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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. 85-09
NPDES PERMIT NO. CA0001368

WASTE DISCHARGE REQUIREMENTS

FOR

SAN DIEGO GAS & ELECTRIC COMPANY
SOUTH BAY POWER PLANT
SAN DIEGO COUNTY

The California Regional Water Quality Control Board (hereinafter Regional Board), finds that:

1. On June 14, 1976, the Regional Board adopted Order No. 76-10, NPDES Permit No. CA 0001368, Waste Discharge Requirements for San Diego Gas and Electric Company, South Bay Power Plant, San Diego County. Order 76-10 established waste discharge requirements for a combined discharge flow volume of 434.8 million gallons per day (MGD) of cooling water and other waste discharges from the South Bay Power Plant to San Diego Bay, a water of the United States. Order No. 76-10 contained an expiration date of June 14, 1981, but was administratively extended until the Environmental Protection Agency (EPA) issued its effluent limitation guidelines and standards for the steam electric point source category.
2. On September 13, 1976, the Regional Board adopted Addendum No. 1 to Order No. 76-10, An Addendum Modifying The Waste Discharge Requirements For The San Diego Gas and Electric Company South Bay Power Plant Establishing A Receiving Water Monitoring Program. Addendum No. 1 to Order No. 76-10 established requirements for monitoring receiving water, sediment and air temperature. Addendum No. 1 to Order No. 76-10 also required the discharger to develop and report appropriate statistical relationships between animal and physical parameters in the receiving waters.
3. On February 27, 1978 the Regional Board adopted Addendum No. 2 to Order No. 76-10, An Addendum Modifying the Waste Discharge Requirements for the San Diego Gas and Electric Company South Bay Power Plant To Allow An Increased Average Daily Discharge Volume. Addendum No. 2 to Order No. 76-10 increased the allowable waste discharge volume from 434.8 MGD to 600.5 MGD.
4. On June 27, 1977 the Regional Board adopted Order No. 77-30, An Order for Issuance of an Interim Time Schedule for San Diego Gas and Electric Company South Bay Power Plant, San Diego County. Order 77-30 established a time schedule for the San Diego Gas and Electric Company to achieve compliance with the requirements of Effluent Limitation A.2 (Metal Cleaning Wastes), A.3 (Boiler Blowdown), and A.4 (Low Volume Wastes) of Order No. 76-10. In Order No. 77-30, the San Diego Gas and Electric Company was required to achieve full compliance with the Effluent Limitations of Order No. 76-10 by June 1, 1978.

