

**San Francisco Bay Regional Water Quality Control Board**

**ORDER No. R2-2012-0096  
NPDES No. CA0038849**

**WASTE DISCHARGE REQUIREMENTS FOR MERCURY AND PCBs FROM MUNICIPAL AND INDUSTRIAL WASTEWATER DISCHARGES TO SAN FRANCISCO BAY**

The following dischargers and discharge locations are subject to waste discharge requirements as set forth in this Order, for the purpose of implementing the San Francisco Bay Mercury and PCBs Total Maximum Daily Load (TMDL) wasteload allocations for municipal and industrial wastewater discharges to San Francisco Bay and its contiguous bay segments:

**Table 1. Discharger Information**

<b>Discharger</b>	See attached Tables 1A and 1B for Discharger Information.
<b>Name of Facility</b>	
<b>Facility Address</b>	
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified these discharges as either major or minor discharges as indicated in Tables 1A and 1B.	

**Table 2. Discharge Locations**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
See attached Tables 2A and 2B for Discharge Locations.				

**Table 3. Administrative Information**

This Order was adopted by the Regional Water Quality Control Board on:	<b>December 12, 2012</b>
This Order shall become effective on:	<b>January 1, 2013</b>
This Order shall expire on:	<b>December 31, 2017</b>

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

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Bruce H. Wolfe, Executive Officer

**Table 1A. Municipal Discharger Information**

<b>Discharger</b>	<b>Name of Facility</b>	<b>Facility Address</b>	<b>Minor/ Major</b>
American Canyon, City of	Wastewater Treatment and Reclamation Facility	151 Mezzetta Court American Canyon, CA 94503 Napa County	Major
Benicia, City of	Benicia Wastewater Treatment Plant	614 East Fifth Street Benicia, CA 94510 Solano County	Major
Burlingame, City of	Burlingame Wastewater Treatment Plant	1103 Airport Boulevard Burlingame, CA 94010 San Mateo County	Major
Calistoga, City of	Dunaweal Wastewater Treatment Plant	1185 Dunaweal Lane Calistoga, CA 94515 Napa County	Minor
Central Contra Costa Sanitary District	Central Contra Costa Sanitary District Wastewater Treatment Plant	5019 Imhoff Place Martinez, CA 94553 Contra Costa County	Major
Central Marin Sanitation Agency	Central Marin Sanitation Agency Wastewater Treatment Plant	1301 Andersen Drive San Rafael, CA 94901 Marin County	Major
Crockett Community Services District, Port Costa Sanitary Dept.	Port Costa Wastewater Treatment Plant	End of Canyon Lake Drive Port Costa, CA 94569 Contra Costa County	Minor
Delta Diablo Sanitation District	Wastewater Treatment Plant	2500 Pittsburg-Antioch Highway Antioch, CA 94509 Contra Costa County	Major
East Bay Dischargers Authority (EBDA); Cities of Hayward and San Leandro; Oro Loma Sanitary District; Castro Valley Sanitary District; Union Sanitary District; Livermore-Amador Valley Water Management Agency; Dublin San Ramon Services District; and City of Livermore	EBDA Common Outfall	EBDA Common Outfall 14150 Monarch Bay Drive San Leandro, CA 94577 Alameda County	Major
	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 Export and Storage Facilities		
	Dublin San Ramon Services District Wastewater Treatment Plant		
	City of Livermore Water Reclamation Plant		
East Bay Municipal Utility District	East Bay Municipal Utility District, Special District No. 1 Wastewater Treatment Plant (WWTP)	2020 Wake Avenue Oakland, CA 94607 Alameda County	Major
Fairfield-Suisun Sewer District	Fairfield-Suisun Wastewater Treatment Plant	1010 Chadbourne Road Fairfield, CA 94534 Solano County	Major

<b>Discharger</b>	<b>Name of Facility</b>	<b>Facility Address</b>	<b>Minor/ Major</b>
Las Gallinas Valley Sanitary District	Las Gallinas Valley Sanitary District Sewage Treatment Plant	300 Smith Ranch Road San Rafael, CA 94903 Marin County	Major
Marin County (Paradise Cove), Sanitary District No. 5 of	Paradise Cove Treatment Plant	3700 Paradise Drive Tiburon, CA 94920 Marin County	Minor
Marin County (Tiburon), Sanitary District No. 5 of	Wastewater Treatment Plant	2001 Paradise Drive Tiburon, CA 94920 Marin County	Major
Millbrae, City of	Water Pollution Control Plant	400 East Millbrae Avenue Millbrae, CA 94030 San Mateo County	Major
Mt. View Sanitary District	Mt. View Sanitary District Wastewater Treatment Plant	3800 Arthur Road Martinez, CA 94553 Contra Costa County	Major
Napa Sanitation District	Soscol Water Recycling Facility	1515 Soscol Ferry Road Napa, CA 94558 Napa County	Major
Novato Sanitary District	Novato Sanitary District Wastewater Treatment Plant	500 Davidson Street Novato, CA 94945 Marin County	Major
Palo Alto, City of	Palo Alto Regional Water Quality Control Plant	2501 Embarcadero Way Palo Alto, CA 94303 Santa Clara County	Major
Petaluma, City of	Municipal Wastewater Treatment Plant	950 Hopper Street Petaluma, CA 94952 Sonoma County	Major
Pinole, City of	Pinole-Hercules Water Pollution Control Plant	11 Tennent Avenue Pinole, CA, 94564 Contra Costa County	Major
Rodeo Sanitary District	Rodeo Sanitary District Water Pollution Control Facility	800 San Pablo Avenue Rodeo, CA 94572 Contra Costa County	Major
Saint Helena, City of	City of St. Helena Wastewater Treatment and Reclamation Plant	1 Thomann Lane St. Helena, CA 94574 Napa County	Minor
San Francisco, City and County of, San Francisco International Airport	Mel Leong Treatment Plant, Sanitary Plant	918 Clearwater Drive San Francisco International Airport San Francisco, CA 94128 San Mateo County	Major
San Francisco (Southeast Plant), City and County of	Southeast Water Pollution Control Plant	750 Phelps Street San Francisco, CA 94124 San Francisco County	Major
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	San Jose/Santa Clara Water Pollution Control Plant	4245 Zanker Road San Jose, CA 95134 Santa Clara County	Major
San Mateo, City of	City of San Mateo Wastewater Treatment Plant	2050 Detroit Drive San Mateo, CA 94404 San Mateo County	Major
Sausalito-Marín City Sanitary District	Sausalito-Marín City Sanitary District Wastewater Treatment Plant	#1 Fort Baker Road Sausalito, CA 94965 Marin County	Major

<b>Discharger</b>	<b>Name of Facility</b>	<b>Facility Address</b>	<b>Minor/ Major</b>
Sewerage Agency of Southern Marin	Wastewater Treatment Plant	450 Sycamore Avenue Mill Valley, CA 94941 Marin County	Major
Sonoma Valley County Sanitary District	Municipal Wastewater Treatment Plant	22675 8th Street East Sonoma, CA 95476 Sonoma County	Major
South Bayside System Authority	South Bayside System Authority Wastewater Treatment Plant	1400 Radio Road Redwood City, CA 94065 San Mateo County	Major
South San Francisco and San Bruno, Cities of	South San Francisco and San Bruno Water Quality Control Plant	195 Belle Air Road South San Francisco, CA 94080 San Mateo County	Major
Sunnyvale, City of	Sunnyvale Water Pollution Control Plant	1444 Borregas Avenue, Sunnyvale, CA 94089 Santa Clara County	Major
US Department of Navy, Treasure Island	Wastewater Treatment Plant	681 Avenue M, Treasure island San Francisco, CA 94130-1807 San Francisco County	Major
Vallejo Sanitation and Flood Control District	Vallejo Sanitation and Flood Control District Wastewater Treatment Plant	450 Ryder Street Vallejo, CA 94590 Solano County	Major
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	West County Agency Combined Outfall	601 Canal Blvd. Richmond, CA 94804 Contra Costa County	Major
Yountville, Town of	Municipal Wastewater Treatment Plant	7501 Solano Avenue Yountville, CA 94599 Napa County	Minor

**Table 1B. Industrial Discharger Information**

Discharger	Name of Facility	Facility Address	Minor/ Major
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>			
C&H Sugar Company, Inc., and Crockett Community Services District, Crockett Sanitary Dept.	Joint Use Phillip F. Meads Water Treatment Plant	830 Loring Avenue Crockett, CA 94525 Contra Costa County	Major
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	Crockett Cogeneration Plant	550 Loring Avenue Crockett, CA 94525-1232 Contra Costa County	Minor
Pacific Gas and Electric Company (PG&E)	PG&E Shell Pond	0.5 miles northwest of North Broadway Street Bay Point, CA 94565 Contra Costa County	Minor
Rhodia, Inc.	Sulfuric Acid Regeneration Martinez Plant	100 Mococo Road Martinez, CA 94553 Contra Costa County	Major
GenOn Delta, LLC (formerly Mirant)	Pittsburg Power Plant	GenOn Delta LLC, Pittsburg Power Plant 696 W. 10th Street Pittsburg, CA 94565 Contra Costa County	Major
USS-Posco Industries	Pittsburg Plant	900 Loveridge Road Pittsburg, CA 94565 Contra Costa County	Major
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>			
Chevron Products Company	Richmond Refinery	841 Chevron Way Richmond, CA 94801 Contra Costa County	Major
Phillips 66 (formerly ConocoPhillips)	San Francisco Refinery	1380 San Pablo Avenue Rodeo, CA 94572-1354 Contra Costa County	Major
Shell Oil Products US and Equilon Enterprises LLC	Shell Martinez Refinery	3485 Pacheco Blvd Martinez CA 94553 Contra Costa County	Major
Tesoro Refining & Marketing Co.	Golden Eagle Refinery	150 Solano Way Martinez, CA 94553 Contra Costa County	Major
Valero Refining Company	Valero Benicia Refinery	3400 East Second Street Benicia, CA 94510-1005 Solano County	Major

**Table 2A. Municipal Discharger Location Information**

Discharger	Discharge Point(s)	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
American Canyon, City of	001-S	38° 11' 3.7" N	122° 16' 39.0" W	North Slough
	003-R	38° 11' 5.7" N	122° 16' 44.8" W	Constructed freshwater wetlands
Benicia, City of	E-001	38° 02' 30" N	122° 09' 03" W	Carquinez Strait
Burlingame, City of	E-002 <sup>(a)</sup>	37° 39' 55" N	122° 21' 41" W	Lower San Francisco Bay
Calistoga, City of	001	38° 33' 34" N	122° 33' 28" W	Napa River
	002	38° 33' 13" N	122° 33' 40" W	Napa River
Central Contra Costa Sanitary District	001	38° 2' 44" N	122° 5' 55" W	Suisun Bay
Central Marin Sanitation Agency	001	37° 56' 54" N	122° 27' 23" W	Central San Francisco Bay
Crockett Community Services District, Port Costa Sanitary Dept.	001	38° 02' 55" N	122° 10' 56" W	Carquinez Strait
Delta Diablo Sanitation District	E-001	38° 01' 40" N	121° 50' 14" W	New York Slough
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, Dublin San Ramon Services District, and City of Livermore	001	37° 41' 40" N	122 ° 17' 42" W	Lower San Francisco Bay
East Bay Municipal Utility District	E-001	37° 49' 2 " N	122° 20' 55" W	Central San Francisco Bay
Fairfield-Suisun Sewer District	E-001	38° 12' 33" N	122° 03' 24" W	Boynton Slough
	E-002	38° 12' 52" N	122° 03' 56" W	Boynton Slough
	E-003	38° 12' 35" N	122° 03' 29" W	Boynton Slough
	E-005	38° 14' 06" N	122° 03' 31" W	Ledgewood Creek
Las Gallinas Valley Sanitary District	E-001	38° 01' 32" N	122° 30' 58" W	Miller Creek
	E-002	38° 01' 36" N	122° 30' 45" W	Miller Creek
Marin County (Paradise Cove), Sanitary District No. 5 of	001	37 ° 53' 50" N	122 ° 27' 40" W	Central San Francisco Bay
Marin County (Tiburon), Sanitary District No. 5 of	E-001	37° 52' 12" N	122° 27' 5" W	Raccoon Strait, Central San Francisco Bay
Millbrae, City of	E-001	37° 39' 55" N	122° 21' 41" W	Lower San Francisco Bay
Mt. View Sanitary District	E-001	38° 01' 12" N	122° 05' 47" W	Peyton Slough, a tributary to Carquinez Strait
Napa Sanitation District	E-001	38° 14' 09"N	122° 17' 10" W	Napa River
Novato Sanitary District	E-003	38° 03' 36" N	122° 29' 24" W	San Pablo Bay
Palo Alto, City of	E-001	37° 27' 30"N	122° 06' 37" W	Unnamed channel tributary to Lower San Francisco Bay
	E-002	37° 26' 30" N	122° 06' 45" W	Matedero Creek via Renzel Marsh Pond
Petaluma, City of	E-001	38° 12' 33" N	122° 34' 22" W	Petaluma River
Pinole, City of	E-001	38° 03' 06" N	122° 16' 12" W	San Pablo Bay
Rodeo Sanitary District	E-001	38° 03' 06" N	122° 16' 12" W	San Pablo Bay
Saint Helena, City of	E-001	30° 30' 10" N	122° 26' 15" W	Napa River
San Francisco, City and County of, San Francisco International Airport	E-002 <sup>(a)</sup>	37° 39' 55" N	122° 21' 41" W	Lower San Francisco Bay
San Francisco (Southeast Plant), City and County of	E-001	37° 44' 58" N	122° 22' 22" W	Lower San Francisco Bay

Discharger	Discharge Point(s)	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	E-001	37° 26' 23"N	121° 57' 29" W	Artesian Slough, a tributary to Coyote Creek and South San Francisco Bay
San Mateo, City of	E-001	37° 34' 50" N	122° 14' 45" W	Lower San Francisco Bay
Sausalito-Marín City Sanitary District	001	37° 50' 37" N	122° 28' 3" W	Central San Francisco Bay
Sewerage Agency of Southern Marin	E-001	37° 52' 12" N	122° 27' 5" W	Raccoon Strait
Sonoma Valley County Sanitary District	001	38° 14' 14" N	122° 25' 51" W	Schell Slough, a tributary to the San Pablo Bay
South Bayside System Authority	001	37° 33' 40" N	122° 13' 02" W	Lower San Francisco Bay
South San Francisco and San Bruno, Cities of	E-002 <sup>(a)</sup>	37° 39' 55" N	122° 21' 41" W	Lower San Francisco Bay
Sunnyvale, City of	E-001	37° 25' 13" N	122° 1' 0" W	Moffett Channel, a tributary to Guadalupe Slough and South San Francisco Bay
US Department of Navy, Treasure Island	E-001	37° 49' 50" N	122° 21' 25" W	San Francisco Bay
Vallejo Sanitation and Flood Control District	E-001	38° 3' 53" N	122° 13' 42" W	Carquinez Strait
	E-002	38° 5' 23" N	122° 15' 12" W	Mare Island Strait, a tributary to Carquinez Strait
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	E-001	37°54'47"N	122°25'06"W	Central San Francisco Bay
Yountville, Town of	E-001	38° 24' 30"N	122°20'25"W	Napa River

<sup>(a)</sup> These Dischargers share the North Bayside System Unit outfall which serves as combined discharge point E-002 into San Francisco Bay. However, compliance with the requirements of this Order are by each Discharger at its individual compliance station specified in the Monitoring and Reporting Program, Attachment E, of this Order.

**Table 2B. Industrial Discharger Location Information**

Discharger	Discharge Point	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>				
C&H Sugar Company, Inc., and Crockett Community Services District, Crockett Sanitary Dept.	002	38° 03' 30" N	122° 13' 28" W	Carquinez Strait
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	E-001	38° 3' 22" N	122° 13' 5" W	Carquinez Strait
Pacific Gas and Electric Company	E-001	38° 2' 34" N	121° 57' 14" W	Suisun Bay
Rhodia, Inc.	E-001	38° 2' 18" N	122° 7' 1" W	Suisun Bay
GenOn Delta, LLC	E-001 <sup>(a)</sup>	38° 2' 29" N	121° 53' 25" W	Suisun Bay
USS-Posco Industries	E-001	38° 1' 48" N	121° 51' 32" W	Suisun Bay
	E-002	38° 1' 51" N	121° 51' 58" W	Suisun Bay
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>				
Chevron Products Company	E-001	37° 58' 15" N	122° 25' 45" W	San Pablo Bay
Phillips 66 (formerly ConocoPhillips)	E-002	38° 3' 22" N	122° 15' 36" W	San Pablo Bay
Shell Oil Products US and Equilon Enterprises LLC	E-001	38° 1' 56" N	122° 7' 44" W	Carquinez Strait
Tesoro Refining & Marketing Co.	E-001	38° 2' 54" N	122° 5' 22" W	Suisun Bay
Valero Refining Company	E-001	38° 3' 18" N	122° 7' 7" W	Suisun Bay

<sup>(a)</sup> This Order applies to the mercury discharges from internal waste streams discharged through these discharge points, and not to the once through cooling water discharges of these discharge points.

