Treatment Plant				
Livermore-Amador Valley Water Management Agency (LAVWMA) Export and Storage Facilities				
Dublin San Ramon Services District Wastewater Treatment Plant				
City of Livermore Water Reclamation Plant				
East Bay Municipal Utilities District Main Wastewater Treatment Plant	Dave Williams Director of Wastewater (510) 287-1496	P.O. Box 24055 Oakland, CA 94623-1055	Secondary	120
Fairfield-Suisun Sewer District	Meg Herston Environmental Compliance Engineer (707) 428-9109	Same as Facility Address	Advanced Secondary	17.5
Las Gallinas Valley Sanitary District	Mark Williams District Manager (415) 472-1734	300 Smith Ranch Rd San Rafael, CA 94903-1929	Secondary	2.92
Marin County (Paradise Cove), Sanitary District No. 5 of	Robert L. Lynch District Manager (415) 435-1501	P.O. Box 227 Tiburon, CA 94920	Secondary	0.08

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Design Flow (mgd)
Marin County (Tiburon), Sanitary District No. 5 of	Robert L. Lynch District Manager (415) 435-1501	P.O. Box 227 Tiburon, CA 94920	Secondary	0.98
Millbrae, City of	Khee Lim City Engineer (650) 259-2347	621 Magnolia Avenue Millbrae, CA 94030	Secondary	3
Mt. View Sanitary District	Michael Roe District Manager (925) 228-5635 ext. 32	P. O. Box 2757 Martinez, CA 94553	Advanced Secondary	3.2
Napa Sanitation District	Tim Healy General Manager (707) 258-6000 x508	935 Hartle Court Napa, CA 94559	Secondary	15.4
Novato Sanitary District	Beverly James General Manager (415) 892-1694 x111	500 Davidson Street Novato, CA 94945	Secondary	5.4
Palo Alto, City of	Phil Bobel Environmental Compliance Manager (650) 329-2285	2501 Embarcadero Way, Palo Alto, CA 94303	Advanced Secondary	39
Petaluma, City of	Matthew Pierce Operations Supervisor (707) 776-3777	202 N. McDowell Blvd. Petaluma, CA 94954	Secondary	5.2
Pinole, City of	Ken Coppo Plant Manager (510) 724-8963	1 Tennant Avenue, Pinole, CA, 94564	Secondary	4.06
Rodeo Sanitary District	Steven S. Beall Engineer-Manager (510) 799-2970	Same as Facility Address	Secondary	1.14
Saint Helena, City of	John Ferons Director of Public Works (707) 968-2746	1480 Main Street St. Helena, CA 94574	Secondary	0.05
San Francisco, City and County of (Airport Commission)	Mark Costanzo Utilities Manager (650) 642-4798	676 McDonnell Road San Francisco, CA 94128	Secondary	2.2
San Francisco (Southeast Plant), City and County of	Thomas Franza Assistant General Manager of Wastewater (415) 554-2475	1155 Market St., 11th Floor San Francisco, CA 94103	Secondary	150
San Jose/Santa Clara, Cities of	Dale Ihrke Deputy Director (408) 945-5198	700 Los Esteros Road San Jose, CA 95134	Advanced Secondary	167