5. On September 12, 1977, this Regional Board adopted Addendum No. 1 to Order No. 77-30, An Addendum Extending the Time Schedule Issued in Order No. 77-30 for the San Diego Gas and Electric Company South Bay Power Plant, San Diego County. Addendum No. 1 extended the expiration date of Order No. 77-30 from September 27, 1977 to November 30, 1977 to allow time for resolution of potential pending conflicts in policy determinations between the Environmental Protection Agency and the State Board with respect to enforcement of time schedule violations by certain industrial dischargers. *what was this?*
6. On November 28, 1977, this Regional Board adopted Addendum No. 2 to Order No. 77-30, An Addendum Further Extending the Time Schedule Issued in Order No. 77-30 for the San Diego Gas and Electric Company South Bay Power Plant, San Diego County. Addendum No. 2 extended the expiration date of Order No. 77-30 from November 30, 1977 to January 31, 1978.
7. On January 23, 1978, the Regional Board adopted Addendum No. 3 to Order No. 77-30, An Addendum Further Extending the Time Schedule Issued in Order No. 77-30 for the San Diego Gas and Electric Company South Bay Power Plant, San Diego County. Addendum No. 3 extended the expiration date of Order No. 77-30 to April 30, 1978. *extensions*
8. On April 10, 1978 the Regional Board adopted Addendum No. 4 to Interim Order No. 77-30, An Addendum Finalizing and Revising the Time Schedule Issued in Order No. 77-30 For the San Diego Gas and Electric Company South Bay Power Plant, San Diego County. Addendum No. 4 specified that the requirements of Effluent Limitation A.2 (Metal Cleaning Wastes) of Order No. 76-10 would be effective immediately. Addendum No. 4 also specified that the Low Volume Wastes should receive partial treatment in accordance with the San Diego Gas and Electric Company's commitment to provide settling time for these wastes prior to discharge. Addendum No. 4 to Order 77-30 also extended the expiration date of Interim Order No. 77-30 to September 30, 1978.
9. On December 8, 1980, Mr. D. W. Gilman, Vice President - Power Supply, San Diego Gas and Electric Company (SDG&E) submitted a Report of Waste Discharge in application for renewal of the existing NPDES Permit for the discharge to San Diego Bay.
10. The South Bay Power Plant is located at 990 Bay Boulevard, Chula Vista, California in Section 9 T185, R2W SBBM.
11. A Form 2C Permit Application was submitted to EPA by SDG&E for the South Bay Power Plant on December 8, 1980. Table 1 summarizes the analytical data for those toxic pollutants detected in the effluent at concentrations greater than the intake concentrations. The 2C scan for South Bay indicates that none of the hazardous chemicals stored at the facility are present in the effluent. However, this scan shows an increase in bromide from 80 mg/l to 91 mg/l, an increase in iron from 528 ug/l to 609 ug/l and an increase in mercury from <0.1 ug/l to 0.3 ug/l when influent and effluent concentrations for those constituents are compared.

TABLE 1

SOUTH BAY FORM 2C

Effluent Toxic Pollutant Data

<u>Pollutant</u>	<u>Units</u>	<u>Influent Concentration</u>	<u>Effluent Concentration</u>
Bromide	mg/l	80	91
Oil & Grease	mg/l	0.3	2.2
Phosphorous	mg/l	0.69	0.75
Iron	ug/l	528	609
Mercury	ug/l	<0.1	0.3

12. The South Bay Power Plant has four major steam cycle units and one gas turbine generator. Each of the four major units burn primarily gas with the option of burning fuel oil as economic conditions dictate. Each of the units can generate independently or in conjunction with one another. The table below summarizes each unit's capacity and start up date.

<u>Unit</u>	<u>Date on Line</u>	<u>Capacity</u>
1	July 1960	140 MW
2	June 1962	148 MW
3	September 1964	198 MW
4	December 1971	220 MW
Gas Turbine	October 1966	22 MW
Total Plant Capacity		728 MW

The total generating capability of the four major steam cycle units at the South Bay Power Plant is 706 MW, and there are no plans for major modifications of generating capacity at this plant in the near future.

13. At full capacity the total estimated water usage at the South Bay facility is 602.22 MGD of which 99.81 percent is once through cooling water. The balance is service water obtained from the municipal water supply. Cooling water is withdrawn from San Diego Bay through an intake channel. Floating material is removed from the flow by a series of skimming booms. After passing under these, the water enters one of three intake structures where it passes through trash racks to remove debris and then through traveling screens after which it is pumped through the condensers. (The amount of cooling water required is dependent upon the number of units in operation.) The heated water is returned to San Diego Bay.

14. A more detailed breakdown of water use at the South Bay Power Plant is tabulated below:

<u>Waste Stream</u>	<u>Flow (Gallons Per Day)</u>
(a) Once-Through Cooling Water	601,056,000
(1) Condenser cooling	
(b) Circulating water pump lubrication	98,000
(c) Low Volume Wastes	555,200
(1) Boiler blowdown	
(2) Evaporator blowdown	
(3) Sample drains	
(4) Floor drains	
(5) Demineralizer	
(6) Zeolite softener regeneration	
(7) Reverse osmosis	
(8) Condenser cleaning	
(9) LNG cooling	
(d) Metal Cleaning Wastes	453,000
(1) Chemical cleaning	
(2) Air heater wash	
(3) Boiler wash	
(e) Boiler Feedwater	50,000
(1) Steam atomization	
(2) Tube blowing	
(f) Sanitary Sewer	6,000