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**I. FACILITY INFORMATION**

The following Dischargers are subject to waste discharge requirements as set forth in this Order:

**Table 4. Facility Information**

<b>Discharger</b>	See Tables 1A and 1B above.
<b>Name of Facility</b>	
<b>Facility Address</b>	
<b>Facility Contact, Title, and Phone</b>	See Tables 4A and 4B below.
<b>Mailing Address</b>	
<b>Type of Facility</b>	
<b>Facility Design Flow</b>	

**Table 4A. Additional Information on Municipal Facility (see also Table 1A)**

<b>Discharger</b>	<b>Facility Contact, Title, and Phone</b>	<b>Mailing Address</b>	<b>Effluent Description</b>	<b>Facility Design Flow (mgd)</b>
American Canyon, City of	Peter Lee Wastewater Systems Manager (707) 647-4525	Same as Facility Address	Advanced Secondary	2.5
Benicia, City of	Gerald Gall Superintendent (707)746-4294	Same as Facility Address	Secondary	4.5
Burlingame, City of	William Toci Plant Manager (650)342-3727	501 Primrose Burlingame, CA 94010	Secondary	5.5
Calistoga, City of	Warren Schenstrom Water Systems Super't (707) 942-2847	414 Washington Street Calistoga, CA 94515	Secondary	0.84
Central Contra Costa Sanitary District	Doug Craig Director of Plant Operations (925) 228-9500	Same as Facility Address	Secondary	53.8
Central Marin Sanitation Agency	Robert Cole Environmental Services Manager (415) 459-1455	Same as Facility Address	Secondary	10
Crockett Community Services District, Port Costa Sanitary Dept.	Michael Kirker Port Costa Dept. Manager (510) 787-2992	Crockett Community Services District, Port Costa Sanitary Department P.O. Box 578 Crockett, CA 94525	Secondary	0.033
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	Michael S. Connor General Manager	2651 Grant Avenue San Lorenzo, CA	Secondary	107.8

<b>Discharger</b>	<b>Facility Contact, Title, and Phone</b>	<b>Mailing Address</b>	<b>Effluent Description</b>	<b>Facility Design Flow (mgd)</b>
Hayward Water Pollution Control Facility	(510) 278-5910	94580		
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 Utility District Main Wastewater Treatment Plant	Kurt H. Haunschild Manager of Wastewater Treatment (510) 287-1407	P.O. Box 24055 Oakland, CA 94623-1055	Secondary	120
Fairfield-Suisun Sewer District	Kathy Hopkins General Manager (707) 429-8930	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	Tony Rubio Chief Plant Operator (415) 435-1501	P.O. Box 227 Tiburon, CA 94920	Secondary	0.08
Marin County (Tiburon), Sanitary District No. 5 of	Tony Rubio Chief Plant Operator (415) 435-1501	2001 Paradise Drive Tiburon, CA 94920	Secondary	0.98
Millbrae, City of	Joseph Magner Superintendent (650) 259-2388	621 Magnolia Avenue Millbrae, CA 94030	Secondary	3
Mt. View Sanitary District	Michael D. 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	P.O. Box 2480 Napa, CA 94558	Secondary	15.4
Novato Sanitary District	Beverly James Manager-Engineer (415) 892-1694 x111	500 Davidson Street Novato, CA 94945	Secondary	5.4
Palo Alto, City of	James Allen Environmental Compliance Manager (650) 329-2243	2501 Embarcadero Way, Palo Alto, CA 94303	Advanced Secondary	39

<b>Discharger</b>	<b>Facility Contact, Title, and Phone</b>	<b>Mailing Address</b>	<b>Effluent Description</b>	<b>Facility Design Flow (mgd)</b>
Petaluma, City of	Matthew Pierce Operations Supervisor (707) 776-3777	202 N. McDowell Blvd. Petaluma, CA 94954	Secondary	5.2
Pinole, City of	Ron Tobey Plant Manager (510) 724-8963	2131 Pear Street, 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) 968-2741 johnf@ci.st- helena.ca.us	1480 Main Street St. Helena, CA 94574	Secondary	0.05
San Francisco, City and County of (Airport Commission)	Mark Costanzo Utilities Manager (650)821-7809	P.O. Box 8097 San Francisco, CA 94128	Secondary	2.2
San Francisco (Southeast Plant), City and County of	Tommy Moala Assistant General Manager of Wastewater (415) 554-2465	1155 Market St., 11th Floor San Francisco, CA 94103	Secondary	150
San Jose/Santa Clara, Cities of	James Ervin Acting Environmental Compliance Officer (408) 945-5124	700 Los Esteros Road San Jose, CA 95134	Advanced Secondary	167
San Mateo, City of	Mark Von Aspern Plant Manager (650) 522-7385	330 West 20 <sup>th</sup> Avenue San Mateo, CA 94403	Secondary	15.7
Sausalito-Marín City Sanitary District	Robert Simmons General Manager (415) 332-0244	P.O. Box 39 Sausalito, CA 94966-0039	Secondary	1.8
Sewerage Agency of Southern Marin	Jeff Carson Interim Manager (415) 388-2402	26 Corte Madera Ave. Mill Valley, CA 94941	Secondary	3.6
Sonoma Valley County Sanitary District	Pam Jeane Deputy Chief Engineer (707)521-1864	Sonoma County Water Agency 404 Aviation Blvd. Santa Rosa, CA 95403	Secondary	3
South Bayside System Authority	Daniel Child Manager (650) 591-7121	Same as Facility Address	Secondary	29
South San Francisco and San Bruno, Cities of	Brian Schumacker Plant Superintendent (650) 877-8555	South San Francisco- San Bruno Water Pollution Control Plant 195 Belle Air Road South San Francisco, CA 94080	Secondary	13

<b>Discharger</b>	<b>Facility Contact, Title, and Phone</b>	<b>Mailing Address</b>	<b>Effluent Description</b>	<b>Facility Design Flow (mgd)</b>
Sunnyvale, City of	Melody Tovar Division Manager (408) 730-7808	Sunnyvale Water Pollution Control Plant P.O. Box 3707 Sunnyvale, CA 94088-3707	Advanced Secondary	29.5
US Department of Navy, Treasure Island	Patricia A. McFadden BRAC Field Team Leader San Francisco 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	Ron Matheson District Manager (707) 644-8949 X211	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
Yountville, Town of	Donald Moore Wastewater System Supervisor (707) 944-2988	6550 Yount Street Yountville, CA 94599	Secondary	0.55

**Table 4B. Additional Information on Industrial Facility (see also Table 1B)**

Discharger	Facility Contact, Title, and Phone	Mailing Address	Type of Facility	Facility Design Flow (mgd)
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>				
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept. (CSD)	Tanya Akkerman Environmental Compliance Manager C&H Sugar Company (510) 787-4352  Dale McDonald General Manager (510) 787-2992	Same as Facility Address for C&H  Crockett Sanitary Department P.O. Box 578 Crockett, CA 94525 for CSD	Sugar Cane Crystalline Industry	0.93
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	Christopher Sargent Environmental Coordinator (510) 787-4105	Same as Facility Address	Industrial – Electrical Generation, SIC Code 4931	0.243 (Daily Discharge Rate From 2000 to 2002)
Pacific Gas and Electric Company	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)
Rhodia, Inc.	Anthony Koo Environmental Coordinator (925) 313-8221	Same as Facility Address	Industrial – Chemical and Allied Products, SIC Code 2891	0.779 (Potential Maximum Daily Rate)
GenOn Delta, LLC	Monte Ash, Vice President California Operations (925) 427-3575	Pittsburg Power Plant P.O. Box 192 Pittsburg, CA 94565	Electric Power generation	506
USS-Posco Industries	David Allen Env. Group Manager (925) 439-6290	P.O. Box 471 MS67 Pittsburg, CA 94565	Industrial - SIC Code 3312	28
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>				
Chevron Products Company	Pascha McAlister (510) 242-6912	Same as Facility Address	Industrial - Petroleum Refining	7.6
Phillips 66 (formerly ConocoPhillips)	Dennis Quilici Water Compliance Specialist (510) 245-4403	Same as Facility Address	Industrial – Petroleum Refining	10
Shell Oil Products US and Equilon Enterprises LLC	Michael Armour Senior Engineer (925) 313-3886	Same as Facility Address	Industrial – Petroleum Refining	10
Tesoro Refining & Marketing Co.	Peter Carroll Environmental Engineer (925) 335-3497	Same as Facility Address	Industrial - Petroleum Refining	5.1
Valero Refining Company	Sky Bellenca Senior Engineer (707) 745-7749	Same as Facility Address	Industrial - Petroleum Refining	2.34

## II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Regional Water Board), finds:

- A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges of mercury and PCBs from Dischargers' facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on detailed technical analyses which provide the foundation for the mercury and PCBs TMDL. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements of this Order, is hereby incorporated into and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.
- C. Notification of Interested Parties.** The Regional Water Board has notified the Dischargers and interested agencies and persons of its intent to prescribe WDRs for the discharges and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- D. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharges. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R2-2007-0077, as amended by Order No. R2-2011-0012, except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Dischargers shall comply with the requirements in this Order.

### III. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

#### A. Municipal Discharger Effluent Limits for Mercury and PCBs

The mass and concentration of mercury and PCBs in the effluent at the Discharge Points indicated in Table 4A for each Discharger shall not exceed the limitations in Tables 5A and 5B. Monitoring locations are described in Attachment E of this Order.

**Table 5A. Municipal -- Individual Mercury Effluent Limitations**

Discharger	Average Annual Effluent Limit for Mercury <sup>(1)</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit for Mercury (µg/L)
American Canyon, City of	0.095	0.025	0.027
Benicia, City of	0.088	0.066	0.072
Burlingame, City of	0.089	0.066	0.072
Calistoga, City of	0.016	0.066	0.072
Central Contra Costa Sanitary District	1.3	0.066	0.072
Central Marin Sanitation Agency	0.11	0.066	0.072
Crockett Community Services District, Port Costa Sanitary Dept.	0.00072	0.066	0.072
Delta Diablo Sanitation District	0.19	0.066	0.072
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, Dublin San Ramon Services District, and City of Livermore	2.2	0.066	0.072
East Bay Municipal Utility District	1.5	0.066	0.072
Fairfield-Suisun Sewer District	0.17	0.025	0.027
Las Gallinas Valley Sanitary District	0.10	0.066	0.072

Discharger	Average Annual Effluent Limit for Mercury <sup>(1)</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit for Mercury (µg/L)
Marin County (Paradise Cove), Sanitary District No. 5 of	0.00055	0.066	0.072
Marin County (Tiburon), Sanitary District No. 5 of	0.0099	0.066	0.072
Millbrae, City of	0.052	0.066	0.072
Mt. View Sanitary District	0.034	0.025	0.027
Napa Sanitation District	0.17	0.066	0.072
Novato Sanitary District	0.079	0.066	0.072
Palo Alto, City of	0.31	0.025	0.027
Petaluma, City of	0.063	0.066	0.072
Pinole, City of	0.055	0.066	0.072
Rodeo Sanitary District	0.060	0.066	0.072
Saint Helena, City of	0.047	0.066	0.072
San Francisco , City and County of, San Francisco International Airport	0.032	0.066	0.072
San Francisco (Southeast Plant), City and County of	1.6	0.066	0.072
San Jose/Santa Clara, Cities of	0.8	0.025	0.027
San Mateo, City of	0.19	0.066	0.072
Sausalito-Marín City Sanitary District	0.078	0.066	0.072
Sewerage Agency of Southern Marin	0.076	0.066	0.072
Sonoma Valley County Sanitary District	0.041	0.066	0.072
South Bayside System Authority	0.32	0.066	0.072
South San Francisco and San Bruno, Cities of	0.18	0.066	0.072
Sunnyvale, City of	0.12	0.025	0.027
US Department of Navy <sup>(2)</sup> (Treasure Island)	0.026	0.066	0.072
Vallejo Sanitation and Flood Control District	0.34	0.066	0.072
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	0.23	0.066	0.072
Yountville, Town of	0.040	0.066	0.072
<b>Aggregate Mass Emission Limit<sup>(1,3)</sup>(kg/yr)</b>	<b>11</b>	<b>Not applicable</b>	<b>Not applicable</b>

Footnotes:

(1) Compliance with the Average Annual Effluent Limitations is determined annually for each Municipal Discharger each calendar year and is attained if the sum of all individual Municipal Dischargers' mercury mass emissions, calculated as described below, is not greater than the Aggregate Mass Emission Limit of 11 kg/yr. If the sum of all individual Municipal Dischargers' mercury mass emission(s) is greater than 11 kg/yr, the Municipal Discharger(s) whose mercury mass emission(s) exceed(s) its (their) individual limitation(s) in Table 5A shall be deemed to be in violation of its (their) mercury mass limitation(s). For compliance determination, mass emissions shall be determined as defined below:

- a. The total annual aggregate mass emission shall be the sum of the individual annual mass emissions from each Municipal Discharger. The sum shall be rounded to the nearest kilogram for comparison with the 11 kg/yr.
- b. The annual average mass emission for each Discharger shall be computed for the period January 1 through December 31, annually.
- c. The annual average mass emission for each Discharger listed in Table 5A above shall be the sum of monthly emissions on a calendar year basis and computed as follows:

$$\text{Annual Mass Emission, kg / year} = \sum (\text{Monthly Mass Emission Rates, kg / month})$$

or, for Dischargers with less frequent mercury monitoring than monthly, the Annual Mass Emission shall be computed using the arithmetic average of available monthly mass emissions as follows:

$$\text{Annual Mass Emission, kg / year} = \left( \frac{\sum \text{Monthly Mass Emission, kg / mo}}{\text{Number of Monthly Mass Emissions Calculated}} \right) * 12 \text{ mo / year}$$

where

$$\text{Monthly Mass Emission, kg / mo} = \left( \frac{0.003785}{N} \right) * \left( \sum_{i=1}^N Q_i C_i \right) * 30.5 = \frac{0.1154425}{N} * \left( \sum_{i=1}^N Q_i C_i \right)$$

and where

- $C_i$  = mercury concentration of each individual sample,  $\mu\text{g/l}$
- $Q_i$  = Discharger flow rate on date of sample, millions of gallons per day (mgd)
- $N$  = number of samples collected during the month
- 0.003785 = conversion factor to convert  $(\mu\text{g/l}) * (\text{mgd})$  into kg/day
- 30.5 = number of days in a standard month
- 0.1154425 = product of (conversion factor) \* (number of standard days per month)

and where  $Q_i$  for intermittent Dischargers [Dischargers who do not discharge every day in a calendar month, or have no discharge for an entire month ( $Q_i = 0$ )] shall be computed as follows:

$$Q_i = \left( \frac{\sum_{d=1}^D Q_d}{30.5} \right)$$

where

$Q_d$  = is the total flow for the day when discharge occurred, million gallons

$D$  = total number of days where discharge occurred in a month  
30.5 = number of days in a standard month

- d. The Monthly Mass Emission for a Discharger who provides recycled wastewater for industrial supply shall include the effluent discharge adjustment granted to the Industrial Discharger for its recycled wastewater use as described in III.B and Provision V.C.4 of this Order. The monthly effluent discharge adjustment mass shall be reported in each Self-Monitoring Report and noted in the Annual Report.

(2) This Discharger serves domestic customers but is not a municipal government agency. For the purpose of this Order, this Discharger is a “Municipal Discharger.”

(3) Total differs slightly from the column sum due to rounding to the nearest kilogram.

**Table 5B. Municipal -- Individual PCBs Effluent Limitations**

Discharger	Average Monthly Effluent Limit for PCBs (µg/L)	Maximum Daily Effluent Limit for PCBs (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
Crockett Community Services District, Port Costa Sanitary Dept.	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, Dublin San Ramon Services District, and City of Livermore	0.012	0.017
East Bay Municipal Utility District,	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

Discharger	Average Monthly Effluent Limit for PCBs (µg/L)	Maximum Daily Effluent Limit for PCBs (µg/L)
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-Marín 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 Department of Navy (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

## B. Industrial Discharger Effluent Limits

The mass and concentration of mercury and PCBs in the effluent at the Discharge Points indicated in Table 4B for each Discharger shall not exceed the limitations in Tables 6A and 6B. Monitoring locations are described in Attachment E of this Order.

**Table 6A. Industrial -- Individual Mercury Effluent Limitations**

Permitted Entity	Average Annual Effluent Limit for Mercury <sup>(1)</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Maximum Daily Effluent Limit for Mercury (µg/L)
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>			
C&H Sugar Company, Inc., and Crockett Community Services District, Crockett Sanitary Dept.	0.045	0.079	0.12
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	0.0047	0.079	0.12
Pacific Gas and Electric Company	0.00063	0.079	0.12
Rhodia, Inc.	0.011	0.079	0.12
GenOn Delta LLC	0.0078	0.079	0.12
USS-Posco Industries	0.045	0.079	0.12
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>			
Chevron Products Company	0.34	0.079	0.12
Phillips 66 (formerly ConocoPhillips)	0.13	0.079	0.12
Shell Oil Products US and Equilon Enterprises LLC	0.22	0.079	0.12
Tesoro Refining & Marketing Co.	0.11	0.079	0.12

Permitted Entity	Average Annual Effluent Limit for Mercury <sup>(1)</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Maximum Daily Effluent Limit for Mercury (µg/L)
Valero Refining Company	0.08	0.079	0.12
<b>Aggregate Mass Emission Limit<sup>(2)</sup> (kg/yr)</b>	<b>1.0</b>	<b>Not applicable</b>	<b>Not applicable</b>

Footnotes:

(1) Compliance with the Average Annual Effluent Limitations is determined annually for each Industrial Discharger each calendar year and is attained if the sum of the individual Industrial Dischargers' mercury mass emissions, calculated as described below, is not greater than the Aggregate Mass Emission Limit of 1.0 kg/yr. If the sum of all individual Industrial Dischargers' mercury mass emission(s) is greater than 1.0 kg/yr, the Industrial Discharger(s) whose mercury mass emission(s) exceed(s) its (their) individual limitation, above, shall be deemed to be in violation of its (their) mercury mass limitation(s). For compliance determination, mass emissions shall be determined as defined below:

- a. The total annual aggregate mass emission shall be the sum of the individual annual mass emissions from each Industrial Discharger. The sum shall be rounded to the nearest tenth of a kilogram for comparison with the 1.0 kg/yr.
- b. The annual average mass emission for each Industrial Discharger shall be computed for the period January 1 through December 31, annually.
- c. The annual average mass emission for each Discharger listed in Table 6A above shall be the sum of monthly emissions on a calendar year basis and computed as follows:

$$\text{Annual Mass Emission, kg / year} = \sum (\text{Monthly Mass Emission Rates, kg / month})$$

Or, for Dischargers with less than monthly mercury monitoring, the Annual Mass Emission shall be computed using the arithmetic average of available monthly mass emissions as follows:

$$\text{Annual Mass Emission, kg / year} = \left( \frac{\sum \text{Monthly Mass Emission, kg / mo}}{\text{Number of Monthly Mass Emissions Calculated}} \right) * 12 \text{ mo / year}$$

where

$$\text{Monthly Mass Emission, kg / mo} = \left( \frac{0.003785}{N} \right) * \left( \sum_{i=1}^N Q_i C_i \right) * 30.5 = \frac{0.1154425}{N} * \left( \sum_{i=1}^N Q_i C_i \right)$$

and where

- $C_i$  = mercury concentration of each individual sample, µg/l
- $Q_i$  = Discharger flow rate on date of sample, millions of gallons per day (mgd)
- $N$  = number of samples collected during the month
- 0.003785 = conversion factor to convert (µg/l)\*(mgd) into kg/day
- 30.5 = number of days in a standard month
- 0.1154425 = product of (conversion factor)·(number of standard days per month)

and where  $Q_i$  for intermittent Dischargers [Dischargers who do not discharge every day in a calendar month, or have no discharge for an entire month ( $Q_i = 0$ )] shall be computed as follows:

$$Q_i = \left( \frac{\sum_{d=1}^D Q_d}{30.5} \right)$$

where

$Q_d$  = is the total flow for the day when discharge occurred, million gallons

$D$  = total number of days where discharge occurred in a month

30.5 = number of days in a standard month

- d. For an Industrial Discharger who uses treated recycled wastewater for industrial supply from a Municipal Discharger named in this Order, the Industrial Discharger shall subtract from its Monthly Mass Emission in c., above, an adjustment for the recycled water used and discharged through its discharge point as provided in Provision V.C.4 of this Order. The Industrial Discharger shall report this effluent discharge adjustment mass to the Municipal Discharger that provided the recycled wastewater within 15 days following the end of the calendar month for which an adjustment is applied and shall report the adjustment in each Self-Monitoring Report and in its Annual Report.

(2) Total differs slightly from the column sum due to rounding to two significant digits.

**Table 6B. Industrial -- Individual PCBs Effluent Limitations**

Discharger	Average Monthly Effluent Limit for PCBs (µg/L)	Maximum Daily Effluent Limit for PCBs (µg/L)
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>		
Chevron Products Company	0.00095	0.0015
Phillips 66 (formerly 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
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>		
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept.	0.012	0.018
Pacific Gas and Electric Company	0.012	0.018
Rhodia, Inc.	0.012	0.018
USS-Posco Industries	0.012	0.018

**IV. RECEIVING WATER LIMITATIONS** – Receiving water limitations are specified in each Discharger’s individual NPDES Permits (see Attachment B).

**V. PROVISIONS**

**A. Federal and Regional Standard Provisions**

Dischargers shall comply with the Federal and Regional Standard Provisions included in Attachments D and G, as amended, of their individual permits.