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Design Flow (mgd)
San Mateo, City of	Mark Von Aspern Plant Manager (650) 522-7380	Same as Facility Address	Secondary	15.7
Sausalito-Marin City Sanitary District	Robert Simmons General Manager (415) 331-4712	#1 East Road P.O. Box 39 Sausalito, CA 94966-0039	Secondary	1.8
Sewerage Agency of Southern Marin	Steve Danehy Manager (415) 388-2402	26 Corte Madera Ave. Mill Valley, CA 94941	Secondary	3.6
Sonoma Valley County Sanitation District	Hody Wilson Operations Coordinator (707) 975-5616	Sonoma County Water Agency P.O. Box 11628 Santa Rosa, CA 95406	Secondary	3
South Bayside System Authority	Daniel Child Manager (650) 594-8411	Same as Facility Address	Secondary	29
South San Francisco and San Bruno, Cities of	Cassie Prudhel Technical Services Director (650) 829-3840	South San Francisco-San Bruno Water Pollution Control Plant 195 Belle Air Road South San Francisco, CA 94080	Secondary	13
Sunnyvale, City of	Lorrie Gervin Division Manager (408) 730-7268	Sunnyvale Water Pollution Control Plant P.O. Box 3707 Sunnyvale, CA 94088-3707	Advanced Secondary	29.5
US Naval Support Activity, Treasure Island	Patricia A. McFadden Brac Field Team Leader SF Bay Area (415) 743-4720	Navy BRAC PMOW 410 Palm Avenue, Bldg 1, Suite 161 Treasure Island, San Francisco, CA 94130-1807	Secondary	2
Vallejo Sanitation and Flood Control District	Ronald Matheson Director Manager (707) 644-8949	Same as Facility Address	Secondary	15.5
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	E.J. Shalaby District Manager (510) 222-6700	2910 Hilltop Drive Richmond, CA 94806	Secondary	28.5

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Design Flow (mgd)
Yountville, Town of	Graham Wadsworth Director of Public Works (707) 944-8851	6550 Yount Street Yountville, CA 94599	Secondary	0.55

TABLE F-1B
INDUSTRIAL FACILITY INFORMATION

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Permitted Flows (mgd)
Industrial Wastewater Discharger (Petroleum Refinery)				
Chevron Products Company	Tricia Padilla Environmental Specialist (510) 242-3021	Same as Facility Address	Industrial - Petroleum Refining	30.6
ConocoPhillips	Dennis Quilici Water Compliance Specialist (510) 245-4403	Same as Facility Address	Industrial – Petroleum Refining	33.7
Shell Oil Products US and Equilon Enterprises LLC	Steven D. Overman Senior Staff Engineer (925) 313-3281	Same as Facility Address	Industrial – Petroleum Refining	9.5
Tesoro Refining & Marketing Co.	Peter Carroll (925) 335-3497	Same as Facility Address	Industrial - Petroleum Refining	18.5
Valero Refining Company	Marcus Cole Senior Environmental Engineer (707) 745-7807	Same as Facility Address	Industrial - Petroleum Refining	3.7
Industrial Wastewater Discharger (Non-Petroleum Refinery)				
C&H Sugar and Crockett Community Services District	Tanya Akkerman Environmental Compliance Manager (510) 787-4352	Same as Facility Address	Sugar Cane Crystalline Industry	0.93
Pacific Gas and Electric Company (PG&E)	Robert M. Gray Consulting Environmental Scientist (925) 866-5508	3400 Crow Canyon Road, M-138 San Ramon, CA 94583	Flow-through pond for habitat enhancement	1 (Maximum Average Dry Weather Flow)

Discharger	Facility Contact, Title, and Phone Number	Mailing Address	Effluent Description	Permitted Flows (mgd)
Rhodia, Inc.	Anthony Koo Environmental Coordinator (925) 313-8281	Same as Facility Address	Industrial – Chemical and Allied Products, SIC Code 2891	0.8
San Francisco, City and County of, San Francisco International Airport, Industrial	Mark Costanzo Utility Manager (650) 821-7809	P.O. Box 8097 San Francisco, CA 94128	Industrial SIC Code 3721	3.9
USS-Posco Industries	David Allen Regulations Manager (925) 439-6290	P.O. Box 471 Pittsburg, CA 94565	Industrial - SIC Code 3312	28

Background

On February 13, 2008, the Regional Water Board adopted a Basin Plan Amendment for PCBs to establish the San Francisco Bay PCBs TMDL to ensure the attainment of beneficial uses and water quality objectives for San Francisco Bay. All segments of the San Francisco Bay have been identified as impaired due to elevated levels of PCBs in commercial and sport fish. Neither the narrative water quality objective, which states that controllable water quality factors shall not cause a detrimental increase in toxic substances found in bottom sediments or aquatic life, nor the numeric water quality objective of 1.7×10^{-4} µg/L for total PCBs in water is attained in San Francisco Bay. The existing beneficial use for commercial and sport fishing is not fully supported. The PCBs TMDL Implementation Plan includes three general implementation categories: control of external loadings of PCBs to the Bay, control of internal sources of PCBs within the Bay, and actions to manage risks to Bay fish consumers.