The above information is also diagrammed in a water flow schematic prepared by SDG&E and is presented in Attachment A of this Order. The total combined discharge to San Diego Bay of 602,162,200 gallons/day represents the total flows of: once-through cooling water, cooling water pump lubrication water, low volume wastes and metal cleaning wastes. Sanitary wastes are discharged to the sewerage

system for treatment and disposal. Boiler freshwater flow is vented to the atmosphere after steam atomization. Thus, sanitary waste and boiler feedwater (13e) flow rates are not included in the total combined discharge flow to San Diego Bay.

15. The South Bay Power Plant cooling water intake structure is located on the southern edge of San Diego Bay at the head of the intake channel extending from the Bay. The intake structure is located approximately 200 feet from the Power Plant.
16. Cooling water is withdrawn from the Bay through the intake channel. The intake channel was designed to have a bottom width of 200 feet at its widest point and taper to 50 feet near the Unit 4 screenhouse. The bottom elevation of the channel was designed to be approximately -15 feet (elevation 0 being mean sea level, msl). The channel was constructed by dredging and diking operations. Over the years some filling in has occurred, although in the area near the units' screens, it has been minimal. Variations in the water surface due to the tide are from a low of -5.0 feet to a high of +5.7 feet.
17. Floating booms are situated in the intake channel in front of the circulating-water intake structures to retain large floating material washed in from the Bay. The South Bay Power Plant has three separate screen structures for its four units. Units 1 and 2 are served by one screen structure (with four traveling screens) and individual screen structures (with two traveling screens each) have been constructed for Units 3 and 4. Water flowing in the intake channel approaches the screens for Units 1 and 2, then Unit 3 screens and then Unit 4 screens. The horizontal distance between Units 1 and 2 screens to Unit 3 screens and Unit 3 screens to Unit 4 screens is approximately 131 feet and 93 feet, respectively. As the cooling water flows into each intake structure, it passes through trash racks (the bars are 3 1/2 inches apart) which prevent passage of large debris. The trash racks are cleaned periodically as needed. The debris from the trash racks is sent to appropriate land disposal. The height of each screen structure is 27 feet-6 inches. The screen structure for Units 1 and 2 is 63 feet-6 inches wide with intake openings of 11 feet-3 inches wide. The screen structure for Unit 3 is 32 feet wide with 11 feet-3 inches wide intake openings, and the screen structure for Unit 4 is 31 feet wide with intake openings of 11 feet-3 inches wide. As the cooling water flows through the screen structure, it passes through 3/8-inch mesh traveling screens (except Unit 1 east, Unit 2 east and west, Unit 3 east, and Unit 4 east, which have 1/8-inch by 1/2-inch mesh) for removal of debris before entering the pump wells. The debris removed from the cooling water by the screens is washed into a fish return and screen debris trough which crosses over the intake channel and feeds it to the discharge channel.
18. Each unit has two circulating (cooling) water pumps. The approximate combined capacities, based on nameplate ratings, of the cooling water pumps for each unit are:

Unit 1	-	78,000 gpm
Unit 2	-	78,000 gpm
Unit 3	-	124,600 gpm
Unit 4	-	136,800 gpm
Total		417,400 gpm

With all units in operation, all pumps operating, the cooling water flow through the plant is 417,400 gpm or 601 mgd.