**B. Monitoring and Reporting Program Requirements**

Dischargers shall comply with the Monitoring and Reporting Program (MRP), and future revisions thereto, in Attachment E of this Order.

**C. Special Provisions**

**1. Triggers for Additional Mercury Control**

- a. Each individual Discharger shall comply with the tasks specified in C.1.c. of this Order if its discharge exceeds any of the applicable mercury triggers described in Tables 7 and 8.

**Table 7. Mercury Triggers for Municipal Dischargers**

Type of Trigger	Average Monthly	Maximum Daily
Concentration of Mercury in Discharge for Secondary Treatment Plants	0.041 µg/L	0.065 µg/L
Concentration of Mercury in Discharge for Advanced Secondary Treatment Plants	0.011 µg/L	0.021 µg/L
Mass Emission of Mercury in Discharge	Individual annual mass emission limit, as depicted in Table 5A, above, and computed as a 12-month running average, as shown in C.1.b., below.	

**Table 8. Mercury Triggers for Industrial Dischargers**

Type of Trigger	Average Monthly	Maximum Daily
Concentration of Mercury in Discharge	0.037 µg/L	0.062 µg/L
Mass Emission of Mercury in Discharge	Individual annual mass emission limit, as depicted in Table 6A, above, and computed as a 12-month running average, as shown in C.1.b., below.	

- b. The running 12-month average mercury mass emission shall be computed monthly for each calendar month as follows:

$$(12 - \text{month Running Average, kg}) = (\text{Current Mass Emission, kg}) + \sum (\text{Previous 11 months' mass emissions, kg})$$

where the current mass emission is the emission for the current calendar month computed as shown in III.A. above.

- c. Each Discharger who exceeds any of the applicable triggers for mercury listed in Table 7 or 8, above, shall comply with the following action requirements:

**Table 9. Action Plan Required in Response to Mercury Trigger Exceedance**

Task	Deadline
<p><b>i. Accelerated Sampling.</b> As soon as the Discharger becomes aware of an exceedance of a mercury trigger, resample within 48 hours and commence weekly sampling (or more frequent than weekly) for a total of at least 6 new samples. If all 6 new samples show mercury levels below the triggers, return to routine sampling. If during the accelerated sampling, (1) any of the new samples are above the maximum daily trigger, or (2) the monthly average of the new samples is above the monthly trigger, or (3) the 12-month running average mass is above the mass trigger, then proceed with action plan for mercury reduction and continue sampling monthly until the observed mercury discharge is below the trigger levels for 3 consecutive months, at which point the Discharger shall complete the reporting of this exceedance as required by Tasks ii and iv, and return to routine monitoring, and discontinue efforts under Task iii, below.</p>	<p>See deadlines in task description.</p>
<p><b>ii. Report Trigger Exceedance.</b> The Discharger shall report to the Regional Water Board any exceedance of mercury trigger levels in the cover letter of its Self-Monitoring Report and the status of its plans and actions to accelerate monitoring and/or develop and implement an action plan for mercury reduction.</p>	<p>In the Self-Monitoring Report due 30 days after the end of the monitoring period.</p>
<p><b>iii. Action Plan for Mercury Reduction.</b> Develop, submit, and implement an Action Plan that (1) evaluates the cause<sup>1</sup> of the trigger exceedance(s); (2) evaluates the effectiveness of existing pollution prevention or pretreatment programs and methods for preventing future exceedances; (3) evaluates the feasibility and effectiveness of technology enhancements to improve treatment plant performance; and (4) evaluates other measures for preventing future exceedances. In addition, the Discharger shall identify in the Action Plan mercury reduction measures it will take along with an implementation schedule for those measures to correct current and prevent future trigger exceedances.</p> <p><sup>1</sup> Possible causes of exceedances include (but are not limited to) changes in reclamation; increases in the number of sewer connections, increases in infiltration and inflow (I/I); changes in the type or number of industrial, commercial, or residential sources; changes in the raw material used in manufacturing processes; changes in treatment system operation; or factors beyond the Discharger's control, such as a natural disaster, vandalism, illegal dumping, or extreme flood event.</p>	<p>Within 130 days of the initial trigger exceedance.</p>
<p><b>iv. Annual Reporting.</b> The Discharger shall provide a status of its mercury reduction efforts in the annual Self-Monitoring Report. Additionally, as causes and corrective actions are identified, the Discharger shall amend or supplement its Action Plan as appropriate. Such changes shall be reported to the Regional Water Board in the Discharger's Annual Self-Monitoring Report.</p>	<p>Annually due February 1 of each year until the Discharger demonstrates compliance with trigger levels for a continuous 3-month period of sampling.</p>

**2. Mercury and PCBs Source Control Program**

Each Discharger shall evaluate whether there are controllable sources of mercury or PCBs to its wastewater system. For PCBs, controllable sources can be industrial equipment containing PCBs. For mercury, controllable sources can be the cumulative process discharges from amalgam-generating dental practices in a municipal wastewater service area. The Discharger shall continue to implement and look for opportunities to improve existing measures to control such sources. Each Discharger

shall submit the results of this evaluation, including any proposed control actions and implementation schedules, in its annual pollution prevention reports required by its individual NPDES permit.

### **3. Risk Reduction Programs**

Dischargers shall continue to implement and participate in programs to reduce mercury and PCB-related risks to humans from consumption of San Francisco Bay/Delta fish. This requirement may be satisfied by a combination of related efforts through the Regional Monitoring Program or other similar collaborative efforts. Dischargers shall describe the progress of their efforts in the Annual Self-Monitoring Report. Alternatively, the Bay Area Clean Water Agencies (BACWA) may fulfill the annual reporting requirement by providing a summary of annual risk reduction program efforts for agencies that choose to participate through BACWA.

### **4. Mercury and PCBs Discharge Adjustments for Recycled Wastewater Use by Industrial Dischargers**

When an Industrial Discharger named on Table 1B of this Order uses recycled wastewater from a Municipal Discharger named on Table 1A of this Order, the Industrial Discharger may, at its option, apply adjustments (hereinafter mercury or PCBs Adjustment) to its mercury mass emission or mercury or PCBs discharge concentration when determining compliance with its concentration and mass limits specified in section III of this Order. The mercury or PCBs Adjustments shall be based on measured influent mercury and PCBs levels from the recycled wastewater in accordance with the following:

- a. The Industrial Discharger shall sample and analyze the influent recycled wastewater and the effluent discharge at least monthly for mercury and quarterly for PCBs. Influent sampling shall include measurement of daily flow volume for the entire duration that mercury or PCBs Adjustments are applied. Influent sampling shall occur at an appropriate influent sampling station as identified in the Discharger's individual permit.
- b. The Industrial Discharger shall determine the time interval between introduction of a given constituent of concern in the influent recycled water and the first appearance of the constituent in the final effluent. The basis for this determination must be included in any calculation of mercury or PCBs Adjustments.
- c. Calculation of Mercury or PCBs Discharge Adjustment.

#### Concentration 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 time lag, described in 4.b. above, for that monitoring period to give a Concentration Adjustment that will

apply for the monitoring interval. The monitoring interval is the time between sampling days. For example, monthly sampling yields a one month monitoring interval. An example follows:

ex.: Mercury is monitored monthly. The lag time is Y days.

Step 1:  $\{(Influent\ concentration\ of\ mercury\ in\ Recycled\ Wastewater) - (Influent\ concentration\ of\ mercury\ in\ potable\ water)\} \times (Total\ Influent\ Volume\ of\ Recycled\ Wastewater\ for\ the\ month) = (Influent\ mass\ of\ mercury\ from\ Recycled\ Wastewater)$

Step 2:  $(Influent\ mass) \div (Total\ effluent\ discharge\ volume\ for\ the\ 30\text{-}day\ period,\ Y\ days\ after\ influent\ sampled) = (Concentration\ Adjustment\ to\ be\ subtracted\ from\ concentration\ of\ mercury\ in\ the\ discharge,\ valid\ for\ that\ month)$

#### Mass 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 divided by the number of days in that monitoring period to give a Mass Adjustment that will apply for the monitoring interval. The monitoring interval is the time between sampling days. For example, monthly sampling yields a one month monitoring interval. A schematic example follows:

ex.: Constituent B is monitored monthly. The lag time is Y days.

Step 1:  $\{(Influent\ concentration\ of\ mercury\ in\ Recycled\ Wastewater) - (Influent\ concentration\ of\ mercury\ in\ potable\ water)\} \times (Total\ Influent\ Volume\ of\ Recycled\ Wastewater\ for\ the\ month) = (Influent\ mass\ of\ mercury\ in\ Recycled\ Wastewater)$

Step 2:  $(Influent\ mass) \div (30.5,\ the\ number\ of\ days\ in\ a\ standard\ month) = (Mass\ Adjustment\ to\ be\ subtracted\ from\ monthly\ mass\ emission\ for\ that\ month)$

- d. If an Industrial Discharger opts to apply a Mass Adjustment, the Regional Water Board shall transfer that Adjustment to the mass emission for the corresponding discharge interval from the Municipal Discharger who is the producer and source of the recycled wastewater. If this reverse Adjustment results in an adjusted mass discharge level above both of the following criteria, then that Municipal Discharger is in violation of its Annual Average Effluent Limit and is subject to enforcement action by the Regional Water Board:
  - i. The sum of the adjusted mass discharge levels from the Industrial Discharger and the Municipal Discharger exceeds the sum of the individual Average Annual Effluent Limits for these two Dischargers; and

- ii. The adjusted mass discharge levels from the Municipal Discharger results in an aggregate mass emission from all Municipal Dischargers that exceeds the Aggregate Mass Emission Limit for Municipal Dischargers.

#### 5. PCBs Discharge Adjustment for Urban Stormwater 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 5B 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 the Runoff Adjustment is 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:  $\{(\text{Influent concentration of PCBs in dry weather}) \times (\text{Volume of dry weather diversion for the quarter}) + (\text{Influent concentration of PCBs in wet weather}) \times (\text{Volume of wet weather diversion for the quarter})\} = (\text{Influent mass of PCBs from urban runoff})$

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

## 6. Reopener Provision

This Order may be reopened for modification, or revocation and reissuance, if there is modification of the San Francisco Bay Mercury or PCBs TMDL implementation provisions.

## VI. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

### A. General.

Compliance with effluent limitations for mercury shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, a Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

### B. Multiple Sample Data.

When determining compliance with an average monthly effluent limit (AMEL) for priority pollutants and more than one sample result is available, the Dischargers shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

## ATTACHMENT A – DEFINITIONS

### Arithmetic Mean ( $\mu$ )

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

### Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week

**Detected, but Not Quantified (DNQ)** are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

### Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

### Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements ( $n$ ) is odd, then the median =  $X_{(n+1)/2}$ . If  $n$  is even, then the median =  $(X_{n/2} + X_{(n/2)+1})/2$  (i.e., the midpoint between the  $n/2$  and  $n/2+1$ ).

**Method Detection Limit (MDL)** is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

**Minimum Level (ML)** is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

**Not Detected (ND)** are those sample results less than the laboratory's MDL.

**Pollutant Minimization Program (PMP)**

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

**Pollution Prevention**

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

**Reporting Level (RL)** is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

**Total Maximum Daily Load (TMDL)** is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

**ATTACHMENT B – EXISTING ORDER NOS. AND NPDES PERMIT NOS.**

**Municipal Dischargers:**

Discharger	NPDES Permit No.	Existing Order No. <sup>1</sup>	Existing Order Adoption Date	Existing Order Expiration Date
American Canyon, City of	CA0038768	R2-2011-0046	7/13/11	8/31/16
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	R2-2012-0016	2/08/12	3/31/17
Central Marin Sanitation Agency	CA0038628	R2-2012-0051	6/13/12	7/31/17
Crockett Community Services District, Port Costa Sanitary Dept.	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	R2-2012-0004	1/18/12	2/28/17
Union S.D. Wet Weather Outfall	CA0038733	R2-2010-0097	7/14/10	8/31/15
Union S.D. Hayward Marsh	CA0038636	R2-2011-0058	9/14/11	10/31/16
Dublin San Ramon Services District	CA0037613	R2-2012-0005	1/18/12	2/28/17
City of Livermore	CA0038008	R2-2012-0006	1/18/12	2/28/17
LAVWMA Wet Weather Outfall	CA0038679	R2-2011-0028	5/11/11	6/30/16
East Bay Municipal Utility Dist. WWTP	CA0037702	R2-2009-0004	1/14/09	1/13/14
Fairfield-Suisun Sewer District	CA0038024	R2-2009-0039	4/08/09	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	R2-2011-0016	4/13/11	5/31/16
Marin County (Tiburon), Sanitary District No. 5 of	CA0037753	R2-2008-0057	7/09/08	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	R2-2011-0007	2/09/11	3/31/16
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	R2-2011-0003	1/12/11	2/28/16
Pinole, City of	CA0037796	R2-2012-0059	8/08/12	9/30/17
Rodeo Sanitary District	CA0037826	R2-2012-0027	4/11/12	5/31/17
Saint Helena, City of	CA0038016	R2-2010-0105	9/08/10	10/31/15
San Francisco, City and County of, San Francisco International Airport	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 Water Pollution Control Plant and Cities of San Jose and Santa Clara	CA0037842	R2-2009-0038	4/08/2009	5/31/14
San Mateo, City of	CA0037541	R2-2007-0075	11/01/07	1/31/13
Sausalito-Marin City Sanitary District	CA0038067	R2-2012-0083	11/14/12	12/31/17
Sewerage Agency of Southern Marin	CA0037711	R2-2012-0094	12/12/12	1/31/18
Sonoma Valley County Sanitary District	CA0037800	R2-2008-0090	10/08/08	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 Department of Navy, Treasure Island	CA0110116	R2-2010-0001	1/13/10	2/28/15

Discharger	NPDES Permit No.	Existing Order No. <sup>1</sup>	Existing Order Adoption Date	Existing Order Expiration Date
Vallejo Sanitation and Flood Control District	CA0037699	R2-2012-0017	2/08/12	3/31/17
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	CA0038539	R2-2008-0003	3/31/08	3/31/13
Yountville, Town of	CA0038121	R2-2010-0072	5/12/10	6/30/15

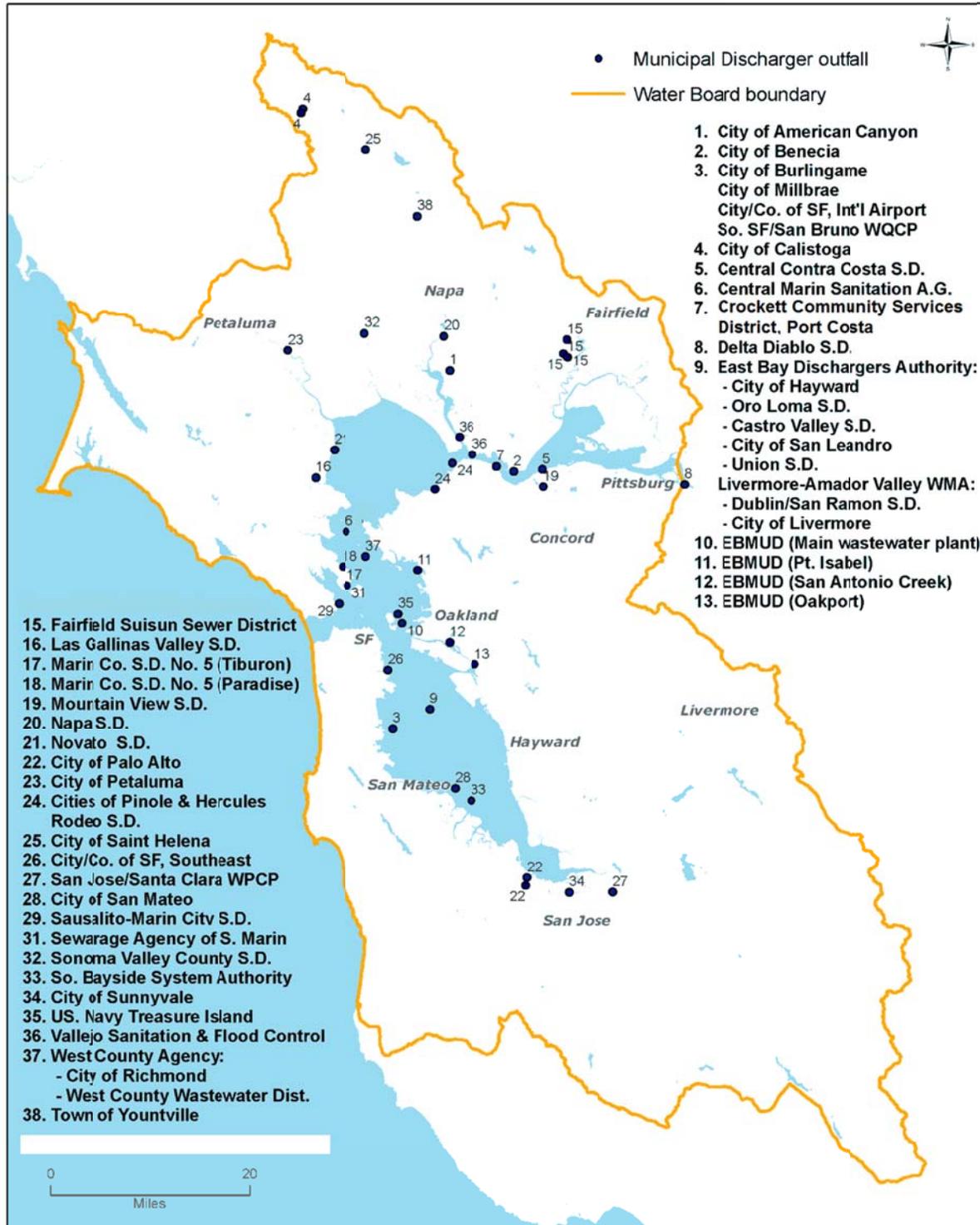
<sup>1</sup> The orders shown are for the primary permit reissuance and do not include permit amendments.