The combined PCBs load for all municipal and industrial wastewater discharges to San Francisco Bay and its tributaries represents about 7% of the bay's total PCBs load. In general, municipal and industrial wastewater dischargers operate at a high level of performance and remove PCBs via solids reduction treatment processes. This Order requires municipal and industrial dischargers to meet concentration-based effluent limitations that are consistent with the loads allocated in the TMDL.

Summary of Existing Requirements

Effective effluent limitations contained in current individual permits for the Dischargers subject to this Order are shown in Table F-2 below. Information for each Discharger is available in the individual permit and monitoring reports for that Discharger. All limits are specified in µg/l.

Table F-2. Existing Individual Permit PCBs Effluent Limits

Discharger	Average Monthly	Maximum Daily
ConocoPhillips	0.00017	0.00034
Chevron Products Company	0.00017	0.00034
Shell Oil Products and Equilon Enterprises LLC	0.00017	0.00034

The dischargers in Table F-2 have not detected PCBs in their effluent with USEPA Method 608.

Facilities not Covered by this Order

There are some wastewater dischargers covered by Order No. R2-2007-0077, and/or the PCBs TMDL, that are not covered by this permit amendment. Specifically, this Order does not cover (a) East Bay Municipal Utility District's Wet Weather Facilities, East Brother Light Station, Seafirth Estates Company, and General Chemical West because these facilities are no longer permitted to discharge to San Francisco Bay; (b) The Dow Chemical Company because this facility decommissioned its treatment facility and in July 2009 discontinued its discharge to San Francisco Bay (the Regional Water Board intends to rescind the individual NPDES Permit for Dow Chemical Company in 2011); and (c) Crocket Cogeneration, GWF Power Systems Site I and V, Mirant Delta LLC, and Mirant Potrero LLC because existing permits for these facilities prohibit them from discharging PCBs. Effluent guidelines for the steam electric power generating point source category prohibits the discharge of PCBs (40 CFR Part 423.12(b) (2) and 40 CFR Part 423.13(a)).

Basis for PCBs WQBEL Calculations

The PCBs TMDL indicates that NPDES permits shall include effluent limits based on current performance. It also indicates that the Regional Water Board will implement wasteload allocations for PCBs via numeric water quality-based effluent limitations. In other words, NPDES permits must include numeric effluent limitations, based on current performance, that are consistent with the wasteload allocations in the TMDL.

To calculate PCBs performance-based limits that are consistent with the assumptions and requirements of the PCBs TMDL, the Regional Water Board analyzed PCBs data from 1999 to 2001. These were the same data that were used in the development of the TMDL. Data were grouped into four categories (municipal secondary treatment, municipal advanced secondary treatment, petroleum refinery, and other industry). The purpose of pooling PCBs data was to calculate limits based on categories of treatment that are similar to reduce the likelihood of penalizing dischargers that have implemented effective control measures and are already performing well.

The Regional Water Board chose, as the performance limits, concentration based average monthly effluent limits (AMEL) and maximum daily effluent limits (MDEL). These limits were derived from the mean concentration of each discharge category (accounting for some uncertainty). Because the TMDL was also derived from these same mean concentrations, the performance limits calculated are consistent with the TMDL. The Regional Water Board chose these concentration limits because 40 CFR 122.45(d) requires, unless impracticable, that effluent limitations be expressed as (1) maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and (2) average

weekly and average monthly discharge limitations for POTWs. In the case of POTWs, this Order includes an MDEL instead of an average weekly limit (AWL). This is consistent with USEPA's Technical Support Document, which states: "in lieu of an AWL for POTWs, EPA recommends establishing an MDL for toxic pollutants and pollutant parameters in water quality permitting."

