

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 79-162

NPDES NO. CA0038318

WASTE DISCHARGE REQUIREMENTS FOR:

CITY AND COUNTY OF SAN FRANCISCO
SAN FRANCISCO INTERNATIONAL AIRPORT
SAN MATEO COUNTY

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

1. City and County of San Francisco (hereinafter discharger), by application dated July 20, 1979, has applied for renewal of waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System.
2. The discharger presently discharges secondarily treated municipal wastewater containing pollutants into a combined outfall force main with final disposal into San Francisco Bay, a water of the United States, at a point approximately one mile north-east of Point San Bruno, (Latitude 22 deg, 39 min, 55 sec; Longitude 22 deg, 21 min, 41 sec). The discharge can affect viable shellfish beds in San Francisco Bay, located near the shoreline of Oyster Point and Point San Bruno. The same outfall facilities are presently used by Merck Chemical Company, and the cities of Burlingame, Millbrae, and South San Francisco.
3. The report of waste discharge describes the existing discharge as follows (Annual Average values):

Average Flow: 1.0 million gallons per day (mgd)
Design Flow: 2.2 million gallons per day (mgd)

<u>Constituents</u>	<u>Milligrams per Liter</u>	<u>Pounds per day</u>
BOD	13	110
Suspended Matter	14	120

4. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board on April 8, 1975, . The Basin Plan contains water quality objectives for San Francisco Bay.

5. The beneficial uses of San Francisco Bay are:
 - a. Recreation
 - b. Fish migration and habitat
 - c. Habitat and resting for waterfowl and migratory birds
 - d. Industrial, water supply
 - e. Esthetic enjoyment
 - f. Navigation
 - g. Shellfish propagation and harvesting for human consumption.
6. This project is exempt from the provisions of chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
7. The discharge is presently governed by Waste Discharge Requirements Order Nos. 74-205 and 77-35 which allow discharge to San Francisco Bay.
8. The discharger and interested agencies and persons have been notified of the Board's intent to revise requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.
9. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provision of the Federal Water Pollution Control Act, as amended, and regulations and guidelines adopted thereunder, that the discharger shall comply with the following:

A. Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.
2. There shall be no bypass or overflow of untreated wastewater to waters of the State either at the treatment plant or from the collection system.
3. The average dry weather flow shall not exceed 2.2 mgd. Average shall be determined over three consecutive months each year.

B. Effluent Limitations

1. The discharge into the combined outfall of an effluent containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>7-Day Average</u>	<u>Maximum Daily</u>	<u>Instan- taneous Maximum</u>
a. Settleable Matter	ml/l-hr	0.1	-	-	0.2
b. BOD	mg/l	30	45	60	-
	lbs/day	714	-	1430	-
	kg/day	324	-	648	-
c. Suspended Solids	mg/l	30	45	60	-
	lbs/day	714	-	1430	-
	kg/day	324	-	648	-
d. Oil & Grease	mg/l	10	-	20	-
	lbs/day	238	-	476	-
	kg/day	108	-	216	-
e. Chlorine Residual*	mg/l	-	-	-	0.0

* Compliance with this limitation may be demonstrated at the point of discharge from the combined outfall to the receiving water.

2. The discharge shall not have pH of less than 6.0 nor greater than 9.0.
3. In any representative set of samples, the waste as discharged to the combined outfall shall meet the following limit on toxicity:**

The survival of test fishes in 96-hour bioassays of the effluent shall be a 90 percentile value of not less than 50 percent survival. Exceptions to this limitation may be granted and revised toxicity requirements established by the Regional Board, pursuant to public hearing, if the discharger can demonstrate to the satisfaction of the Board that the following conditions are met:

1. The waste is discharged through a deepwater outfall which achieves rapid and high initial dilution and that the waste is rapidly rendered nonacutely toxic upon discharge, and
2. The toxicants in the waste are nonconservative constituents which are rapidly decayed in the receiving water; or the toxicants in the waste are conservative constituents for which water quality objectives have been established. The Regional Board will, in such cases, establish effluent mass emission rates for such constituents.

**Samples may be dechlorinated in the laboratory prior to testing to provide a chlorine residual equal to that of the waste in the combined outfall.

4. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).
5. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated:

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>50% of time</u>	<u>10% of time</u>
Arsenic	mg/l (kg/day)	0.01 (0.08)	0.02 (0.17)
Cadmium	mg/l (kg/day)	0.02 (0.17)	0.03 (0.25)
Total Chromium	mg/l (kg/day)	0.005 (0.042)	0.01 (0.08)
Copper	mg/l (kg/day)	0.2 (1.7)	0.3 (2.5)
Lead	mg/l (kg/day)	0.1 (0.83)	0.2 (1.7)
Mercury	mg/l (kg/day)	0.001 (0.008)	0.002 (0.017)
Nickel	mg/l (kg/day)	0.1 (0.83)	0.2 (1.7)
Silver	mg/l (kg/day)	0.02 (0.17)	0.04 (0.33)
Zinc	mg/l (kg/day)	0.3 (2.5)	0.5 (4.2)
Cyanide	mg/l (kg/day)	0.1 (0.83)	0.2 (1.7)
Phenolic Compounds	mg/l (kg/day)	0.5 (4.2)	1.0 (8.3)
Total Identifiable Chlorinated Hydrocarbons	mg/l (kg/day) ^{1/}	0.002 (0.017)	0.004 (0.033)

^{1/} Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place.
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended or deposited oil or other products of petroleum origin;

3. The land disposal sites shall have facilities adequate to divert surface runoff from adjacent areas, and to prevent any conditions that would cause drainage from the materials in the disposal sites into San Francisco Bay. Adequate protection is defined as protection from at least a 100-year storm and from the highest tidal stage that may occur.

E. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order Nos. 70-12, 70-25, 72-40, 74-205 and 77-35, adopted by the Board on February 26, 1970, March 26, 1970, July 25, 1972, December 17, 1974, and April 19, 1977, respectively. Order Nos. 70-12, 70-25, 72-40, 74-205 and 77-35 are hereby rescinded.
2. The discharger shall comply with all effluent and receiving water limitations, land disposal requirements, prohibitions, and provisions of this order immediately upon adoption.
3. Subsequent to evaluation of receiving water monitoring data and dilution conditions, this Board will review the adequacy of these requirements to protect shellfish and consider adoption of more stringent limitations, if necessary, to protect shellfish harvesting for human consumption.
4. If the discharger elects to document compliance with the coliform receiving water limitation exclusively in the effluent and so notifies the Board in writing, the frequency of receiving water coliform monitoring will be reduced accordingly; PROVIDED, HOWEVER, that if such election is made, a violation of the coliform requirement in the effluent shall constitute a violation of the coliform receiving water limitation.
5. The discharger shall comply with the Self-Monitoring Reporting Program as ordered by the Executive Officer.
6. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated April 1977.
7. The discharger shall review and update annually its contingency plan as required by Regional Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
8. This Order expires December 18, 1984. The discharger must file a Report of Waste Discharge not later than 180 days in advance of such date as an application for issuance of new waste discharge requirements.

9. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator of the U. S. Environmental Protection Agency has no objections.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on **December 18, 1979**.

FRED H. DIERKER
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements 4/77
Resolution 74-10
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

City and County of San Francisco

San Francisco International Airport

NPDES NO. CA 0038318

ORDER NO. 79-162

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the plants outfall from the treatment facilities between the point of discharge into the combined outfall and the point at which all waste from the plant is present. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.
E-002	At any point in the combined outfall from the treatment facilities between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.

- C-50-NE At a point in San Francisco Bay located 50 feet northeasterly from Station C-1, along the outfall line extended.
- C-50-SE At a point in San Francisco Bay located 50 feet southeasterly from Station C-1, normal to the outfall.
- C-300-N thru C-300-NW (8 stations) At a point in San Francisco Bay located on a 300-foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
- C-R-NW At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
- C-R-SE At a point in San Francisco Bay, located approximately 1500 feet southeasterly from the point of discharge.

D. SEDIMENTS

<u>Station</u>	<u>Description</u>
B-1	At a point in San Francisco Bay located fifty (50) feet perpendicular to and south of the diffuser, and two hundred and fifty (250) landward from the end of the diffuser.
B-2	At a point in San Francisco Bay located one hundred and fifty (150) feet perpendicular to and south of the diffuser, and two hundred and fifty (250) feet landward from the end of the diffuser.
B-3	At a point in San Francisco Bay located three hundred (300) feet perpendicular to and south of the diffuser, and two hundred and fifty (250) feet landward from the end of the diffuser.
B-4	At a point in San Francisco Bay located fifty (50) feet perpendicular to and south of the diffuser, and six hundred (600) feet landward from the end of the diffuser.
B-5	At a point in San Francisco Bay located one hundred and fifty (150) feet perpendicular to and south of the diffuser, and six hundred (600) feet landward from the end of the diffuser.
B-RS	At a point in San Francisco Bay located approximately fifteen hundred (1500) feet south of the center of the diffuser.

E. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 100 feet. (A sketch showing the locations of these stations will accompany each report.)

F. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 thru OV-'n'	Bypass or overflows from manholes, pump stations, or collection system. Note: Initial SMP report to include map and description of each known bypass or overflow location.

Reporting - Shall be submitted monthly and include date, time, and period of each overflow or bypass.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given as Table I.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 79-162.
2. Does not include the following paragraphs of Part A:

C.3
3. Is effective on the date shown below.
4. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

Effective Date _____

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS 1/

Sampling Station	A-001	E-001		E-001-D			E-002			All C Sta	All B Sta	All P Sta	
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	C-24	Cont	G	BS	O
Flow Rate (mgd)	D			D						D			
BOD, 5-day, 20° C, or COD (mg/l & kg/day)	W		W						5/W				
Chlorine Residual & Dosage (mg/l & kg/day)					2/D					Cont			
Settleable Matter (ml/1-hr. & cu. ft./day)		D						5/W					
Total Suspended Matter (mg/l & kg/day)	W		W						5/W				
Oil & Grease (mg/l & kg/day) 2/	M		M						2M				
Coliform (Total) (MPN/100 ml) per req't					3/W			5/W			3/2/M		
Fish Toxicity, 96-hr. TL ₅₀ % Survival in undiluted waste						M			M				
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity - Nephelometric Turbidity Units			W						W		2/M		
pH (units)		D						D			2/M		
Dissolved Oxygen (mg/l and % Saturation)		D						D			2/M		
Temperature (°C)		D						D			2/M		
Apparent Color (color units)			M						W		2/M		
Secchi Disc (inches)											2/M		
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		W						D			2/M		
Arsenic (mg/l & kg/day)			3M										
Cadmium (mg/l & kg/day)			3M										
Chromium, Total (mg/l & kg/day)			3M										
Copper (mg/l & kg/day)			3M										
Cyanide (mg/l & kg/day)			3M										
Silver (mg/l & kg/day)			3M										
Lead (mg/l & kg/day)			3M										

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-001-D			E-002			ALL C Sta	ALL B sta	ALL P	ALL OV
	C-24	G	C-24	Cont	G	C-24	Cont	G	C-24	Cont	G	BS	O	O
Mercury (mg/l & kg/day)			3M											
Nickel (mg/l & kg/day)			3M											
Zinc (mg/l & kg/day)			3M											
PHENOLIC COMPOUNDS (mg/l & kg/day)			3M											
All Applicable Standard Observations		D						D			2/M		2/W	E
Bottom Sediment Analyses and Observations												2/Y		
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			3M											
Non-dissociated Ammonium hydrocarbon as N (mg/l)											3M			

LEGEND FOR TABLE

TYPES OF SAMPLES

- G = grab sample
- C-24 = composite sample - 24-hour
- C-X = composite sample - X hours
(used when discharge does not continue for 24-hour period)
- Cont = continuous sampling
- DI = depth-integrated sample
- BS = bottom sediment sample
- O = observation

TYPES OF STATIONS

- I = intake and/or water supply stations
- A = treatment facility influent stations
- E = waste effluent stations
- C = receiving water stations
- P = treatment facilities perimeter stations
- L = basin and/or pond levee stations
- B = bottom sediment stations

FREQUENCY OF SAMPLING

- | | | |
|---------------------|---|---------------------|
| E = each occurrence | 2/H = twice per hour | 2H = every 2 hours |
| H = once each hour | 2/W = 2 days per week | 2D = every 2 days |
| D = once each day | 5/W = 5 days per week | 2W = every 2 weeks |
| W = once each week | 2/M = 2 days per month | 3M = every 3 months |
| M = once each month | 2/Y = once in March and once in September | Cont = continuous |
| Y = once each year | | |

FOOTNOTES FOR TABLE I

1/ During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:

1. Composite sample for BOD, Total suspended solids, oil and grease (influent & effluent).
2. Grab sample for Coliform (Total and Fecal), Settleable matter, and chlorine residual continuous or every two hours.
3. Continuous monitoring of flow.

2/ Samples taken for oil and grease analysis at sample station(s) A-001, E-001 shall be grab samples, at a frequency of monthly. Those at station E-002 shall be taken **every 2 months**.

Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample.

If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made.

In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly, so that a true 30-day average can be computed and compliance can be determined.

3/ Five samples per station each day.