**Industrial Dischargers:**

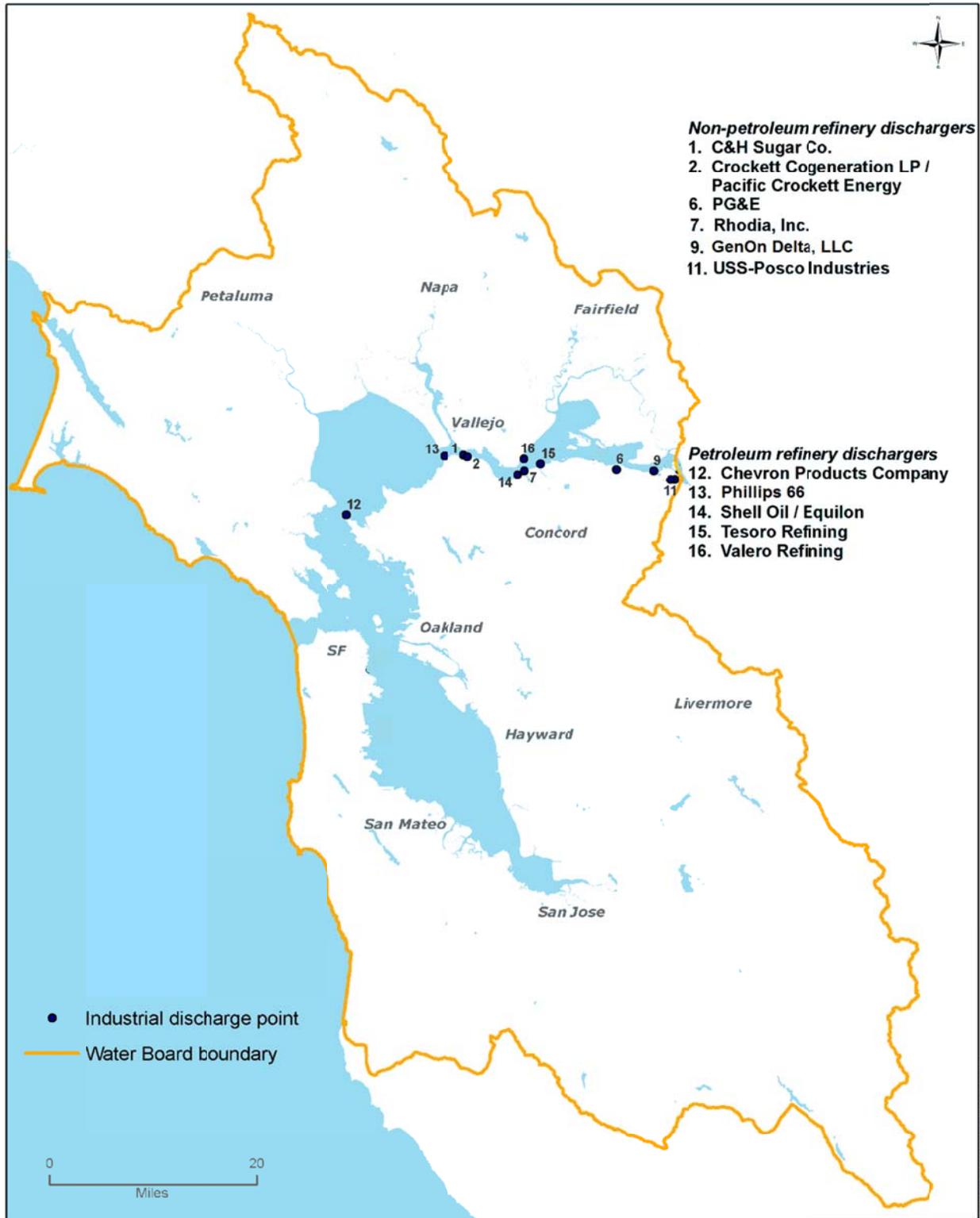
Discharger	NPDES Permit No.	Existing Order No.	Existing Order Adoption Date	Existing Order Expiration Date
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>				
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept.	CA0005240	R2-2012-0084	11/14/12	12/31/17
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	CA0029904	R2-2010-0073	5/12/10	6/30/15
Pacific Gas and Electric Company	CA0030082	R2-2006-0010	2/8/06	3/31/11
Rhodia, Inc.	CA0006165	R2-2010-0058	3/10/10	4/30/15
GenOn Delta, LLC (formerly Mirant)	CA0004880	R2-2002-0072	6/19/02	5/31/07
USS-Posco Industries	CA0005002	R2-2011-0048	7/13/11	8/31/16
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>				
Chevron Products Company	CA0005134	R2-2011-0049	7/13/11	8/31/16
Phillips 66 (formerly ConocoPhillips)	CA0005053	R2-2011-0027	5/11/11	6/31/16
Shell Oil Products US and Equilon Enterprises LLC	CA0005789	R2-2012-0052	6/13/12	7/31/17
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

**ATTACHMENT C – MAP OF MUNICIPAL AND INDUSTRIAL DISCHARGERS**

**Municipal Discharger outfall locations**



## Industrial Discharge Outfalls



## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

### I. GENERAL MONITORING PROVISIONS

- A. Dischargers shall comply with the MRP for this Order as adopted by the Regional Water Board and with all of the requirements contained in the Regional Standard Provisions (Attachment G of individual permits). The MRP may be amended by the Executive Officer pursuant to 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and the Regional Standard Provisions, the MRP prevails.
- B. Sampling is required during the entire year when discharging. All compliance analyses shall be conducted using current USEPA methods, or that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Board’s Quality Assurance Program. The Regional Water Board will find a Discharger in violation of the limitation if the discharge concentration exceeds the effluent limitation and the Reporting Level for the analysis for that constituent.
- C. Minimum Levels. For compliance monitoring, analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L, equivalent to parts per billion (ppb). According to the SIP, method-specific factors can be applied. In such cases, this additional factor must be applied in the computation of the Reporting Level. Application of such factors will alter the Reporting Level from the Minimum Level for the analysis. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level value is the lowest calibration standard. At no time is a Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. The table below indicates the highest minimum level that the Discharger’s laboratory must achieve for calibration purposes.

Constituent	Minimum Level	Units
Mercury	0.0005	µg/L
PCB 1016, 1221, 1232, 1242, 1248, 1254, 1260	0.5	µg/L

## II. MONITORING LOCATIONS

Dischargers shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Discharge point indicated in individual NPDES permits for discharge from the Discharger's wastewater treatment plant (often but not always E-001)	Location as indicated in individual NPDES permits for mercury or other toxic pollutants. For C&H Sugar Company, location is EFF-002. For GenOn Delta, LLC, locations are E-001B through to and including E-001I. For San Francisco International Airport, location is EFF-001A for both its Sanitary and Industrial Plants. For Calistoga, annual monitoring shall alternate each year between EFF-001 and EFF-002.	As described in individual NPDES permits for mercury or other toxic pollutants

## III. EFFLUENT MONITORING REQUIREMENTS

The Dischargers shall monitor mercury and PCBs in effluent as shown in Tables E-2 below and report as described in the next section:

**Table E-2. Monitoring Requirements**

Parameter	Units <sup>1</sup>	Sample Type <sup>2</sup>	Minimum Sampling Frequency <sup>3,4</sup>
Total mercury <sup>5</sup>	µg/L	C-24 or Grab <sup>6</sup>	Monthly for Major Dischargers (see Table 1A and 1B)
			Quarterly for Minor Dischargers (see Table 1A and 1B), except as otherwise indicated below
			Annually for Marin County (Paradise Cove) Sanitary District No. 5, City of St. Helena, and Crockett Community Services District (Port Costa)
Total PCBs (as aroclors) <sup>7</sup>	µg/L	Grab	Semi-annually for Major Dischargers
			Annually for Minor Dischargers
PCBs (as congeners) <sup>8</sup>	µg/L	Grab	Quarterly for Major Dischargers with Design Flow <sup>9</sup> > 5.0 mgd
			Semi-annually for Major Dischargers with Design Flow ≤ 5.0 mgd
			Annually for Minor Dischargers, except as otherwise indicated below
			Once every Five Years for Marin County (Paradise Cove) Sanitary District No. 5, City of St. Helena, and Crockett Community Services District (Port Costa)

(1) Unit Abbreviation: µg/L = micrograms per liter

(2) Sample Type: C-24 = 24-hour composite. 24-hour composites may be made up of discrete grab samples collected over a 24-hour period, or may be collected using automatic compositing equipment. If using compositing equipment, the Discharger shall implement all feasible ultra clean techniques to reduce sample contamination (such as use of ultra clean Teflon tubing).

(3) Intermittent or seasonal dischargers shall collect samples during those months for which a discharge occurs.

- (4) Monitoring frequency: Monitoring frequency may be increased subsequent to reissuance of this Order.
- (5) Total mercury: The Dischargers shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for total mercury monitoring.
- (6) Grab Samples: If allowed in the Pretreatment and Biosolids Monitoring Requirements of the Dischargers' individual NPDES permits, grab samples shall be collected coincident with composite samples collected for the analysis of other regulated parameters.
- (7) Aroclor Monitoring: Dischargers shall use USEPA Method 608 for this monitoring. These data will be used for assessing compliance with the limits in Tables 6B and 7B. Non-detected and/or estimated values shall be treated as zeros in the calculation of Total PCBs.
- (8) Congener Monitoring: This monitoring is for informational purposes. Dischargers shall use USEPA Proposed Method 1668c and report the results for each of the 40 congeners that contribute to the Bay's impairment and congeners that co-elute with the 40 congeners (see Table F-14). For congeners that co-elute with the 40 congeners, Dischargers shall report the sum of these co-eluting congeners. A summation for total PCBs is not required.
- (9) Design Flow: The design flows for each facility are included in Tables F-1A and F-1B of the Fact Sheet.

#### IV. REPORTING REQUIREMENTS

##### A. General Monitoring and Reporting Requirements

The Dischargers shall comply with all Federal Standard Provisions (Attachment D) and Regional Standard Provisions (Attachment G) related to monitoring, reporting, and recordkeeping. These attachments are included in the Dischargers' individual permits.

##### B. Individual Reporting in Self Monitoring Reports (SMRs)

###### 1. Reporting of Mercury and PCBs Data

###### a. Report Data with Routine SMR

Dischargers shall submit mercury and PCBs data collected as part of this Order in the regular monthly or quarterly SMRs required in that Discharger's individual permit. This includes data for mercury, total PCBs (as aroclors) using USEPA Method 608, and PCBs (as congeners). The PCB congeners shall include the 40 that contribute to water quality impairment plus co-elutes (66 congeners in total, see Table F-14), using USEPA Method 1668c.

- (i) For Industrial Dischargers claiming an effluent credit for recycled water use pursuant to Provision V.C.4, the amount of credit claimed for that month shall be reported monthly to the Municipal Discharger that supplied the recycled water. The reporting from the Industrial Discharger to the Municipal Discharger shall be completed no later than 15 days following the end of the calendar month. The Municipal and Industrial Dischargers shall then include this information in their respective monthly (or quarterly) and annual SMRs.

(ii) If a Discharger monitors effluent mercury or PCBs more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

**b. Annual SMR**

Annual SMRs are due February 1 following each calendar year. Each Discharger shall summarize mercury data in its Annual SMR. This summary shall include, at a minimum, mercury concentrations for each sample, the corresponding flow, and the annual mercury loading. For PCBs, each Discharger shall reference the months it reported USEPA Method 1668c data.

**2. Monitoring Periods**

Monitoring periods for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Monthly	Effective date of permit	1 <sup>st</sup> day of calendar month through last day of calendar month
Quarterly	Effective date of permit	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
Semiannually	Effective date of permit	January 1 through June 30 July 1 through December 31
Annually	Effective date of permit	January 1 through December 31

**3. Reporting of ML or RL, DNQ, and ND, and Establishing Calibration Standards**

The Dischargers shall report with each sample result the applicable Minimum Level (ML) or Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

The Dischargers shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.

- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is a Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

**4. Reporting Data in Tabular Format**

The Dischargers shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with effluent limitations. The Dischargers are not required to duplicate the submittal of data that is entered in a tabular format within CIWQS.

**5. Cover Letter for SMR**

Each Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs and any exceedances of trigger levels; describe the requirement that was violated or the trigger exceedance; discuss corrective actions taken or planned; and describe the proposed time schedule for corrective actions.

**6. Signatory and Certification of SMR**

SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D). Dischargers shall submit electronic and/or paper SMRs as required by each individual permit. For paper SMRs, Dischargers shall submit SMRs to the address listed below:

Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612  
ATTN: NPDES Wastewater Division

**C. Discharge Monitoring Reports (DMRs)**

1. DMRs must be signed and certified as required by the standard provisions (Attachment D). Until the State Water Board approves electronic submittal of DMRs, each Discharger shall submit one original hard copy through the mail to one of the addresses listed below:

<b>Standard Mail</b>	<b>FedEx/UPS/ Other Private Carriers</b>
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

2. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section II of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order. This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

**Table F-1. Facility Information**  
**(information not already presented in this Order is shown in bold)**

<b>WDID</b>	
Discharger	
Name of Facility	See Tables 1A and 1B attached to cover page above.
Facility Address	
Facility Contact, Title and Phone	See Tables 4A and 4B starting on page 3 above.
<b>Authorized Person to Sign and Submit Reports</b>	<b>See Tables F-1A and F-1B below.</b>
Mailing Address	See Tables 4A and 4B starting on page 3 above.
<b>Billing Address</b>	<b>See Tables F-1A and F-1B below.</b>
Type of Facility	See Tables 4A and 4B starting on page 3 above.
Major or Minor Facility	See Tables 1A and 1B attached to cover page above.
<b>Pretreatment Program</b>	<b>See Tables F-1A and F-1B below.</b>
<b>Reclamation Requirements</b>	<b>Not applicable.</b>
Facility Permitted Flow	See Facility Design Flow below.
Facility Design Flow	See Tables 4A and 4B starting on page 3 above.
<b>Watershed</b>	<b>San Francisco Bay</b>
<b>Receiving Water</b>	
<b>Receiving Water Type</b>	<b>See Tables F-1A and F-1B below.</b>

**Table F-1A. Additional Information on Municipal Facilities**

Discharger	Authorized Person to Sign and Submit Reports	Billing Address (if different from mailing address)	Pretreatment Program	Receiving Water Type
American Canyon, City of	Same as Contact	Same as mailing address	Y	Estuarine
Benicia, City of	Same As Contact	Same as mailing address	Y	Estuarine
Burlingame, City of	Same as contact	Same as mailing address	Y	Marine
Calistoga, City of	Warren Schenstrom Water Systems Superintendent (707) 942-2828	Same as mailing address	N	Freshwater
Central Contra Costa Sanitary District	Same as contact	Same as mailing address	Y	Estuarine
Central Marin Sanitation Agency	Same as contact	Same as mailing address	Y	Estuarine
Crockett Community Services District, Port Costa Sanitary Dept.	Same as contact	Same as mailing address	N	Estuarine
Delta Diablo Sanitation District	Steve Dominguez Plant Manager (925) 756-1967	Same as mailing address	Y	Estuarine
East Bay Dischargers Authority	Same as contact	Same as mailing address	Y	Estuarine
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 Export and Storage Facilities				
Dublin San Ramon Services District Wastewater Treatment Plant				
City of Livermore Water Reclamation Plant				
East Bay Municipal Utility District	David R. Williams Director of Wastewater (510) 287-1496	EBMUD Accounts Payable P.O. Box 24055, MS #5 Oakland, CA 94623-2306	Y	Marine

<b>Discharger</b>	<b>Authorized Person to Sign and Submit Reports</b>	<b>Billing Address (if different from mailing address)</b>	<b>Pretreatment Program</b>	<b>Receiving Water Type</b>
Fairfield-Suisun Sewer District	Same as contact	Same as mailing address	Y	Estuarine
Las Gallinas Valley Sanitary District	Same as contact	Same as mailing address	N	Estuarine
Marin County (Paradise Cove), Sanitary District No. 5 of	Same as contact	Same as mailing address	N	Marine
Marin County (Tiburon), Sanitary District No. 5 of	Same as contact	Same as mailing address	N	Marine
Millbrae, City of	Same as contact	Same as mailing address	N	Marine
Mt. View Sanitary District	Same as contact	Same as mailing address	N	Estuarine
Napa Sanitation District	Sharleen Maglione Plant Manager (707)258-6020	Same as mailing address	Y	Estuarine
Novato Sanitary District	Same as contact	Same as mailing address	Y	Estuarine
Palo Alto, City of	Same as contact	Same as mailing address	Y	Estuarine
Petaluma, City of	Same as contact	Same as mailing address	Y	Estuarine
Pinole, City of	Same as contact	Same as mailing address	N	Marine
Rodeo Sanitary District	Same as contact	Same as mailing address	N	Estuarine
Saint Helena, City of	Michael Sample Chief Plant Operator (707) 967-2878	Same as mailing address	N	Freshwater
San Francisco, City and County of, San Francisco International Airport	Peter Acton Deputy Airport Director (650) 821-5000	Same as mailing address	Y	Marine
San Francisco (Southeast Plant), City and County of	George Engel Superintendent (415) 920-4944	Same as mailing address	Y	Marine
San Jose/Santa Clara Water Pollution Control Plant and Cities of San Jose and Santa Clara	Joanna De Sa Acting Deputy Director (408) 535-8560	Same as mailing address	Y	Estuarine
San Mateo, City of	Chad Davisson Environmental Services Division Manager (650) 522-7385	Same as mailing address	Y	Marine
Sausalito-Marin City Sanitary District	Same as contact	Same as mailing address	N	Marine
Sewerage Agency of Southern Marin	Same as contact	Same as mailing address	N	Marine
Sonoma Valley County Sanitary District	Brian Anderson Operations Coordinator (707) 526-5370	Same as mailing address	N	Estuarine

Discharger	Authorized Person to Sign and Submit Reports	Billing Address (if different from mailing address)	Pretreatment Program	Receiving Water Type
South Bayside System Authority	Same as contact	Same as mailing address	Y	Marine
South San Francisco and San Bruno, Cities of	Same as contact	Same as mailing address	Y	Marine
Sunnyvale, City of	Same as contact	Same as mailing address	Y	Estuarine
US Department of Navy, Treasure Island	Same as contact	Same as mailing address	N	Marine
Vallejo Sanitation and Flood Control District	Ronald J. Matheson District Manager (707) 644-8949	Same as mailing address	Y	Estuarine
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	E.J. Shalaby District Manager (510) 222-6700	Same as mailing address	Y	Estuarine
Yountville, Town of	Don Moore Wastewater Assistant System Supervisor (707) 944-2988	Same as mailing address	N	Freshwater

**Table. F-1B. Additional Information for Industrial Facilities**

Discharger	Authorized Person to Sign and Submit Reports	Billing Address (if different from mailing address)	Pretreatment Program	Receiving Water Type
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept.	Tanya Akkerman Environmental Manager C&H Sugar Company, Inc. (510) 787-4352	Same as mailing address	N	Enclosed Bay
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	Dan Consie Asset Manager (510) 787-4100	Same as mailing address	N	Enclosed Bay
Pacific Gas and Electric Company	David Harnish Site Remediation Manager (925) 866-5882	Same as mailing address	N	Enclosed Bay
Rhodia, Inc.	Darryl Hodge Plant Manager (925) 313-8221	Same as mailing address	N	Enclosed Bay

<b>Discharger</b>	<b>Authorized Person to Sign and Submit Reports</b>	<b>Billing Address (if different from mailing address)</b>	<b>Pretreatment Program</b>	<b>Receiving Water Type</b>
GenOn Delta, LLC (formerly Mirant)	Monte Ash, Vice President California Operations (925) 427-3575	Pittsburg Power Plant P.O. Box 192 Pittsburg, CA 94565	N	Estuary
USS-Posco Industries	Same as contact	Same as mailing address	N	Enclosed Bay
Chevron Products Company	Dave Feiglstock HES Manager (925) 842-1000	Same as mailing address	N	Enclosed Bay
Phillips 66 (formerly ConocoPhillips)	Paul Miller Manager, Technical Services (510) 245-4400	Same as mailing address	N	Enclosed Bay
Shell Oil Products US and Equilon Enterprises LLC	Natalie Braden Manager, Env. Affairs (925) 313-3000	Same as mailing address	N	Enclosed Bay
Tesoro Refining & Marketing Co.	Matthew Marusich Environmental Manager (925) 228-1220	Same as mailing address	N	Enclosed Bay
Valero Refining Company	Christopher Howe Director, Health, Safety, Environment, and Government Affairs (707) 745-7011	Same as mailing address	N	Enclosed Bay

**A.** The discharge of mercury and PCBs by the Dischargers listed in this Order were regulated by Order No. R2-2007-0077, as amended by Order No. R2-2011-0012. This Order supercedes those orders and continues to implement the wasteload allocations and implementation requirements of the mercury and PCBs TMDLs. The Regional Water Board adopted the mercury TMDL on August 9, 2006, and the PCBs TMDL on February 13, 2008.