The Regional Water Board did not choose mass limits since concentration limits are more directly related to the performance of a facility. This is because mass limits also rely on flows. Flows are highly influenced by rainfall, which is not within the Dischargers' control. Derivation of limits with longer averaging periods, as would be required to establish mass limits, requires frequent monitoring (e.g., monthly) to capture variability. Such frequent monitoring is not a reasonable or prudent use of resources, because wastewater discharges are a small source of PCBs to the Bay relative to the high cost of analysis (~$1,000 each).

To calculate performance based AMELs and MDELs for each discharge category, the Regional Water Board equated the 99% upper confidence limit (UCL) on the mean of the concentrations of the TMDL data set for each discharge category with the long-term average for that discharge category. The reason for using a 99% UCL on the mean is because of the high level of uncertainty in the actual mean (or actual performance) from the very small data set for each discharge category (number of samples between 6 and 14). The Regional Water Board then multiplied the long-term average for each discharge category by the appropriate multiplier from the USEPA's Technical Support Document to calculate AMELs and MDELs. Table F-3 shows each step in the derivation of effluent limits.

Table F-3 Derivation of Effluent Limits

DISCHARGE CATEGORY	**Advanced Secondary**	**Secondary**	**Petroleum Refinery**	**Other Industry**
Units	**µg/L**	**µg/L**	**µg/L**	**µg/L**
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	Y	N	Y
Mean of TMDL effluent data points	0.00211	0.003556	0.000272	0.003543
Std Dev of TMDL effluent data points	0.000066	0.002206	0.000199	0.001554
Coefficient of Variation (CV), calculated	0.31	0.62	0.73	0.44
CV, Selected - Final	0.31	0.60	0.73	0.60
99% UCL on the Mean = long term avg.	0.00025	0.005547	0.000402	0.005678
AMEL multiplier95 from USEPA TSD	1.58	2.13	2.37	2.13
MDEL multiplier99 from USEPA TSD	1.94	3.11	3.70	3.11
AMEL	0.00039	0.012	0.00095	0.012
MDEL	0.00049	0.017	0.0015	0.018

Finally, it should be noted that the limits are based on data for 40 congeners that are representative surrogates for PCBs that are causing impairment. These 40 congeners are the same ones monitored in the Regional Monitoring Program that formed the basis for the impairment. As some other congeners co-elute with these 40 congeners, the concentrations of as many as 66 congeners (shown in Table F-4 below) form the basis for the limits. Therefore, it would be reasonable and consistent with the PCBs TMDL (if USEPA Proposed Method 1668c is an approved method at the time of the next permit reissuance) that any future compliance with

effluent limits be determined using the same congeners that were used in the derivation of limits.

Table F-4
PCB Congeners, Including Co-Elution (IUPAC No.) for TMDL Development

PCB 005	PCB 061	PCB 099	PCB 149	PCB 181
PCB 008	PCB 066	PCB 101	PCB 151	PCB 182
PCB 018	PCB 070	PCB 105	PCB 153	PCB 183
PCB 020	PCB 073	PCB 106	PCB 156	PCB 187
PCB 021	PCB 074	PCB 110	PCB 158	PCB 190
PCB 028	PCB 076	PCB 115	PCB 160	PCB 194
PCB 031	PCB 080	PCB 116	PCB 163	PCB 195
PCB 033	PCB 086	PCB 118	PCB 164	PCB 196
PCB 043	PCB 087	PCB 127	PCB 168	PCB 201
PCB 044	PCB 089	PCB 128	PCB 169	PCB 203
PCB 049	PCB 090	PCB 132	PCB 170	
PCB 052	PCB 093	PCB 138	PCB 174	
PCB 056	PCB 095	PCB 139	PCB 177	
PCB 060	PCB 097	PCB 141	PCB 180	

Compliance with Anti-Backsliding

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. For most dischargers that are covered by this amendment, their permits currently do not specify PCBs limits, so there is no backsliding.

For the three dischargers with existing PCBs limits shown in Table F-2, an exception to antibacksliding applies. Under Order WQ 2001-06 (Tosco Order[1]), the State Water Board held that a "limit that implements or is consistent with the wasteload allocations in a TMDL complies with the exception in Section 303(d)(4)."