19. The velocity of the water as it approaches the traveling water screens varies with unit operation, water level, and cleanness of the screens. Calculated maximum velocities, in feet per second, at high and low tides with 100 percent clean screens are presented in the table below:

<u>Unit</u>	<u>High Tide (+5.7)</u>	<u>Low Tide (-5.0)</u>
1	0.4 fps	0.9 fps
2	0.4 fps	0.9 fps
3	0.7 fps	1.4 fps
4	0.7 fps	1.5 fps

20. The eight traveling screens remove debris which passes through the trash racks. The screens are conventional through-flow, vertically rotating, single entry, band-type screens, mounted in the screen wells of the intake channels. Each screen consists of a series of baskets or screen panels (35) attached to a chain drive. At South Bay Power Plant, different screening materials have been experimented with, including stainless steel 3/8-inch meshed wire, polyester 3/8-inch mesh, stainless steel 1/8-inch by 1/2-inch mesh, and nylon 1-millimeter meshed screen. Cooling water passes through the wire mesh screening surface and floating or suspended matter is retained on the screens. The screens rotate automatically when the debris buildup causes a predetermined pressure differential across the screen (or the difference in sea water level before and after the screen increases to a set level). As the screen is revolved, the material is lifted from the intake water surface by the upward travel of the baskets. The screens for Unit 1 have four speeds: 2, 3, 5, and 10 feet per minute. Units 2, 3, and 4 have two low speeds, 2 and 3 feet per minute, and one high speed, 10 feet per minute. When the screens turn on automatically, they go into low speed. A screen wash system in the traveling screen structure provides water (sea water from the intake tunnel) to wash the debris from the traveling screen. At the head of the screen, matter is removed from the baskets by the high pressure (70-100 psi) spray of water, which is evenly distributed over the entire basket width. The jet spray washes the material into a trough, which runs over the intake and into the discharge channel.
21. Each unit at South Bay Power Plant has two circulating (cooling) water pumps, one for each condenser half. Units 1 and 2 have vertical centrifugal pumps and Units 3 and 4 have vertical submerged pumps. Each pump draws water in through

- the traveling water screen and discharges to the condenser half. Circulating water pumps for Units 1 and 2 rotate at 400 rpm and Units 3 and 4, at 390 rpm. Each pump discharges into a pipe that transports the water to the condenser. The pumps for Units 1 and 2 discharge into 48-inch diameter pipes and the pumps for Units 3 and 4 discharge into 50-inch diameter pipes. The length of each of the eight intake pipes, from the pumps to the Power Plant, is approximately 200 feet.
22. The condenser is a shell-and-tube arrangement in which heat is transferred from the turbine exhaust steam to the circulating (cooling) water. Units 1, 2, and 3 have two-pass condensers (water enters the top, passes through the condenser twice, and exits the bottom). The Unit 4 condenser has a single-pass design. The tubing material in the first pass of the Unit 1 condenser is AL6X. The second pass is aluminum brass. Unit 2 condenser tubing is aluminum brass, and Units 3 and 4 have copper-nickel tubing. The tubing length (exposed) in Units 1, 2, and 3 is 30 feet and in Unit 4 is 38 feet. All the condensers have 1-inch outside diameter tubing. The cooling water enters the condensers where heat from exhaust steam is transferred to the circulating water. Based on the heat diagrams for the South Bay Power Plant, the four condensers will transfer approximately 3.40×10^9 Btu/hr to 417,400 gpm of cooling water when the plant is producing 706,000 kw. The heated water discharges from the condensers to four separate discharge pipes.
 23. The sizes of the discharge pipes from the condensers of Units 1 through 4 are 72 inches, 72 inches, 84 inches, and 84 inches, respectively. All of the discharge pipes cross under the intake channel to the discharge channel. The invert elevation of the discharge pipes for Units 1 and 2 is -19.6 feet. The invert elevation of the discharge pipes for Units 3 and 4 is -9.6 feet. The discharge structures for all discharge pipes are located on the north bank of the discharge channel. The coordinates of the plant discharge are 32°-36'-33" north latitude and 117°-6'-49" west longitude. The total plant flow returns to the Bay through the discharge channel which extends into the Bay, parallel to the intake channel. The bottom width of the channel varies from 50 feet near Unit 4 discharge to approximately 1200 feet at its widest point in the Bay. The depth also varies from -15 feet at the discharge structures and slopes up to meet the existing bottom of the Bay. The channel was constructed by dredging and diking operations.
 24. Chlorine is used intermittently in the cooling water system to minimize formation of algae and slime, which collects in the tubes of the condenser if control is not practiced. The chlorination system injects gaseous chlorine solution into the cooling water immediately upstream of the circulating water pumps for each unit. Each injection point is controlled separately. Chlorine is injected at each cooling water pump for five minutes per hour per unit. The daily quantity of chlorine injected into the system depends on the possibility of slime and algae formation. The daily usage in the summer is greater than the daily usage in the winter. The mixing of the cooling water from the other units results in a minimal chlorine residual in the cooling water discharge to the Bay. Chlorine treatment is conducted intermittently throughout the day when the unit is in operation.
 25. Heat treatment of the tunnels and condenser units for removal of encrusting organisms is not practiced at the South Bay Power Plant. The encrusting organisms are manually cleaned from the intake pipes once each year. The wastes