For the purposes of this Order, references to the “dischargers” or “permittees” in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Dischargers herein.

**B.** The Dischargers listed in Table 1A of the Order own and operate secondary and advanced secondary wastewater treatment facilities as described in their respective permits. The Dischargers listed in Table 1B of the Order own and operate wastewater treatment facilities as described in their respective permits. Wastewater is discharged to San Francisco Bay and its tributaries, which are waters of the United States within the San Francisco Bay watershed. Attachment C shows a map of the Dischargers subject to this Order.

## **II. FACILITIES DESCRIPTION**

### **A. Description of Wastewater Treatment**

Municipal wastewater treatment plants provide secondary treatment, which includes screening, settling, and biological treatment. Some plants also provide advanced treatment, which removes additional solids often with sand filtration. Removing additional solids removes additional pollutants, like mercury and PCBs, that adhere to particles. Municipal wastewater treatment plants generally remove over 90% of the mercury and PCBs in their influent. While the removed mercury and PCBs are not directly discharged to water, some is returned to the environment through landfills, incinerators, or soil amendments. The primary sources of mercury in municipal wastewater are expected to be human waste and medical and dental facilities, while the primary sources of PCBs are expected to be human waste and wastewater generated from old industrial equipment that may contain PCBs.

Industrial Dischargers include petroleum refineries, chemical plants, and other large industrial facilities. Their mercury and PCBs loads depend on the types of activities in which these Dischargers engage. Their wastewater treatment facilities also vary depending on their activities. Individual permits, listed in Attachment B, provide further descriptions of treatment processes.

### **B. Discharge Points and Receiving Waters**

The locations of discharge points are shown in Tables 4A and 4B of the Order, above. Treated wastewater is discharged to San Francisco Bay and its tributaries as indicated on Tables 2A and 2B of the Order.

**C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

The effluent limitations for mercury and PCBs contained in Order No. R2-2007-0077, as amended by Order No. R2-2011-0012, for each Discharger are shown in the tables F-2, F-3, F-4, and F-5 below:

**Table F-2. Current Individual Permit Mercury Effluent Limits for Municipalities**

Discharger	Average Annual Effluent Limit for Mercury (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit Mercury (µg/L)
American Canyon, City of	0.12	0.025	0.027
Benicia, City of	0.088	0.066	0.072
Burlingame, City of	0.089	0.066	0.072
Calistoga, City of	0.016	0.066	0.072
Central Contra Costa Sanitary District	2.23	0.066	0.072
Central Marin Sanitation Agency	0.18	0.066	0.072
Crockett Community Services District, Port Costa Sanitary Dept.	0.00072	0.066	0.072
Delta Diablo Sanitation District	0.31	0.066	0.072
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, Dublin San Ramon Services District, and City of Livermore	3.6	0.066	0.072
East Bay Municipal Utility District	2.6	0.066	0.072
Fairfield-Suisun Sewer District	0.22	0.025	0.027
Las Gallinas Valley Sanitary District	0.17	0.066	0.072
Marin County (Paradise Cove), Sanitary District No. 5 of	0.00055	0.066	0.072
Marin County (Tiburon), Sanitary District No. 5 of	0.0099	0.066	0.072
Millbrae, City of	0.052	0.066	0.072
Mt. View Sanitary District	0.034	0.025	0.027
Napa Sanitation District	0.28	0.066	0.072
Novato Sanitary District	0.079	0.066	0.072
Palo Alto, City of	0.38	0.025	0.027
Petaluma, City of	0.063	0.066	0.072
Pinole, City of	0.055	0.066	0.072
Rodeo Sanitary District	0.060	0.066	0.072
Saint Helena, City of	0.047	0.066	0.072
San Francisco, City and County of, San Francisco International Airport	0.032	0.066	0.072
San Francisco (Southeast Plant), City and County of	2.7	0.066	0.072
San Jose/Santa Clara WPCP	1.0	0.025	0.027
San Mateo, City of	0.32	0.066	0.072
Sausalito-Marin City Sanitary District	0.078	0.066	0.072
Sewerage Agency of Southern Marin	0.13	0.066	0.072
Sonoma Valley County Sanitary District	0.041	0.066	0.072
South Bayside System Authority	0.53	0.066	0.072

Discharger	Average Annual Effluent Limit for Mercury (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit Mercury (µg/L)
South San Francisco and San Bruno, Cities of	0.29	0.066	0.072
Sunnyvale, City of	0.15	0.025	0.027
US Department of Navy (Treasure Island)	0.026	0.066	0.072
Vallejo Sanitation and Flood Control District	0.57	0.066	0.072
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	0.38	0.066	0.072
Yountville, Town of	0.040	0.066	0.072
<b>Aggregate Mass Emission Limit (kg/yr)</b>	<b>17</b>	<b>Not applicable</b>	<b>Not applicable</b>

**Table F-3. Current Individual Permit Mercury Effluent Limits for Industries**

Permitted Entity	Average Annual Effluent Limit for Mercury (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Maximum Daily Effluent Limit for Mercury (µg/L)
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>			
C&H Sugar Company, Inc., and Crockett Community Services District, Crockett Sanitary Dept.	0.045	0.079	0.12
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	0.0047	0.079	0.12
Dow Chemical Company	0.041	0.079	0.12
General Chemical West, LLC	0.21	0.079	0.12
GWF Power Systems L. P., Site I	0.0016	0.079	0.12
GWF Power Systems L. P., Site V	0.0025	0.079	0.12
Pacific Gas and Electric Company	0.00063	0.079	0.12
Rhodia, Inc.	0.011	0.079	0.12
San Francisco Airport Commission	0.051	0.079	0.12
GenOn Delta, LLC	0.0078	0.079	0.12
USS-Posco Industries	0.045	0.079	0.12
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>			
Chevron Products Company	0.34	0.079	0.12
ConocoPhillips	0.13	0.079	0.12
Shell Oil Products US and Equilon Enterprises LLC	0.22	0.079	0.12
Tesoro Refining & Marketing Co.	0.11	0.079	0.12
Valero Refining Company	0.08	0.079	0.12
<b>Aggregate Mass Emission Limit (kg/yr)</b>	<b>1.3</b>	<b>Not applicable</b>	<b>Not applicable</b>

**Table F-4. Current Individual Permit PCBs Effluent Limits for Municipalities**

<b>Discharger</b>	<b>Average Monthly Effluent Limit for PCBs (µg/L)</b>	<b>Maximum Daily Effluent Limit for PCBs (µg/L)</b>
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	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, Dublin San Ramon Services District, and City of Livermore	0.012	0.017
East Bay Municipal Utility 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 WPCP	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 Department of Navy (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

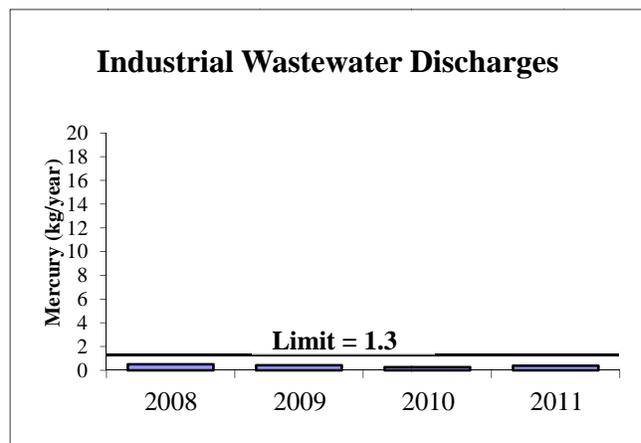
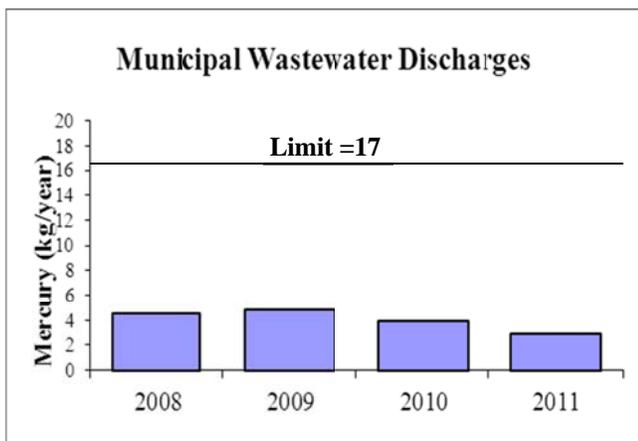
**Table F-5. Current Individual Permit PCBs Effluent Limits for Industry**

Discharger	Average Monthly Effluent Limit for PCBs (µg/L)	Maximum Daily Effluent Limit for PCBs (µg/L)
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>		
Chevron Products Company	0.00095	0.0015
Phillips 66 (formerly 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
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>		
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept.	0.012	0.018
Pacific Gas and Electric Company	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

**D. Compliance Summary**

The charts below show mercury loads for Municipal and Industrial Dischargers have been well below their mass allocations since the previous permit became effective in 2008. In 2011, the municipal load was 2.9 kg/year, the lowest loading yet recorded. The average municipal load for the past four years has been about 75 percent below its current permit limit of 17 kg/year and is also well within the final limit of 11 kg/year that will come into effect with this permit.

Mercury loadings from Industrial Dischargers are considerably lower than Municipal Dischargers. In 2011, the industrial load was 0.39 kg/year, which is comparable to past years and 70 percent below permit allocation of 1.3 kg/year, and is also well within the limit of 1.0 kg/year that will come into effect with this permit.



The most significant exceedance of mercury effluent limitations was from the GenOn Delta LLC, Pittsburg Power Plant, which violated concentration limits for mercury 14 times between August 2010 and April 2012. However, because of the very small flow associated with these violations, it did not have a meaningful impact on the overall mercury loads from industrial wastewater discharges. Regional Water Board staff issued a notice of violation, and GenOn Delta LLC is addressing mercury violations by implementing a more frequent cleaning schedule and considering additional treatment options.

For PCBs, there have been no effluent limit violations since the previous permit became effective in 2011, and available data show that the Dischargers are currently within their TMDL-allocated loads. The Regional Water Board adopted concentration limits to implement TMDL loading allocations for PCBs in Order No. R2-2011-0012, in part, because more samples would be needed to accurately measure loads from individual Dischargers and the cost of PCBs analysis is relatively high. Available data show that this concentration limits approach has effectively documented that loads are well below the 2.0 kg/year allocation for Municipal Dischargers and the 0.031 kg/year allocation for Industrial Dischargers. The PCBs TMDL originally allocated 0.035 kg/year for Industrial Dischargers, but the Regional Water Board has rescinded a number of industrial permits since the development of the PCBs TMDL. While the Regional Water Board used Method 608 to evaluate compliance with concentration-based effluent limits for PCBs, the data analyzed for measuring loads included PCBs Method 1668C informational data from April 2011 through June 2012. To calculate loads, the Regional Water Board used detected concentrations (including estimated values) from the 66 congeners used to develop the TMDL and each Discharger’s average monthly flow, and then normalized for a yearly loading (e.g., each of 5 samples would account for 73 days of loading). Appendix F-3 includes tables that show this information in detail for four discharger types: (1) advanced secondary Municipal Dischargers, (2) secondary Municipal Dischargers, (3) petroleum refinery, and (4) other industry. Table F-6 summarizes the information and shows that the Dischargers are well below the TMDL allocation for PCBs.

**Table F-6. PCBs Discharges Relative to TMDL Wasteload Allocations**

<b>Discharge Type</b>	<b>PCBs Discharge (kg/year)</b>	<b>PCBs TMDL Allocation (kg/year)</b>
Municipal Wastewater	0.95	2.0
Industrial Wastewater	0.007	0.031

**III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in the Order are based on the requirements and authorities described in this section.

**A. Legal Authorities**

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges or mercury and PCBs from the facilities listed in this Order to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

**B. California Environmental Quality Act (CEQA)**

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

**C. State and Federal Regulations, Policies, and Plans**

**1. Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the San Francisco Bay Basin (Region 2) (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to San Francisco Bay Water are as follows:

**Table F-7. Basin Plan Beneficial Uses**

Receiving Water Name	Beneficial Use(s)
San Francisco Bay and Applicable Tributaries – See individual Order Nos. (Attachment B) for specific Beneficial Uses that apply.	Agricultural Supply (AGR), Cold Freshwater Habitat (COLD), Ocean, Commercial, and Sport Fishing (COMM), Estuarine habitat (EST), Industrial Service Supply (IND), Marine Habitat (MAR), Fish Migration (MIGR), Municipal and domestic Supply (MUN), Navigation (NAV), Industrial Process Supply (PROC), Preservation of Rare and Endangered Species (RARE), Water Contact Recreation (REC1), Noncontact Water Recreation (REC2), Shellfish Harvesting (SHELL), Fish Spawning (SPWN), Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD)

The Regional Water Board adopted a Basin Plan Amendment on August 9, 2006, that establishes new water quality objectives for mercury and that establishes the San Francisco Bay Mercury TMDL to attain the new mercury objectives in San Francisco Bay and contiguous bay segments. The Regional Water Board’s Executive Officer made corrections on May 23, 2007, and the State Water Board approved the Basin Plan Amendment (as corrected) and new water quality objectives on July 17, 2007. The USEPA approved the new water quality objectives on February 12, 2008.

The Regional Water Board also adopted a Basin Plan Amendment on February 13, 2008, that established waste load allocations for PCBs in San Francisco Bay and contiguous bay segments. The State Water Board approved the Basin Plan amendment on October 20, 2009. The USEPA approved the amendment on March 29, 2010.

- 2. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the California Toxics Rule and National Toxics Rule and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 3. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharges must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- 4. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations<sup>1</sup> section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

#### **D. Impaired Water Bodies on CWA 303(d) List**

In November 2006, the USEPA approved a revised list of impaired water bodies prepared by the State [hereinafter referred to as the 303(d) list], prepared pursuant to provisions of CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. San Francisco Bay is listed as an impaired waterbody for mercury and PCBs. The SIP requires final effluent limitations

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<sup>1</sup> All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

for all 303(d)-listed pollutants to be based on total maximum daily loads and associated wasteload allocations.

San Francisco Bay is impaired for mercury and PCBs because mercury and PCBs contamination is adversely affecting existing beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. Mercury and PCBs concentrations in San Francisco Bay fish are high enough to threaten the health of humans who consume them. In addition, mercury concentrations in some bird eggs harvested from the shores of San Francisco Bay are high enough to account for abnormally high rates of eggs failing to hatch.

On February 12, 2008, USEPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, USEPA approved a TMDL for PCBs in San Francisco Bay. The numeric targets, allocations, and associated implementation plan will ensure that all San Francisco Bay segments attain applicable water quality standards to protect and support beneficial uses.

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. Section 122.44(d) of the Code of Federal Regulations requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

##### **A. Water Quality-Based Effluent Limitations (WQBELs)**

###### **1. Scope and Authority**

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. Water quality-based effluent limitations are included in this permit to implement wasteload allocations which are part of the San Francisco Bay mercury and PCBs TMDLs.

###### **2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan. A Basin Plan amendment, adopted by the Regional Water Board on August 9, 2006, and corrected by the Regional Water Board Executive Officer on May 23, 2007, (for the WLA for C&H Sugar Co.) was approved by the State Water Board on July 17, 2007. This Basin Plan amendment added two new mercury water quality objectives and vacated an outdated objective. The new objectives apply to all segments of San Francisco Bay, including all marine and estuarine waters contiguous to San Francisco Bay. The new objective to protect people who consume Bay fish applies to fish large enough to be consumed by humans. The objective is

0.2 mg mercury per kg fish tissue (average wet weight concentration measured in the muscle tissue of fish large enough to be consumed by humans). The objective to protect aquatic organisms and wildlife applies to small fish (3–5 cm in length) commonly consumed by the California least tern, an endangered species. This objective is 0.03 mg mercury per kg fish (average wet weight concentration). These two new objectives replace the water column four-day average marine mercury objective of 0.025 µg/L, which no longer applies to San Francisco Bay waters.

The water quality objectives for PCBs that are not attained include the numeric water quality criterion from the California Toxics Rule of 0.00017 µg/L and the narrative water quality objective. The narrative water quality objective states that controllable water quality factors shall not cause a detrimental increase in toxic substances found in bottom sediments or aquatic life. The PCBs TMDL and implementation plan are designed to resolve PCB impairment in all segments of San Francisco Bay. For municipal and industrial wastewater discharges this means limiting loads to 2.0 kg/year and 0.035 kg/year, respectively.

Effluent limitations and provisions contained in this Order for mercury and PCBs are designed to implement the San Francisco Bay Mercury and PCBs TMDLs to ensure that the Dischargers do not cause impairment of San Francisco Bay for these pollutants.

### **3. Determining the Need for WQBELs**

This Order contains WQBELs for mercury and PCBs. As required by section 122.44(d)(1)(vii), the Regional Water Board is including WQBELs for mercury and PCBs in this Order that are consistent with the assumptions and requirements of the San Francisco Bay Mercury and PCBs TMDLs. Based on the water quality monitoring done at the time of these TMDL adoptions, which set the wasteload allocations for mercury and PCBs at levels necessary to attain water quality standards, the Regional Water Board has determined that the WQBELs are consistent with the assumptions of these TMDLs. Similarly, compliance with the effluent limitations will satisfy the requirements of the TMDL.

The Regional Water Board has developed WQBELs for mercury and PCBs pursuant to section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis. Similarly, the SIP at Section 1.3 recognizes that reasonable potential analysis is not appropriate if a TMDL has been developed.

### **4. WQBEL Calculations - Mercury**

There are two sets of WQBELs for mercury in this Order: mass-based and concentration-based.

Mass-based WQBELs

The mass-based WQBELs are based on the established aggregate wasteload allocations for Municipal Dischargers and Industrial Dischargers that comprise a portion of the San Francisco Bay mercury TMDL. For the San Francisco Bay mercury TMDL, loads are expressed in terms of annual mercury loads in kilograms per year (kg/yr) because the adverse effects of mercury occur through long-term bioaccumulation. The loads are intended to represent long-term averages and account for long-term variability, including seasonal variability.

The San Francisco Bay mercury TMDL’s initial aggregate load limit of 17 kg/yr and associated individual load limits for Municipal Dischargers are shown in Table F-8 below. Also shown are the final wasteloads allocations that will apply with this Order.