[1] The Tosco Order has been upheld in two Court of Appeal decisions, *CBE et al. v. State Water Resources Control Board et al.*, 109 Cal.App.4th 1089 (2003) and 132 Cal.App.4th 1313 (2005).

Compliance with Antidegradation

The Order's PCBs effluent limitations have been computed to satisfy the TMDL that will allow San Francisco Bay to come into attainment with water quality objectives. This Order includes requirements that are part of an overall comprehensive plan to restore PCBs levels in San Francisco Bay. Because the TMDL is consistent with restoring existing instream water uses and the level of water quality necessary to protect the existing uses, antidegradation requirements are satisfied. Furthermore, this Order specifies performance based effluent limits that will assure compliance with antidegredation.

Basis for Monitoring and Reporting

To evaluate compliance with the San Francisco Bay PCBs TMDL, this Order requires Dischargers to report effluent concentrations of PCBs in Self-Monitoring Reports. The compliance monitoring frequencies specified are dependent on each Discharger's expected contribution of PCBs, and its resources to conduct the monitoring. For example, major dischargers are required to monitor more frequently than minor dischargers. Compliance with effluent limits must be determined using an approved method under 40 CFR Part 136. In the case of PCBs, this is Method 608.

Consistent with the TMDL, this Order also requires each Discharger to monitor and report PCBs using USEPA's proposed Method 1668c, which is capable of quantifying PCBs that are present at lower levels than Method 608. The Regional Water Board will use Method 1668c PCBs data to verify assumptions and evaluate the need to further refine wasteload allocations in the TMDL.

Basis for Source Control

The PCBs TMDL requires that Dischargers identify and manage controllable sources. Therefore, this Order requires Dischargers to implement source control programs to reduce PCBs loads to their respective treatment plants.

Basis for Risk Reduction

The PCBs TMDL requires Dischargers to develop and implement, or participate in, effective programs to reduce PCB-related risks to humans and quantify the resulting risk reductions from these activities. Efforts underway for mercury already include PCBs. These efforts include investigating ways to address public health impacts of mercury and PCBs in San Francisco Bay/Delta fish, including activities that reduce actual and potential exposure of health impacts to those people and communities most likely to be affected by mercury and PCBs in San Francisco Bay-caught fish, such as subsistence fishers and their families. As such, there is no need to amend the risk reduction program required by Order No. R2-2007-0077 because it already addresses PCBs.

Basis for Effluent Discharge Adjustment for Recycled Water Use by Industrial Dischargers

As dictated by California Water Code sections 13510 through 13512, and the State Water Board's Resolution No. 2009-0011, the Regional Water Board should support and encourage water recycling. The use of recycled wastewater preserves fresh potable water supply sources. The effluent discharge adjustment (or Adjustment) provided in this Order is to avoid penalizing Dischargers who produce recycled wastewater and Dischargers who use recycled wastewater in industrial processes, and is based on the principles outlined in the Basin Plan at 4.6.1.1. It is also similar to an existing provision in the Mercury Watershed Permit and individual permits for the petroleum refineries.

The Adjustment is only applicable if the PCBs in the recycled wastewater is ultimately discharged through an industrial discharger's outfall. The Adjustments are calculated based on mass balance principles and will thus not result in any net increase in PCBs loadings to the Bay. Local impacts from this shifting in load will be minimal because the discharge locations for the two will be to the same receiving water body. This is because the cost of water transport between facilities that are very far apart would make the reuse project infeasible.

A concentration Adjustment is provided because a typical reuse project involves use of the recycled wastewater in cooling towers or boilers where the concentration of PCBs increases through evaporative losses. The blowdown would go to the industrial discharger's sewer and potentially elevate its discharge concentration. Since the concentration limit is established based on past performance, future recycled wastewater use could impact the industrial discharger's compliance with the performance limit. Therefore, a concentration Adjustment is provided. In the case of concentration Adjustments, it is inappropriate to apply the concentration Adjustment in reverse to the municipal discharger because the reason for the Adjustment is to account for evaporative losses. These losses occur at the industrial facility and do not affect the municipal discharger's performance.