are removed by manual cleaning and discharged into the discharge channel via the screen debris trough.

26. Metal cleaning wastewaters include wastes generated from periodic boiler tube waterside cleanings, and preheater cleaning and boiler tube fireside cleaning. The volume of metal cleaning wastes produced on an annual basis is dependent upon the number of boiler washes performed. Ordinarily, each of the four boilers at the South Bay facility would be cleaned once in a four year period. The possibility exists, however, that all four could require cleaning in a single year due to contamination of the water. A boiler wash is performed with a dilute solution of hydrochloric acid (HCL) and Thiurea (a copper complexing agent manufactured by Dow). The boiler to be washed is drained of the water it contains and filled with fresh water, then fired to heat the water and metal up to temperature. When the required temperature is attained a "fast drain" is done and the warm water is pumped back into the boiler with the chemicals mixed into the water during pumping. At this point the boiler is allowed to sit for six hours with the cleaning solution inside. (The temperature is monitored so that if the system cools too quickly it can be drained sooner.) After the wash has been given time to work on the deposits, another fast drain is done and the cleaning job is checked to ensure that the deposits have been removed. A rinse cycle follows and samples are taken during the draining. Usually a second and a third rinse is done. The third volume of water contains citric acid. The final volume in the cleaning operation contains phosphate and sodium hydroxide as neutralizing agents. When filled with this solution, the boiler is fired slowly to circulate the water. Lastly, the unit is drained, blown down and fired.
27. The air preheaters are usually washed once a year during overhaul operations when the facility is burning gas and twice per year when it is burning oil.
28. Boiler fireside washes are performed to remove soot and accumulated combustion by-products from metal surfaces in order to maintain efficient heat transfer. Frequency again depends upon the fuel being burned. These washes are accomplished by spraying high-pressure water against the surfaces to be cleaned. Wastewaters thus generated contain an assortment of dissolved and suspended solids with loadings and constituents dependent upon the facility's fuel.
29. Municipal water is supplied to the plant for use in their sanitary system.
30. As discussed in Finding 14 and shown in Attachment A, the South Bay Power Plant has the potential to produce the following categories of wastewater:
 - (a) Once-Through Cooling Water
 - (b) Metal Cleaning Wastes
 - (c) Low Volume Wastes
 - (d) Sanitary Wastewater.

Once-through cooling water, circulating pump lubrication water and blowdown are discharged to San Diego Bay without treatment.