**Table F-8. TMDL Mass Limits and Wasteload Allocations for Municipal Wastewater Dischargers**

Permitted Entity	NPDES Permit	Current Initial Load Limit (kg/yr)	Final Allocation (kg/yr)
American Canyon, City of	CA0038768	0.12	0.095
California Department of Parks and Recreation Angel Island State Park	CA0037401	0.013	0.013
Benicia, City of	CA0038091	0.088	0.088
Burlingame, City of	CA0037788	0.089	0.089
Calistoga, City of	CA0037966	0.016	0.016
Central Contra Costa Sanitary District	CA0037648	2.23	1.3
Central Marin Sanitation Agency	CA0038628	0.18	0.11
Delta Diablo Sanitation District	CA0038547	0.31	0.19
East Bay Dischargers Authority Dublin-San Ramon Services District (CA0037613) Hayward Shoreline Marsh (CA0038636) Livermore, City of (CA0038008) Union Sanitary District, wet weather (CA0038733)	CA0037869	3.6	2.2
East Bay Municipal Utility District	CA0037702	2.6 <sup>a</sup>	1.5
<b>Fairfield-Suisun Sewer District</b>	<b>CA0038024</b>	<b>0.22</b>	<b>0.17</b>
Las Gallinas Valley Sanitary District	CA0037851	0.17	0.10
Marin County Sanitary District, Paradise Cove	CA0037427	0.00055	0.00055
Marin County Sanitary District, Tiburon	CA0037753	0.0099	0.0099
Millbrae, City of	CA0037532	0.052	0.052
<b>Mt. View Sanitary District</b>	<b>CA0037770</b>	<b>0.034</b>	<b>0.034</b>
Napa Sanitation District	CA0037575	0.28	0.17
Novato Sanitary District	CA0037958	0.079	0.079
<b>Palo Alto, City of</b>	<b>CA0037834</b>	<b>0.38</b>	<b>0.31</b>
Petaluma, City of	CA0037810	0.063	0.063
Pinole, City of	CA0037796	0.055	0.055
Crockett Community Services District, Port Costa Sanitary Dept.	CA0037885	0.00072	0.00072
Rodeo Sanitary District	CA0037826	0.060	0.060
Saint Helena, City of	CA0038016	0.047	0.047
San Francisco, City and County of, San Francisco Airport	CA0038318	0.032	0.032
San Francisco, City and County of, Southeast Plant	CA0037664	2.7	1.6

Permitted Entity	NPDES Permit	Current Initial Load Limit (kg/yr)	Final Allocation (kg/yr)
San Jose/Santa Clara WPCP	CA0037842	<b>1.0</b>	<b>0.80</b>
San Mateo, City of	CA0037541	0.32	0.19
Sausalito-Marín City Sanitary District	CA0038067	0.078	0.078
Sewerage Agency of Southern Marin	CA0037711	0.13	0.076
Sonoma Valley County Sanitary District	CA0037800	0.041	0.041
South Bayside System Authority	CA0038369	0.53	0.32
South San Francisco/San Bruno WQCP	CA0038130	0.29	0.18
Sunnyvale, City of	CA0037621	<b>0.15</b>	<b>0.12</b>
US Department of Navy, Treasure Island WWTP	CA0110116	0.026	0.026
Vallejo Sanitation & Flood Control District	CA0037699	0.57	0.34
West County Agency, Combined Outfall	CA0038539	0.38	0.23
Yountville, Town of	CA0038121	0.040	0.04
<b>Total</b>		<b>17<sup>a</sup></b>	<b>11<sup>a</sup></b>

Notes to Table F-8:

**Bold** text indicates advanced secondary treatment.

<sup>a</sup> Total differs slightly from the column sum due to rounding.

The San Francisco Bay mercury TMDL’s wasteload allocations for Industrial Dischargers, summing to 1.3 kg/yr, are shown in Tables F-9 and F-10 below.

**Table F-9. Mercury TMDL Wasteload Allocations for Industrial (Non-Petroleum Refinery)**

Permitted Entity	NPDES Permit	Mercury Allocation (kg/yr)
C&H Sugar Co. <sup>b</sup>	CA0005240	0.045
Crockett Cogeneration	CA0029904	0.0047
Dow Chemical Company	CA0004910	0.041
General Chemical	CA0004979	0.21
GWF Power Systems, Site I	CA0029106	0.0016
GWF Power Systems, Site V	CA0029122	0.0025
Hanson Aggregates, Amador Street	CA0030139	0.000005
Hanson Aggregates, Olin Jones Dredge Spoils Disposal	CA0028321	0.000005
Hanson Aggregates, Tidewater Ave. Oakland	CAA030147	0.000005
Pacific Gas and Electric, East Shell Pond	CA0030082	0.00063
Pacific Gas and Electric, Hunters Point Power Plant	CA0005649	0.020
Rhodia, Inc.	CA0006165	0.011
San Francisco, City and Co., SF International Airport Industrial WWTP	CA0028070	0.051
GenOn Delta, Pittsburg Power Plant <sup>b</sup>	CA0004880	0.0078
Southern Energy Delta LLC, Potrero Power Plant <sup>b</sup>	CA0005657	0.0031
United States Navy, Point Molate	CA0030074	0.013
USS-Posco	CA0005002	0.045
<b>Total<sup>a</sup></b>		<b>0.45</b>

**Table F-10. Mercury TMDL Wasteload Allocations for Petroleum Refinery**

Permitted Entity	NPDES Permit	Mercury Allocation (kg/yr)
Chevron Products Company	CA0005134	0.34
ConocoPhillips <sup>b</sup>	CA0005053	0.13
Martinez Refining Co. (formerly Shell)	CA0005789	0.22
Ultramar, Golden Eagle	CA0004961	0.11
Valero Refining Company	CA0005550	0.08
<b>Total<sup>a</sup></b>		<b>0.9</b>

Notes to Tables F-9 and F-10:

<sup>a</sup> Total differs slightly from the column sum due to rounding.

<sup>b</sup> Wasteload allocations for industrial wastewater discharges do not include mass from once-through cooling water. The Regional Water Board will apply intake credits to once-through cooling water as allowed by law.

Because wastewater Dischargers regularly monitor and report their discharges, their combined loads can be estimated more precisely than any of the other loads estimated for the San Francisco Bay mercury TMDL. Available data are sufficient to allow statistical analyses that quantitatively characterize variations from year to year. The initial waste load allocations were based on current load estimates computed using available data on effluent mercury concentrations and effluent discharge volumes from 2000 through 2003.

In order to account for the inter-annual variability of discharge given the relatively short data period, current loading for the two wastewater discharge groups (municipal and industrial) was estimated as the upper 99% confidence intervals about the mean. At the time of TMDL development, the combined mercury load for all municipal wastewater discharges to San Francisco Bay and its tributaries was estimated to be about 17 kg/yr. The combined load of the Industrial Dischargers and petroleum refineries was estimated to be about 1.3 kg/yr. Together, these wastewater discharges were estimated to account for a load of about 18.3 kg/yr, or about 2% of the bay’s total mercury load. As stated in the TMDL implementation plan, “if any aggregate mass limit is exceeded, the Regional Water Board will pursue enforcement actions against those individual dischargers whose mass discharges exceed their individual mass limits.” With the mercury TMDL, Municipal Dischargers were granted a 20-year compliance schedule to ensure aggregate loads did not exceed a final limit of 11 kg/yr. However, since Municipal Dischargers are already well below this final limit, this Order imposes the final limit of 11 kg/yr because 40 CFR 122.47 requires compliance as soon as possible.

This Order does not contain requirements for the Dow Chemical Company, General Chemical, California Department of Parks and Recreation, Angel Island State Park, the PG&E Hunters Point facility, the US Navy Point Molate facility, GWF Power Systems Sites I and V, and the Potrero Power Plant because the wastewater discharges from these facilities have ceased, and the Regional Water Board has rescinded their NPDES permits. To account for these rescissions, this Order reduces the aggregate industrial allocation from 1.3 to 1.0 kg/yr. This Order also does not contain requirements for the

three Hanson Aggregates facilities that are covered under general NPDES permits. The Regional Water Board will revise the general NPDES permit for the three Hanson Aggregate facilities to be consistent with the TMDL. Finally, this Order does not contain requirements for the San Francisco International Airport industrial wastewater treatment plant because it will be regulated as one site (sanitary and industrial). Because flows to the San Francisco International Airport's treatment facility are now predominantly sanitary, it is appropriate to regulate this facility as a municipal wastewater treatment plant. These facilities comprise a very small portion of the total wastewater mercury load to San Francisco Bay.

### Concentration-based WQBELs for Mercury

In addition to the mercury mass limits, which are based directly on the TMDL's wasteload allocations, this Order requires Dischargers to meet concentration effluent limitations. This is consistent with the assumptions and requirements of the TMDL, as well as the State Water Board's understanding in Resolution No. 2007-0045 approving the TMDL, which states in part "that any NPDES permit or permits that implement the San Francisco Bay mercury TMDL will include individual numeric effluent limitations consistent with the assumptions and requirements of waste load allocations for each wastewater discharger, that will be individually enforceable." A primary assumption and requirement of the TMDL is that wastewater dischargers maintain current treatment performance. This is stated in the TMDL and its supporting documents as follows:

- "The watershed NPDES permit for municipal facilities will put in place a set of triggered actions ... intended ... to ensure that municipal wastewater facilities maintain their ongoing operation, maintenance, and performance." (p. 75, Staff Report for the TMDL, September 2, 2004)
- The TMDL's "conditions are intended ... to ensure that industrial wastewater facilities maintain proper operation, maintenance, and performance." (BPA-20, Basin Plan Amendment, August 9, 2006)

Moreover, the TMDL's initial wasteload allocations were calculated from actual discharge data from 2000 to 2003.

To set individual numeric limits consistent with this and the performance levels determined in the TMDL as necessary to attain water quality standards, Order No. R2-2007-0077 derived performance based concentration limits for three separate categories of performance using discharge data from the same time period (2000 through 2003) from representative sets of wastewater Dischargers. The calculations are described in Appendix F-2 of this Fact Sheet. The three categories of performance are municipal secondary treatment, municipal advanced secondary treatment, and industrial treatment based on petroleum refineries' performance.

The concentration limits for non-petroleum refinery Dischargers in Order No. R2-2007-0077 were determined using performance data from petroleum refineries (2000-2003). Though the manufacturing and treatment processes at those facilities differ from those at petroleum refineries, using petroleum refinery performance data is consistent with the way the performance based trigger levels were set for all industrial dischargers in the

TMDL. This Order includes the same performance-based concentration limits for mercury that were included in Order No. R2-2007-0077.

As required by 40 CFR 122.45(d), average monthly and average weekly effluent limits are set for “publically owned treatment plants”; these include the Municipal Dischargers. For Industrial Dischargers, this regulation requires average monthly and maximum daily effluent limits.

Individual mercury mass and concentration effluent limitations are shown in Tables F-11 and F-12 below. These limitations are intended to minimize the potential for adverse effects in the immediate vicinity of discharges and to ensure that wastewater facilities maintain proper operation, maintenance, and performance.

**Table F-11. Municipal -- Individual Mercury Effluent Limitations**

Permitted Entity	Average Annual Effluent Limit for Mercury <sup>1</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit for Mercury (µg/L)
American Canyon, City of	0.095	0.025	0.027
Benicia, City of	0.088	0.066	0.072
Burlingame, City of	0.089	0.066	0.072
Calistoga, City of	0.016	0.066	0.072
Central Contra Costa Sanitary District	1.3	0.066	0.072
Central Marin Sanitation Agency	0.11	0.066	0.072
Delta Diablo Sanitation District	0.19	0.066	0.072
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, Dublin San Ramon Services District, and City of Livermore	2.2	0.066	0.072
East Bay Municipal Utility District	1.5	0.066	0.072
Fairfield-Suisun Sewer District	0.17	0.025	0.027
Las Gallinas Valley Sanitary District	0.10	0.066	0.072
Marin County (Paradise Cove), Sanitary District No. 5 of	0.00055	0.066	0.072
Marin County (Tiburon), Sanitary District No. 5 of	0.0099	0.066	0.072
Millbrae, City of	0.052	0.066	0.072
Mt. View Sanitary District	0.034	0.025	0.027
Napa Sanitation District	0.17	0.066	0.072
Novato Sanitary District	0.079	0.066	0.072
Palo Alto, City of	0.31	0.025	0.027
Petaluma, City of	0.063	0.066	0.072
Pinole, City of	0.055	0.066	0.072
Crockett Community Services District, Port Costa Sanitary Dept.	0.00072	0.066	0.072

Permitted Entity	Average Annual Effluent Limit for Mercury <sup>1</sup> (kg/yr)	Average Monthly Effluent Limit for Mercury (µg/L)	Average Weekly Effluent Limit for Mercury (µg/L)
Rodeo Sanitary District	0.060	0.066	0.072
Saint Helena, City of	0.047	0.066	0.072
San Francisco, City and County of, San Francisco International Airport, Sanitary	0.032	0.066	0.072
San Francisco (Southeast Plant), City and County of	1.6	0.066	0.072
San Jose/Santa Clara, WPCP	0.80	0.025	0.027
San Mateo, City of	0.19	0.066	0.072
Sausalito-Marín City Sanitary District	0.078	0.066	0.072
Sewerage Agency of Southern Marin	0.076	0.066	0.072
Sonoma Valley County Sanitary District	0.041	0.066	0.072
South Bayside System Authority	0.32	0.066	0.072
South San Francisco and San Bruno, Cities of	0.18	0.066	0.072
Sunnyvale, City of	0.12	0.025	0.072
US Department of Navy, Treasure Island	0.026	0.066	0.072
Vallejo Sanitation and Flood Control District	0.34	0.066	0.072
West County Agency (West County Wastewater District and City of Richmond Municipal Sewer District)	0.23	0.066	0.072
Yountville, Town of	0.040	0.066	0.072
<b>Aggregate Mass Emission Limit (kg/yr)</b>	11 <sup>2</sup>	Not Applicable	Not Applicable

Footnotes:

- (1) Compliance with the Average Annual Effluent Limitations is determined annually for each Municipal Discharger each calendar year, and is attained if the sum of the individual Municipal Dischargers' mercury mass emissions, calculated as described below, is not greater than the Aggregate Mass Emission Limit of 11 kg/yr. If the sum of all individual Municipal Dischargers' mercury mass emission(s) is greater than 11 kg/yr, the Municipal Discharger(s) whose mercury mass emission(s) exceed(s) its (their) individual limitation(s) in Table F-11, shall be deemed to be in violation of its (their) mercury mass limitation(s). For compliance determination, mass emissions shall be determined as defined below:
- a. The total annual aggregate mass emission shall be the sum of the individual annual mass emissions from each Municipal Discharger. The sum shall be rounded to the nearest kilogram for comparison with the Aggregate Mass Emission Limit.
  - b. The annual average mass emission for each Discharger shall be computed for the period January 1 through December 31, annually. Calendar timeframes for discharge limitations are consistent with federal regulations and USEPA guidance.
  - c. The annual average mass emission for each Discharger listed in Table F-11 above shall be the sum of monthly emissions on a calendar year basis and computed as follows:

$$\text{Annual Mass Emission, kg / year} = \sum (\text{Monthly Mass Emission Rates, kg / month})$$

where

$$\text{Monthly Mass Emission, kg} = \left( \frac{0.003785}{N} \right) * \left( \sum_{i=1}^N Q_i C_i \right) * 30.5 = \frac{0.1154425}{N} * \left( \sum_{i=1}^N Q_i C_i \right)$$

and where

- $C_i$  = mercury concentration of each individual sample,  $\mu\text{g/l}$
- $Q_i$  = Discharger flow rate on date of sample, millions of gallons per day (mgd)
- $N$  = number of samples collected during the month
- 0.003785 = conversion factor to convert  $(\mu\text{g/l}) * (\text{mgd})$  into kg/day
- 30.5 = number of days in a standard month
- 0.1154425 = product of (conversion factor) · (number of standard days per month)

(2) Total differs slightly from the column sum due to rounding to the nearest kilogram.

**Table F-12. Industrial -- Individual Mercury Effluent Limitations**

Permitted Entity	Annual Average Effluent Limit for Mercury <sup>1</sup> (kg/yr)	Monthly Average Effluent Limit for Mercury ( $\mu\text{g/L}$ )	Daily Maximum Effluent Limit for Mercury ( $\mu\text{g/L}$ )
<b>Industrial Wastewater Discharger (Non-Petroleum Refinery):</b>			
C&H Sugar and Crockett Community Services District, Crockett Sanitary Dept.	0.045	0.079	0.12
Crockett Cogeneration, LP, and Pacific Crockett Energy, Inc.	0.0047	0.079	0.12
Pacific Gas and Electric Company	0.00063	0.079	0.12
Rhodia, Inc.	0.011	0.079	0.12
GenOn Delta, LLC	0.0078	0.079	0.12
USS-Posco Industries	0.045	0.079	0.12
<b>Industrial Wastewater Discharger (Petroleum Refinery):</b>			
Chevron Products Company	0.34	0.079	0.12
Phillips 66 (formerly ConocoPhillips)	0.13	0.079	0.12
Shell Oil Products US and Equilon Enterprises LLC	0.22	0.079	0.12
Tesoro Refining & Marketing Co.	0.11	0.079	0.12
Valero Refining Company	0.08	0.079	0.12
<b>Aggregate Mass Emission Limit<sup>2</sup> (kg/yr)</b>	<b>1.0</b>	Not Applicable	Not Applicable

Footnotes:

(1) Compliance with the Average Annual Effluent Limitations is determined annually for each Industrial Discharger each calendar year, and is attained if the sum of the individual Industrial Dischargers' mercury mass emissions, calculated as described below, is not greater than the Aggregate Mass Emission Limit of 1.0 kg/yr. If the sum of the individual Industrial Dischargers' mercury mass emission(s) is greater than 1.0 kg/yr, the Industrial Discharger(s) whose mercury mass emission(s) exceed(s) its (their) individual limitation(s) in Table F-12, shall be deemed to be in violation of its (their) mercury mass limitation(s). For compliance determination, mass emissions shall be determined as defined below:

- a. The total annual aggregate mass emission shall be the sum of the individual annual mass emissions from each Industrial Discharger. The sum shall be rounded to the nearest tenth of a kilogram for comparison with the 1.0 kg/yr.
- b. The annual average mass emission for each Discharger shall be computed for the period January 1 through December 31, annually. Calendar timeframes for discharge limitations are consistent with federal regulations and USEPA guidance.
- c. The annual average mass emission for each Discharger listed in Table F-12 above shall be the sum of monthly emissions on a calendar year basis and computed as follows:

$$\text{Annual Mass Emission, kg / year} = \sum (\text{Monthly Mass Emission Rates, kg / month})$$

where

$$\text{Monthly Mass Emission, kg} = \left( \frac{0.003785}{N} \right) * \left( \sum_{i=1}^N Q_i C_i \right) * 30.5 = \frac{0.1154425}{N} * \left( \sum_{i=1}^N Q_i C_i \right)$$

and where

- $C_i$  = mercury concentration of each individual sample,  $\mu\text{g/l}$
- $Q_i$  = Discharger flow rate on date of sample, millions of gallons per day (mgd)
- $N$  = number of samples collected during the month
- 0.003785 = conversion factor to convert  $(\mu\text{g/l}) * (\text{mgd})$  into kg/day
- 30.5 = number of days in a standard month
- 0.1154425 = product of (conversion factor) · (number of standard days per month)

- (2) Total differs slightly from the column sum due to rounding, and from several industrial dischargers discontinuing their discharges.

## 5. Water Quality Based Effluent Limits - PCBs

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 WQBELs. In other words, NPDES permits must include numeric effluent limitations, based on current performance, that are consistent with the wasteload allocations in the TMDL.

This Order includes the same performance-based limits for PCBs that the Regional Water Board established in Order No. R2 2011-0012. To calculate PCBs performance-based limits that were consistent with the assumptions and requirements of the PCBs TMDL, Order No. R2-2011-0012 used PCBs data from 1999 to 2001 (included in Appendix F-4). 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.

Order No. R2-2011-0012 established, 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 (POTWs); 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.”

Order No. R2-2011-0012 did not establish 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, Order No. R2-2011-0012 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) used to establish TMDL allocations. 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-13 shows each step in the derivation of effluent limits.