However, it may be appropriate some time in the future to provide a concentration Adjustment when a municipal discharger installs advanced recycled wastewater treatment facilities at its treatment plant site (e.g. reverse osmosis) and blends the concentrated waste stream with its effluent prior to discharge. The mass discharged through the municipal discharger's outfall would not increase but the concentration would. No such projects currently exist in this region.

Currently, the only reuse project where an Adjustment would be applied is between Chevron and the West County Wastewater District. At the time of TMDL development Chevron used about 4 million gallons per day of recycled wastewater. However, a new reuse project that went online in 2010 brings the amount to approximately 7-8 million gallons per day. West County Wastewater District (WCWD) discharges through a joint outfall with the City of Richmond under the West County Agency NPDES permit.

Basis for Effluent Discharge Adjustment for Urban Runoff Treatment by Municipal Dischargers

The Regional Water Board recognizes that routing urban runoff through municipal wastewater treatment facilities may be an efficient means of reducing PCBs, and other particle-associated contaminant loads to the Bay. For this reason, the PCBs TMDL includes a reserve allocation of one kg/year for municipal wastewater treatment plants to treat urban runoff. This provision

provides a mechanism for municipal dischargers to receive a credit for treating urban runoff that would otherwise be discharged directly to San Francisco Bay.

As with recycled water credits for industrial dischargers, Adjustments are calculated based on mass balance principles and will thus not result in any net increase in PCBs loadings to the Bay. Unlike the use of recycled water, urban runoff diversions will occur in pulses, most likely over a period of hours. For this reason, it's not possible to coordinate sampling of influent and effluent with the precision applied for recycled water credits. Additionally, the concentrations of PCBs in urban runoff are expected to be much more variable than those found in recycled water. For example, a study by East Bay Municipal Utility District entitled: *Characterization of Stormwater Flows, Diversion of Dry Weather and First Flush Flows to a Publicly-Owned Treatment Works*, dated July 2010, found the concentrations of PCBs in dry weather runoff to be almost an order of magnitude lower than those found in wet weather. As such, when determining credits for urban runoff diversions, this Order groups them into two categories: dry weather diversions and wet weather diversions.

During this permit term, the municipal discharger may use the entire influent PCBs mass for the concentration adjustment described in section V.C.8.e. In future permits, the Regional Water Board will revisit how to equitably apportion credit for the diverted PCBs mass in such a way that will preserve the incentive for municipal wastewater dischargers to accept such diversions, but also provide appropriate incentive for municipal stormwater dischargers cooperating on such diversion projects.

Authority to Reopen Permits

The Regional Water Board is authorized to reopen Order R2-2007-0077 for purposes of this amendment because the PCBs TMDL presents new information not considered when the permit was issued. The provisions of 40 CFR 122.62(a)(2) authorize this modification.

Notification of Interested Parties

The Regional Water Board encouraged public participation in this amendment process. It notified the Dischargers and other interested parties, and provided an opportunity to submit written comments between December 16, 2010, and January 31, 2011. *The Oakland Tribune* published a notice for one day in December of the opportunity to comment on this matter and that the Regional Water Board would consider this item during its March 9, 2011, meeting.

APPENDIX F-1 – DATA SUPPORTING PERFORMANCE-BASED LIMITS

Table F-1A – PCBs Data (µg/L)

Discharge Category			
Advanced Secondary	**Secondary**	**Petroleum Refinery**	**Other Industry**
0.000250	**0.0079**	**0.000650**	**0.000860**
0.000310	**0.0011**	**0.000570**	**0.003700**
0.000190	**0.0047**	**0.000170**	**0.005600**
0.000200	**0.0022**	**0.000380**	**0.004300**
0.000310	**0.0057**	**0.000280**	**0.003400**
0.000170	**0.0014**	**0.000150**	**0.003400**
0.000190	**0.0037**	**0.000110**	
0.000130	**0.0027**	**0.000150**	
0.000320	**0.0026**	**0.000170**	
0.000170		**0.000085**	
0.000120			
0.000240			
0.000190			
0.000160			