31. Metal cleaning waste waters undergo neutralization, flocculation and chemical precipitation at an on-site wastewater treatment plant. For low volume wastes that are treated, the facility provides physical-chemical treatment (neutralization, flocculation, and chemical precipitation) if required, otherwise the waste is discharged from primary treatment ponds. Low volume waste is discharged from the primary treatment tank, or the physical-chemical treatment plant to the condenser cooling water flow.
32. The Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (Basin Plan) was adopted by this Regional Board on March 17, 1975; approved by the State Board on March 20, 1975; and updated by the Regional Board on February 27, 1978 and March 23, 1981. The 1978 and 1981 updates were subsequently approved by the State Board.
33. The Comprehensive Water Quality Control Plan Report also contains the following prohibitions for waters subject to tidal action:
- "The dumping or deposition from shore or from vessels of oil, garbage, trash or other solid municipal or agricultural wastes directly into waters subject to tidal action or adjacent to waters subject to tidal action in any manner which may permit it to be washed into the waters subject to tidal action is prohibited."
- * * * * *
- "Discharge of industrial wastewaters exclusive of cooling water, clear brine or other waters which are essentially chemically unchanged, into waters subject to tidal action is prohibited."
- * * * * *
- "The dumping or deposition of chemical wastes, chemical agents or explosives into waters subject to tidal action is prohibited."
-] - NAVY?
34. The Comprehensive Water Quality Control Plan Report San Diego Basin (9) established the following beneficial uses for the waters of San Diego Bay:
- (a) Industrial service supply
 - (b) Navigation
 - (c) Water contact recreation
 - (d) Non-water contact recreation
 - (e) Ocean commercial and sportfishing
 - (f) Saline water habitat
 - (g) Preservation of rare and endangered species
 - (h) Marine habitat
 - (i) Fish migration
 - (j) Shellfish harvesting
35. On September 18, 1975, the State Water Resources Control Board adopted a revised version of the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). This Plan contained objectives for discharges of elevated temperature wastes (existing and new discharges) to enclosed bays and estuaries.
36. Clean Water Act Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. By letter dated

October 30, 1977 the Regional Board requested SDG&E to initiate Intake Water Studies to demonstrate conformance with the requirements of Clean Water Act Section 316(b).

37. In December, 1980 the discharger submitted a final report intended to comply with Clean Water Act Section 316(b). The Regional Board will make a determination if the location, design, construction and capacity of the South Bay Power Plant cooling water intake structure reflects the best available technology for minimizing adverse environmental impacts upon completion of review and evaluation of SDG&E's 316(b) Study by Regional Board staff.
38. In a legal opinion issued on January 18, 1984 by the Office of the Chief Council for the State Water Resources Control Board, it was determined that the California Ocean Plan water quality standards can be applied to discharges in the absence of standards in the Bays and Estuaries policy. Such authority can be taken from the California Water Code, Sections 13000 et seq. which requires Regional Boards, in the adoption of waste discharge requirements, to implement relevant basin plans and to take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for the purpose, and the provisions of Section 13241.
39. The discharge would not be in conflict with the Water Quality Control Policy for Enclosed Bays and Estuaries of California, adopted by the State Water Resources Control Board on May 16, 1974.
40. The Water Quality Control Plan for Ocean Waters of California - 1983 (Ocean Plan) was adopted by the State Board on November 17, 1983. The 1983 Ocean Plan superseded the Ocean Plan adopted on January 19, 1978. The Ocean Plan established beneficial uses of the ocean waters of the State, water quality objectives, general requirements for management of waste discharges to the ocean, quality requirements for waste discharges, and discharge prohibitions.
41. The Ocean Plan establishes a procedure for determining effluent limitations which is based on the minimum initial dilution of a discharge by the receiving ocean waters. The State Board has issued a document entitled Water Quality Control Plan, Table B Guidelines, Ocean Waters of California, 1978 (Table B Guidelines) to assist in implementing the Ocean Plan. State Water Resources Control Board staff have determined the concept of initial dilution does not apply to the South Bay Plant. A conservative approach would require effluent limitations equal to receiving water objectives.
42. Effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Section 301, 302, 303(d), 304, 306, 307, 316(b) and 403 of the Clean Water Act and amendments thereto are applicable to the discharge.
43. The Regional Board finds that the Best Practicable Control Technology Currently Available (BPT) effluent limitations which the U.S. EPA has promulgated to regulate conventional pollutants for the steam electric power generating point source category are equivalent to Best Conventional Pollutant Control Technology (BCT) for the South Bay Power Plant of the San Diego Gas and Electric Company.
44. On November 19, 1982, the Environmental Protection Agency promulgated effluent guidelines and standards for discharge from steam-electric power generating