**Table F-13 Derivation of Effluent Limits for PCBs**

<b>DISCHARGE CATEGORY</b>	<b>Advanced Secondary</b>	<b>Secondary</b>	<b>Petroleum Refinery</b>	<b>Other Industry</b>
<b>Units</b>	<b>µg/L</b>	<b>µg/L</b>	<b>µg/L</b>	<b>µg/L</b>
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 multiplier <sup>95</sup> from USEPA TSD	1.58	2.13	2.37	2.13
MDEL multiplier <sup>99</sup> from USEPA TSD	1.94	3.11	3.70	3.11

<b>DISCHARGE CATEGORY</b>	<b>Advanced Secondary</b>	<b>Secondary</b>	<b>Petroleum Refinery</b>	<b>Other Industry</b>
<b>Units</b>	<b>µg/L</b>	<b>µg/L</b>	<b>µg/L</b>	<b>µg/L</b>
AMEL	0.00039	0.012	0.00095	0.012
MDEL	0.00049	0.017	0.0015	0.018

Finally, as in Order No. R2-2011-0012, 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 (using Method 1668a) that formed the basis for the impairment. As some other congeners co-elute with these 40 congeners (using Method 1668c), the concentrations of as many as 66 congeners, if the laboratory uses a SB-Octyl column (shown in Table F-14 below), or as many as 59 congeners, if the laboratory uses a DB-1 column (shown in Table F-15 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 the limits specified in this Order.

**Table F-14  
PCB Congeners, Including Co-Elution (IUPAC No.) with  
SB-Octyl Column 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	

**Table F-15  
PCB Congeners, Including Co-Elution (IUPAC No.) with  
DB-1 Column for TMDL Development**

PCB 005	PCB 061	PCB 110	PCB 160	PCB 196
PCB 008	PCB 066	PCB 117	PCB 161	PCB 201
PCB 018	PCB 069	PCB 118	PCB 162	PCB 203
PCB 020	PCB 070	PCB 125	PCB 163	
PCB 021	PCB 074	PCB 128	PCB 164	
PCB 028	PCB 076	PCB 132	PCB 170	
PCB 031	PCB 087	PCB 138	PCB 174	
PCB 033	PCB 090	PCB 139	PCB 177	
PCB 043	PCB 095	PCB 141	PCB 180	
PCB 044	PCB 097	PCB 149	PCB 182	
PCB 049	PCB 099	PCB 151	PCB 183	
PCB 052	PCB 101	PCB 153	PCB 187	
PCB 056	PCB 105	PCB 156	PCB 194	
PCB 060	PCB 106	PCB 158	PCB 195	

**6. Satisfaction of Anti-Backsliding Requirements**

CWA Sections 402(o)(2) and 303(d)(4) and 40 CFR 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. All limitations and requirements of this Order are as stringent as those in the previous permit. Therefore, anti-backsliding requirements of the CWA and NPDES Regulations are satisfied.

**7. Satisfaction of Antidegradation Policy**

The Order's mercury and PCBs effluent limitations, which implement wasteload allocations, have been computed to satisfy the total maximum daily loads that will allow the San Francisco Bay to come into attainment with water quality objectives for mercury and PCBs. This Order includes requirements that are part of an overall comprehensive plan to restore mercury and PCBs levels in San Francisco Bay. Because the TMDLs for mercury and PCBs are consistent with protecting 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 antidegradation.

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

No additional receiving water limits beyond those already specified in the Dischargers' individual permits are necessary in this Order.

## VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

Consistent with the mercury and PCBs TMDLs, Dischargers are required by this Order to report mercury and PCBs discharge levels and trends. The monitoring frequencies specified in the MRP are dependent on each Discharger's contribution of mercury and PCBs, and its resources to conduct the monitoring. For example, those with larger flows are required to monitor more frequently. This Order retains the monitoring frequencies included in Order No. R2-2007-0077 as amended by Order No. R2-2011-0012 with a few exceptions noted below:

- This Order does not require monitoring for methylmercury, because the Dischargers do not appear to be a significant source of methylmercury to the Bay. The Dischargers have monitored their effluent for methylmercury since March 1, 2008, under the previous order. These data show that the portion of total mercury in the form of methylmercury is on average about 3 to 5 percent. Treatment systems with the highest percentage of methylmercury (up to 20 percent) tend to be ponds that have long residence times and such systems are rare with only two in the Bay Area. Additionally, studies<sup>2</sup> near the outfall of Municipal Dischargers suggest that treated wastewater tends to suppress methylation in near-field conditions possibly through biodilution.
- This Order reduces PCBs congener monitoring from all 209 congeners to the 40 (66 including co-elutions) that were used to develop the PCBs TMDL. This is because these additional congeners do not play a significant role in the amount of PCBs that bioaccumulate in fish. Therefore, monitoring for these additional congeners is unnecessary for evaluating compliance with the PCBs TMDL and for tracking PCBs loads to San Francisco Bay.

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.

The Regional Water Board finds that these monitoring and reporting requirements bear a reasonable relationship to the Regional Water Board's need for and the benefits obtained from the reports.

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<sup>2</sup> Driscoll, C.T., et al., *Nutrient supply and mercury dynamics in marine ecosystems: A conceptual model*. Environ. Res. (2012), <http://dx.doi.org/10.1016/j.envres.2012.05.002>.

## VII. RATIONALE FOR PROVISIONS

### A. Federal and Regional Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D of each dischargers individual permit. This Order also references Regional Standard Provisions (Attachment G of each dischargers individual permit), in part, to ensure that dischargers properly sample and report all analysis for mercury and PCBs.

### B. Special Provisions

#### 1. Triggers for Additional Mercury Control

Mass and concentration triggers were developed to allow for early required actions in the event an increasing trend in mercury discharge is observed by individual Dischargers. The purpose of the triggers is to evaluate the source of new mercury and identify a method for reduction before levels become elevated.

Consistent with the TMDL, mass triggers for Municipal and Industrial Dischargers are equivalent to the individual mass limits stated in the Order, but determined monthly, instead of annually, using a rolling 12-month average. This is necessary in order to capture any increases in a more timely fashion to allow development and implementation of reduction measures that may avoid an actual effluent limit violation.

For concentration triggers, there are two broad categories of municipal facilities—those that provide secondary treatment, and those that provide advanced treatment. Facilities providing advanced treatment have better performance, hence lower effluent concentrations than those providing secondary treatment, so the trigger concentrations for advanced facilities are lower than those for secondary treatment facilities.

Consistent with the TMDL implementation plan, the proposed effluent mercury concentration trigger values for municipal secondary treatment facilities are a daily maximum of 0.065 µg/l total mercury (derived from the 99th percentile concentration of effluent data collected from January 2000 to September 2002) and a monthly average of 0.041 µg/l total mercury (derived from the 95th percentile concentration of effluent data collected from January 2000 to September 2002). For facilities providing advanced treatment, the proposed concentration triggers are a daily maximum of 0.021 µg/l total mercury (the 99th percentile concentration) and a monthly average of 0.011 µg/l total mercury (the 95th percentile concentration).

Consistent with the TMDL implementation plan, the proposed effluent trigger concentrations for industrial Dischargers are a daily maximum of 0.062 µg/l total mercury (derived from the 99th percentile concentration of effluent data collected

from January 2000 to September 2002) and a monthly average of 0.037 µg/l total mercury (derived from the 95th percentile concentration of effluent data collected from January 2000 to September 2002).

Consistent with the TMDL if a Discharger exceeds either the mass or concentration trigger, the Order requires the Discharger to report the exceedance in its individual Self-Monitoring Report, and to submit a report that:

- Evaluates the cause of the trigger exceedances;
- Evaluates the effectiveness of existing pollution prevention or pretreatment programs and methods for preventing future exceedances;
- Evaluates the feasibility and effectiveness of technology enhancements to improve plant performance.

The Order provides for 130 days to provide this report, which allows for 30 days for standard laboratory turnaround on ultra clean samples, plus 40 days for accelerated monitoring to verify and better characterize trigger exceedances, and finally the 60-day timeframe from the TMDL implementation plan to submit the report. The Regional Water Board will pursue enforcement action against Dischargers that do not respond to exceedances of triggers or do not implement actions to correct and prevent trigger exceedances. Determination of appropriate actions will be based on an updated assessment of source control measures and wastewater treatment technologies applicable for the term of each issued or reissued permit.

The TMDL implementation plan requires the permit to specify that an exceedance of a trigger level would trigger the discharger to take corrective actions. The TMDL implementation plan explains that one of the concepts behind requiring triggered actions is to ensure that wastewater dischargers maintain ongoing operation, maintenance, and performance of their treatment facilities. Therefore, it is consistent with this concept for this Order to allow further characterization through accelerated monitoring to determine if ongoing performance was maintained before corrective measures must be taken. Accelerated weekly monitoring for at least six events that would span over two months would provide reasonable and convincing weight of evidence that the first initial trigger was either an anomaly or a spurious source and could be disregarded. These additional samples would also help to characterize the duration and magnitude of the exceedance and help with development of the action plan should one be necessary.

See Appendix F-1 for an example of actions required in response to initial trigger exceedances:

## **2. Mercury and PCBs Source Control Program**

The mercury and PCBs TMDLs both require that Dischargers develop and implement programs to identify and control manageable sources of mercury and PCBs. Therefore, this Order requires Dischargers to implement source control programs to reduce mercury and PCBs loads to their respective treatment plants.

### **3. Risk Reduction Programs**

The mercury and PCBs TMDLs require municipal and industrial wastewater dischargers to develop and implement effective programs to reduce mercury-related and PCBs-related risks to humans and wildlife and quantify risk reductions resulting from these activities. This provision is based on this requirement. The Dischargers identified risk management needs, measures to address those needs, and mechanisms to implement these measures in technical reports associated with Order No. R2-2007-0077. This Order requires Dischargers to continue to implement these measures to reduce mercury and PCB-related risks.

In this effort, the Regional Water Board will work with the California Office of Environmental Health Hazard Assessment, the California Department of Public Health, and other organizations including Dischargers that pursue risk management as part of their mercury and PCB-related programs. For an effective and efficient regional program, the Order allows that the activities may be performed by a third party if the Dischargers wish to provide funding for this purpose. The Regional Monitoring Program is one such vehicle because it has an equitable and accepted cost allocation system already in place along with an established stakeholder overview and participation process.

### **4. Effluent Discharge Adjustment for Recycled Wastewater Use by Industrial Dischargers**

As dictated by California Water Code sections 13510 through 13512, the Regional Water Board should support and encourage water recycling facilities. 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 the same as the existing provision in Order No. R2-2007-0077 as amended by Order No. R2-2011-0012.

The Adjustment is only applicable if the mercury and/or 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 mercury or PCBs loadings to the Bay. The Mass Adjustment subtracted from one industrial discharger is then added to the municipal discharger who supplied the recycled wastewater and who would have otherwise discharged that mercury and/or PCBs through its municipal treatment plant discharge outfall. 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 also provided because a typical reuse project involves use of the recycled wastewater in cooling towers or boilers where the

concentration of mercury and/or 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. Unlike the Mass Adjustment, 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 sometime 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 Products Company (Chevron) and the West County Wastewater District (WCWD). Chevron currently uses about 4 million gallons per day of recycled wastewater. A reuse project that went online in 2009 brought the amount to approximately 7-8 million gallons per day. WCWD discharges through a joint outfall with the City of Richmond under the West County Agency NPDES permit. Based on this provision, any Mass Adjustment subtracted from Chevron would be added to the mass emission reported by the West County Agency prior to determining compliance with the average annual mass limit.

Under this two way Adjustment, for projects like the WCWD and Chevron recycled water project, the allowable mass of mercury discharged to the Bay under this Order would be the sum of the WCWD and Chevron individual mercury mass limits that were based on the wasteload allocations in the TMDL. Only if the sum of WCWD's and Chevron's mercury mass discharge exceed the sum of their individual mass limits would there be a real mass discharge greater than that allowed in the TMDL from these two dischargers. Therefore, this Order allows that a violation would only occur from an Adjustment if the sum of the mass discharge from both exceeds the sum of the individual mercury mass limits, and the adjusted mercury mass discharge from Municipal Dischargers as a group exceeds the aggregate mass limit for the Municipal Dischargers.

## **5. PCBs Discharge Adjustment for Urban Stormwater 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.5. 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.

## **6. Reopener Provision**

The reopener is to cover any changes or modifications to the mercury or PCBs TMDLs.

## **VIII. PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will supersede mercury and PCBs requirements in Order No. R2-2007-0077 as amended by Order No. R2-2011-0012. As a step in the WDR adoption process, the Regional Water Board staff has developed this tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

### **A. Notification of Interested Parties**

The Regional Water Board has notified the Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharges and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following: (a) electronic copies of this Order were relayed to the Dischargers and other interested parties, and (b) the Oakland Tribune published a notice in September 2012 that this item would appear before the Regional Water Board.

## B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning the revisions of this Tentative Order. Comments must be submitted either in person or by mail to the attention of **Robert Schlipf** at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by **5:00 p.m. on Monday, October 29, 2012.**

## C. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **December 12, 2012**

Time: 9:00 a.m.

Location: Elihu Harris State Office Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA 94612

Contact: Robert Schlipf, (510) 622-2478, [rschlipf@waterboards.ca.gov](mailto:rschlipf@waterboards.ca.gov)

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharges and Tentative Order. Oral testimony was heard; however, for accuracy of the record, important testimony was presented in writing.

Please be aware that dates and venues may change. Our Web address is [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay) where you can access the current agenda for changes in dates and locations. Regional Water Board agenda material including staff's responses to written comments, and revisions to the Tentative Order was posted at this website one week prior to the hearing date, and Dischargers and interested parties were notified by email of their availability.

## D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final Order. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

## **E. Information and Copying**

The San Francisco Bay Mercury and PCBs TMDLs, Tentative Order, related documents, any comments received, and other information are available at [www.waterboards.ca.gov/sanfranciscobay](http://www.waterboards.ca.gov/sanfranciscobay). These documents are also on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

## **F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this permit, and provide a name, address, and phone number.

## **G. Additional Information**

Requests for additional information or questions regarding this order should be directed to **Robert Schlipf** at **(510) 622-2478**, or by email at [rschlipf@waterboards.ca.gov](mailto:rschlipf@waterboards.ca.gov).

## APPENDIX F-1 -- EXAMPLE OF WHEN REQUIRED ACTIONS ARE TRIGGERED

Facility X is subject to the following triggers:

- Average Monthly Trigger = 0.041 µg/L
- Maximum Daily Trigger = 0.065 µg/L
- 12-month Mass Emission Trigger = 0.91 kg/yr

A sample collected on May 4<sup>th</sup> is 0.046 µg/L, with the results received on May 30<sup>th</sup> by discharger X from its contract laboratory.

**Discharger Action:** Initiate accelerated monitoring (weekly or more frequent) as soon as practical (within 48 hours) after receipt of sample result above trigger level (0.046 µg/L is above the monthly trigger of 0.041 µg/L).

**Discharger Action:** Report this exceedance in its cover sheet for the May self-monitoring report (due June 30<sup>th</sup>), and continue to report mercury data on the cover sheet until successful completion.

**Discharger Action:** Continue accelerated monitoring until not less than a total of 6 new samples have been collected.

Discharger X's accelerated samples reveal the following results:

Sample Date	Sample Result, µg/L	12-month mass, kg/yr
(May 4)	<b>(0.046)</b>	0.80
June 1	0.031	0.79
June 5	0.059	0.82
June 14	0.023	0.81
June 18	0.055	0.82
June 30	0.040	0.82
July 5	0.029	0.81

**Discharger Action:** Initiate, no later than July 5, development of Action Plan for Mercury Reduction..

**Note:** Despite the fact that the one sample for July are below all three triggers, the average of the samples in June is above the monthly average trigger.

**Discharger Action:** Discharger may shift to monthly monitoring after collection of the 6<sup>th</sup> accelerated sample.

Additional monitoring results:

Sample Date	Sample Result, µg/L	12-month mass, kg/yr
August 11	<b>0.027</b>	0.80
September 14	0.042	0.78
October 5	0.042	0.075
October 7	ND (<0.0005)	
November 5	0.035	<b>0.81</b>
December 10	0.022	<b>0.93</b>
January 5	0.018	<b>0.94</b>
February 14	0.028	0.85

March 25	0.010	0.81
April 7	0.023	0.75

**Discharger Action:** Submit and implement Action Plan for Mercury Reduction (due 130 days after May 30).

**Note:** Despite the July and August samples being below both concentration triggers, three consecutive months below **all** triggers are necessary before the Action Plan activities are no longer required. The May sample is still above the monthly trigger.

**Note:** In September, though that sample is above the monthly concentration trigger, accelerated monitoring is not required again because discharger X has already been triggered into Action Plan mode.

**Note:** In December, though the concentrations have been below concentration triggers for 3 consecutive months, discharger X must continue with the Action Plan because its 12-month running average mass discharge exceeds the mass trigger.

**Discharger Action:** Report on current mercury reduction efforts in its Annual Self-Monitoring Report due February 1<sup>st</sup>.

In April, three consecutive months show successful completion of this effort. Discharger X is no longer required to further implement its Action Plan, and may thus return to routine monitoring. Discharger X reports its mercury reduction efforts in its Annual Self-Monitoring Report due next February 1<sup>st</sup>.

## APPENDIX F-2 CALCULATION OF CONCENTRATION-BASED MERCURY LIMITS

### Introduction

To calculate concentration-based mercury limits that are consistent with the assumptions and requirements of the Mercury TMDL, the Regional Water Board analyzed mercury data from 2000 to 2003. We grouped data into three categories (municipal secondary treatment, municipal advanced secondary treatment involving filtration, and industrial treatment). The statistical analysis used data from 17 secondary treatment plants, 7 advanced secondary treatment plants, and 5 petroleum refineries.

The purpose of pooling mercury data to calculate limits based on category of treatment and/or process that are similar to reduce the likelihood of penalizing plants that have implemented effective control measures and are already performing well, and rewarding other plants that may not have implemented similar measures.

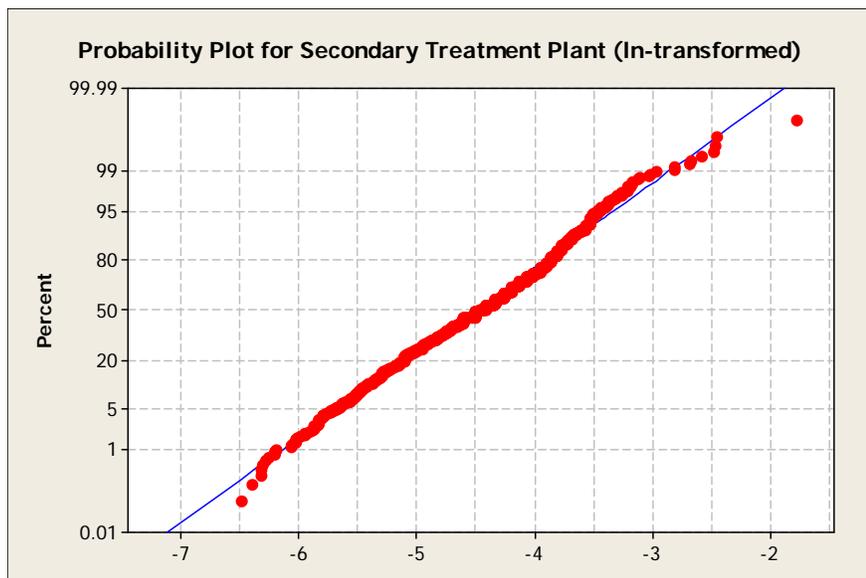
### **Data Analysis of Municipal Treatment Facilities**

We analyzed mercury data from all POTWs that are using the Regional Water Board's electronic reporting system (ERS). Mercury data that did not appear to result from ultra-clean sampling because of high detection limits were removed (i.e., EBMUD data from January 2000 through May 2001, and San Francisco City and County Southeast from October 21, 2003). Additionally, when detection limits were very low (practical quantification limit (PQL) equaled 0.5 ng/L and method detection limit equaled 0.24 ng/L, we censored data at the PQL). Finally, we did not use data from the South Bayside System Authority because this treatment plant does not always filter treated wastewater, which makes it difficult to categorize this system as secondary or advanced secondary treatment.