plants. The guidelines established effluent limitation guidelines, pretreatment standards and new source performance standards and are contained in 40 CFR Parts 125 and 423.

45. Under the Environmental Protection Agency's effluent guidelines and standards the South Bay Power Plant is classified as an old unit.
46. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to the following:
 - (a) Past, present, and probable future beneficial uses of water.
 - (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
 - (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
 - (d) Economic considerations.
 - (e) The need for development of housing within the region.
47. The Regional Board has considered all environmental factors associated with the discharge of waste.
48. The Regional Board has notified the discharger and all known interested parties of its intent to prescribe waste discharge requirements for the discharge.
49. The Regional Board in a public meeting heard and considered all comments pertaining to the discharge.
50. This order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments hereto.
51. The action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et. seq.) in accordance with Section 13389 of the California Water Code.

IT IS HEREBY ORDERED, That the San Diego Gas and Electric Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act, and regulations and guidelines adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste to San Diego Bay is prohibited.
2. The discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.
3. The discharge of municipal and industrial waste sludge directly to San Diego Bay or into a waste stream that discharges to the Bay is prohibited. The discharge of sludge digester supernatant directly to the Bay, or into a

waste stream that discharges to the Bay without further treatment, is prohibited.

4. The bypassing of untreated wastes is prohibited except under those circumstances described under Provision 14 of this Order.
5. A discharge from South Bay Power Plant in excess of 602.2 MGD is prohibited unless the discharger obtains revised waste discharge requirements for the proposed increased discharge rate.
6. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted.
7. The deposition of rubbish or refuse into surface waters or at any place where they would be eventually transported to San Diego Bay is prohibited.

B. DISCHARGE SPECIFICATIONS

1. The combined discharge of non-contact cooling water, low volume waste, and metal cleaning waste to San Diego Bay containing pollutants in excess of the following effluent limitations is prohibited:

Parameter	Units ^{2/3/}	6-Month ^{4/} Median	Monthly ^{5/} Average	Weekly ^{6/} Average	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Total Residual Chlorine ^{9/}	ug/l lbs/day	-	-	-	200 334	200 -
Toxicity Concentration ^{10/}	tu	0.05	-	-	-	-
Arsenic	ug/l lbs/day	-	-	-	-	80 402
Cadmium	ug/l lbs/day	-	-	-	-	30 151
Chromium ^{11/} (Hexavalent)	ug/l lbs/day	-	-	-	-	20 100
Copper	ug/l lbs/day	-	-	-	-	50 251
Lead	ug/l lbs/day	-	-	-	-	80 402
Mercury	ug/l lbs/day	-	-	-	-	1.4 7