### **Secondary Treatment Plants**

Our analysis of secondary treatment plants indicates that mercury data fit a log-normal distribution since the data closely follow the line of normality, as shown in Figure 1 below:

**Figure 1: Probability Plot of Mercury Data for Secondary Treatment Plants**



Because natural log transformed mercury data for secondary treatment plants fits a normal distribution, it is possible to calculate performance-based limits based on select percentiles. For secondary treatment plants (sample size of 984), the mean and standard deviation in the natural log phase are -4.5212 and 0.7188, respectively. We calculated daily, weekly, and monthly mercury limits based on the 99.87<sup>th</sup> percentile (3 standard deviations above the mean), the 99.57<sup>th</sup> percentile (2.625 standard deviations above the mean), and the 99.38<sup>th</sup> percentile (2.5 standard deviations above the mean).

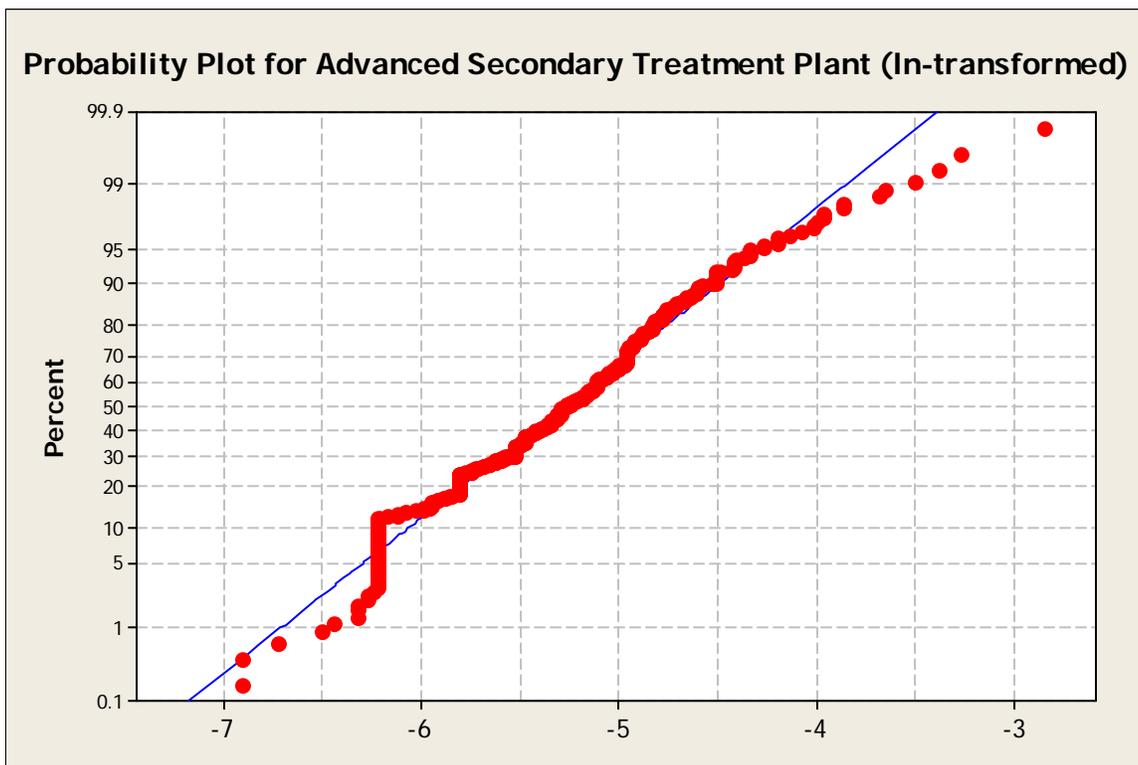
**Table 1: Mercury Limits for Secondary Treatment Plants**

Percentile	Averaging Period	Mercury Limit (ng/L)
99.87 <sup>th</sup>	Daily	94
99.57 <sup>th</sup>	Weekly	72
99.38 <sup>th</sup>	Monthly	66

**Advanced Secondary Treatment Plants**

Our analysis of advanced secondary treatment plants indicates those data also fit a log-normal distribution since the data follow the line of normality, as shown in Figure 2 below:

**Figure 2: Probability Plot of Mercury Data for Advanced Secondary Treatment Plants**



Because natural log transformed mercury data for advanced secondary treatment plants fits a normal distribution, it is again possible to calculate performance-based limits based on select percentiles. For advanced secondary treatment plants (sample size of 434), the mean and standard deviation in the natural log phase are -5.3457 and 0.6664, respectively. We

calculated daily, weekly, and monthly mercury limits based on the 99.87<sup>th</sup> percentile, the 99.57<sup>th</sup> percentile, and the 99.38<sup>th</sup> percentile.

**Table 2: Mercury Limits for Advanced Secondary Treatment Plants**

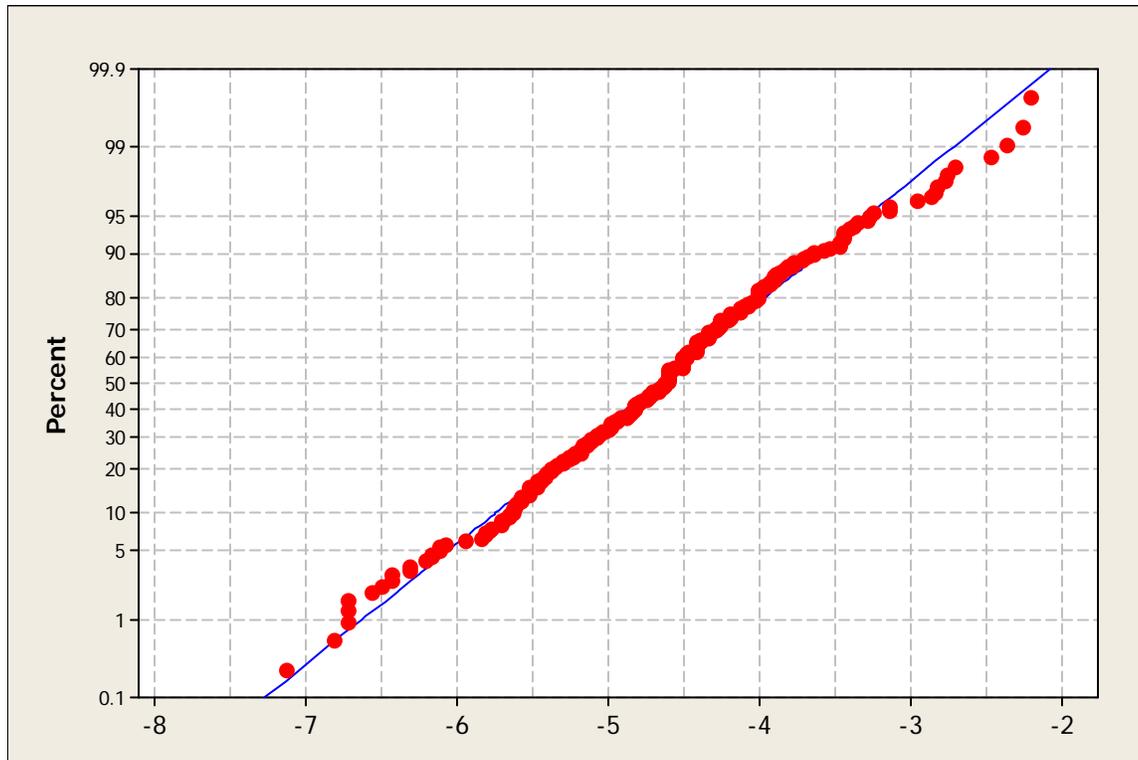
Percentile	Averaging Period	Mercury Limit (ng/L)
99.87 <sup>th</sup>	Daily	35
99.57 <sup>th</sup>	Weekly	27
99.38 <sup>th</sup>	Monthly	25

**Data Analysis of Industrial Treatment**

We analyzed mercury data from five refineries that report data to the Water Board’s electronic reporting system (ERS). As explained in the data tables, Regional Water Board staff determined that a number of data points from three of the refineries (i.e., Chevron, ConocoPhillips, and Shell) were not indicative of treatment plant performance, and therefore, should be removed. Additionally, when detection limits were very low (practical quantification limit (PQL) of 0.5 ng/L, we censored data at the PQL).

Our analysis of five Bay Area refineries indicates that mercury data fit a log-normal distribution since the data closely follow the line of normality, as shown in Figure 1 below:

**Figure 3: Probability Plot of Mercury Data for Bay Area Refineries**



Because natural log transformed mercury data fits a normal distribution, it is possible to calculate performance-based limits based on select percentiles. For refineries (sample size of

296), the mean and standard deviation in the natural log phase are -4.7000 and 0.8654, respectively. We calculated daily, weekly, and monthly mercury limits based on the 99.87<sup>th</sup> percentile (3 standard deviations above the mean), the 99.57<sup>th</sup> percentile (2.625 standard deviations above the mean), and the 99.38<sup>th</sup> percentile (2.5 standard deviations above the mean).

**Table 3: Mercury Limits for Industries Using Petroleum Refinery Performance**

<b>Percentile</b>	<b>Averaging Period</b>	<b>Mercury Limit (ng/L)</b>
99.87 <sup>th</sup>	Daily	122
99.57 <sup>th</sup>	Weekly	88
99.38 <sup>th</sup>	Monthly	79

**APPENDIX F-3 – SUMMARY OF PCBs LOADS<sup>1</sup>**

<b>Advanced Secondary Municipal Dischargers</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
San Jose	4/11	223	108.38	0.00668
San Jose	6/11	200	98.49	0.00544
San Jose	9/11	136	90.23	0.00339
San Jose	12/11	187	95.34	0.00493
San Jose	3/12	189	98.56	0.00515
Palo Alto	5/11	1103	18.68	0.00712
Palo Alto	8/11	859	16.13	0.00479
Palo Alto	11/11	1645	21.28	0.01209
Palo Alto	2/12	1028	22.77	0.00809
Sunnyvale	8/11	787	8.13	0.00221
Sunnyvale	11/11	1509	13.63	0.00710
Sunnyvale	2/12	2097	11.25	0.00815
Sunnyvale	5/12	5176	12.35	0.02208
American Canyon	9/11	23	1.3	0.00002
American Canyon	1/12	0	N/A	0.00000
Faifield Suisun	4/11	959	8.75	0.00193
Faifield Suisun	9/11	718	2.92	0.00048
Faifield Suisun	10/11	454	12.64	0.00132
Faifield Suisun	12/11	619	12.87	0.00183
Faifield Suisun	1/12	668	14.46	0.00222
Faifield Suisun	4/12	686	18.9	0.00299
Mt. View Sanitary	7/11	278	1.59	0.00031
Mt. View Sanitary	2/12	261	1.52	0.00027
<b>Total</b>				<b>0.10859</b>

<b>Secondary Municipal Dischargers</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
EBMUD	5/11	1396	63	0.03038
EBMUD	8/11	2453	57	0.04830
EBMUD	11/11	1591	78	0.04286
EBMUD	2/12	4304	58	0.08622
Benicia	4/11	900	2.58	0.00107
Benicia	7/11	1349	2.17	0.00135
Benicia	1/12	1151	2.27	0.00120
Sonoma	9/11	74	2.46	0.00013
Sonoma	2/12	16	2.74	0.00003
Calistoga	12/11	117	0.59	0.00003
Calistoga	2/12	157	0.85	0.00006
Calistoga	3/12	721	0.73	0.00024
Central Marin	4/11	937	9.5	0.00307
Central Marin	9/11	1610	6.31	0.00351

<b>Secondary Municipal Dischargers</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
Central Marin	12/11	961	6.43	0.00213
Central Marin	3/12	1202	18.21	0.00756
Delta Diablo	5/11	973	11.08	0.00298
Delta Diablo	8/11	992	6.8	0.00186
Delta Diablo	12/11	1069	7.17	0.00212
Delta Diablo	1/12	1844	7.17	0.00365
Delta Diablo	4/12	1159	7.76	0.00249
Las Gallinas	11/11	4137	2.34	0.00446
Las Gallinas	2/12	1648	2.5	0.00190
Las Gallinas	4/12	1958	3.7	0.00334
Millbrae	5/11	1061	1.46	0.00071
Millbrae	11/11	1883	1.37	0.00119
Millbrae	5/12	1399	1.51	0.00097
Novato	4/11	960	5.3	0.00141
Novato	5/11	667	4.8	0.00088
Novato	10/11	1097	4.25	0.00129
Novato	1/12	762	4.99	0.00105
Novato	4/12	816	5.51	0.00124
Paradise Cove	7/11	708	0.014	0.00001
Petaluma	12/11	0	N/A	0.00000
Petaluma	3/12	6	6.79	0.00002
Petaluma	4/12	16	7.29	0.00005
Rodeo Sanitary	12/11	433	0.57	0.00034
San Mateo	6/11	1114	12.36	0.00380
San Mateo	9/11	1200	10.63	0.00352
San Mateo	11/11	866	10.84	0.00259
San Mateo	3/12	426	14.53	0.00171
San Mateo	5/12	558	11.14	0.00172
Sausalito-Marín	6/11	3202	1.52	0.00336
Sausalito-Marín	7/11	2232	1.4	0.00216
Central Contra Costa	7/11	764	35.2	0.00743
Central Contra Costa	8/11	512	34.1	0.00482
Central Contra Costa	10/11	418	33.2	0.00383
Central Contra Costa	2/12	369	35.6	0.00363
Central Contra Costa	5/12	507	36.83	0.00516
EBDA	5/11	1040	58.97	0.02118
EBDA	8/11	4729	54.83	0.08956
EBDA	11/11	2538	59.3	0.05199
EBDA	2/12	1308	56.12	0.02535
SF Intl Airport	5/11	600	1.22	0.00034
SF Intl Airport	8/11	1523	1.18	0.00083
SF Intl Airport	4/12	1426	1.32	0.00087
Pinole	11/11	972	2.78	0.00187
Pinole	3/12	705	4.24	0.00206

<b>Secondary Municipal Dischargers</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
SF Southeast	6/11	1824	54.5	0.02747
SF Southeast	8/11	2540	54.2	0.03804
SF Southeast	10/11	8356	53.8	0.12422
SF Southeast	2/12	1798	54.6	0.02713
SF Southeast	3/12	1381	53.8	0.02053
SBSA	6/11	493	13.25	0.00181
SBSA	8/11	204	12.64	0.00071
SBSA	11/11	590	13.03	0.00212
SBSA	2/12	292	14.21	0.00115
SBSA	5/12	481	13.6	0.00181
SF & San Bruno	5/11	477	8.51	0.00112
SF & San Bruno	8/11	991	8.49	0.00232
SF & San Bruno	11/11	1194	8.86	0.00292
SF & San Bruno	2/12	561	15.61	0.00242
SF & San Bruno	5/12	699	15.42	0.00298
Tiburon	6/11	731	0.63	0.00032
Tiburon	7/11	808	0.56	0.00031
Treasure Island	6/11	14448	0.35	0.00175
Treasure Island	10/11	25262	0.32	0.00279
Treasure Island	2/12	11740	0.32	0.00130
Treasure Island	4/12	10528	0.42	0.00153
Vallejo	4/11	1452	11.48	0.00461
Vallejo	7/11	2709	10	0.00749
Vallejo	10/11	2931	9.2	0.00745
Vallejo	1/12	2509	10.2	0.00707
Vallejo	4/12	1997	13	0.00717
West County Agency	5/11	682	7.19	0.00135
West County Agency	9/11	1488	6.57	0.00270
West County Agency	11/11	506	7.76	0.00109
West County Agency	2/12	4195	7.5	0.00869
West County Agency	5/12	1233	7.8	0.00266
Yountville	2/12	214	0.426	0.00006
Yountville	5/12	1102	0.37	0.00028
Burlingame	1/12	914	3.24	0.00205
Burlingame	4/12	1090	18.82	0.01417
Napa	4/11	93	17.13	0.00055
Napa	10/11	20	8.44	0.00006
Napa	1/12	0	N/A	0.00000
Napa	3/12	79	13.46	0.00037
SASM	6/11	4228	2.46	0.00479
SASM	8/11	3042	2.03	0.00284
SASM	2/12	5594	2.64	0.00680
<b>Total</b>				<b>0.84492</b>

<b>Petroleum Refinery</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
Tesoro	6/11	0	N/A	0.00000
Tesoro	9/11	0	N/A	0.00000
Tesoro	11/11	0	N/A	0.00000
Tesoro	2/12	20	6.01	0.00004
Phillips 66	6/11	257	2.77	0.00020
Phillips 66	8/11	0	N/A	0.00000
Phillips 66	10/11	0	N/A	0.00000
Phillips 66	1/12	0	N/A	0.00000
Phillips 66	5/12	0	N/A	0.00000
Shell	5/11	0	N/A	0.00000
Shell	8/11	0	N/A	0.00000
Shell	11/11	0	N/A	0.00000
Shell	2/12	0	N/A	0.00000
Shell	4/12	13	6.67	0.00002
Valero	9/11	9	2.29	0.00001
Valero	4/12	0	N/A	0.00000
Chevron	4/11	514	7.32	0.00104
Chevron	7/11	2619	5.74	0.00415
Chevron	10/11	431	5.48	0.00065
Chevron	1/12	128	6.58	0.00023
Chevron	4/12	348	9.15	0.00088
<b>Total</b>				<b>0.00724</b>

<b>Other Industry</b>				
<b>Discharger</b>	<b>Date</b>	<b>PCBs (pg/L)</b>	<b>Flow (mgd)</b>	<b>Normalized (kg/yr)</b>
USS Posco	9/11	0	N/A	0.00000
USS Posco	10/11	0	N/A	0.00000
USS Posco	1/12	0	N/A	0.00000
USS Posco	4/12	25	5.4	0.00005
C&H Sugar	7/11	82	0.8	0.00005
C&H Sugar	1/12	201	0.72	0.0001
Rhodia	6/11	139	0.1	0.00001
Rhodia	10/11	554	0.07	0.00002
Rhodia	1/12	477	0.081	0.00002
<b>Total</b>				<b>0.00023</b>

<sup>1</sup> Some of the PCBs data included in Appendix F-3, such as from the City of Palo Alto, contained high levels of blank contamination that may have resulted in the Regional Water Board overestimating PCB loads.

**APPENDIX F-4 - DATA SUPPORTING PERFORMANCE-BASED PCBs LIMITS**

Discharge Category – PCBs Data (µg/L)			
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			

SF BAY MERCURY AND PCBs WATERSHED PERMIT  
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