Parameter	Units ^{2/3/}	6-Month ^{4/} Median	Monthly ^{5/} Average	Weekly ^{6/} Average	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Nickel	ug/l	-	-	-	-	200
	lbs/day	-	-	-	-	1004
Silver	ug/l	-	-	-	-	4.5
	lbs/day	-	-	-	-	23
Zinc	ug/l	-	-	-	-	200
	lbs/day	-	-	-	-	1004
Cyanide	ug/l	-	-	-	-	50
	lbs/day	-	-	-	-	251
Ammonia (Expressed as Nitrogen)	ug/l	-	-	-	-	6000
	lbs/day	-	-	-	-	30132
Phenolic Compounds	ug/l	-	-	-	-	300
	lbs/day	-	-	-	-	1507
Chlorinated Phenolics	ug/l	-	-	-	-	10
	lbs/day	-	-	-	-	50
Aldrin and Dieldrin	ug/l	-	-	-	-	.006
	lbs/day	-	-	-	-	.03
Chlordane and ^{12/} Related Compounds	ug/l	-	-	-	-	.009
	lbs/day	-	-	-	-	0.05
DDT and ^{13/} Derivatives	ug/l	-	-	-	-	.003
	lbs/day	-	-	-	-	0.02
Endrin	ug/l	-	-	-	-	.006
	lbs/day	-	-	-	-	.03
HCH ^{14/}	ug/l	-	-	-	-	.012
	lbs/day	-	-	-	-	.06
Toxaphene	ug/l	-	-	-	-	.021
	lbs/day	-	-	-	-	0.11
Radioactivity	Not to exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.					

Note: ug/l = micrograms per liter

lbs/day = pounds per day

tu = toxicity units

A list of all footnotes referenced will be found following the last page of the waste discharge requirements section.

2. The South Bay Power Plant discharge to the San Diego Bay shall be essentially free of:
 - (a) Material that is floatable or will become floatable upon discharge;
 - (b) Settleable material or substances that form sediments which degrade^{15/} benthic communities or other aquatic life;
 - (c) Substances toxic to marine life due to increases in concentrations in marine waters or sediments;
 - (d) Substances that significantly decrease the natural light of benthic communities and other marine life; and
 - (e) Materials that result in esthetically undesirable discoloration of the San Diego Bay surface.
3. South Bay Power Plant waste management systems that discharge to San Diego Bay shall be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
4. Wastes from South Bay Power Plant shall be discharged to San Diego Bay in a manner which provides sufficient initial dilution^{16/} to minimize the concentrations of substances not removed in treatment.
5. The location of the waste discharge from South Bay Power Plant shall assure that:
 - (a) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports;^{17/}
 - (b) Natural water quality conditions are not altered in areas designated as being of special biological significance; and
 - (c) Maximum protection is provided to the marine environment.
6. The South Bay Power Plant discharge of elevated temperature wastes to San Diego Bay shall comply with limitations necessary to assure protection of beneficial uses and designated areas of special biological significance.
7. During normal operation, the temperature of the discharge to San Diego Bay shall not average more than 15°F (8.3°C) above that of the incoming Bay water during any 24-hour period. The discharge shall not at any time exceed 25°F (13.9°C) above that of the incoming Bay water.
8. The pH of the discharge from South Bay Power Plant to San Diego Bay shall be within the range of 6.0 to 9.0 pH units at all times.

9. The discharge of low volume waste to the combined discharge outfall, containing pollutants in excess of the following effluent limitations is prohibited:

Parameter	Units ^{2/18/}	6-Month ^{4/} Median	Monthly ^{5/} Average	Weekly ^{6/} Average	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Total	mg/l	-	30	-	100	100
Suspended Solids	lbs/day	-	139	-	463	463
Grease and Oil	mg/l	-	15	-	20	20
	lbs/day	-	69	-	93	93

10. The discharge of metal cleaning wastes to the combined discharge outfall containing pollutants in excess of the following effluent limitations is prohibited:

Parameter	Units ^{2/19/}	6-Month ^{4/} Median	Monthly ^{5/} Average	Weekly ^{6/} Average	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Total	mg/l	-	30	-	100	100
Suspended Solids	lbs/day	-	113	-	378	378
Grease and Oil	mg/l	-	15	-	20	20
	lbs/day	-	57	-	76	76
Total Copper	mg/l	-	1	-	1	1
	lbs/day	-	4	-	4	4
Total Iron	mg/l	-	1	-	1	1
	lbs/day	-	4	-	4	4

11. The combined discharge from all Power Plant in-plant waste sources containing pollutants in excess of the following effluent limitations is prohibited:^{1/}

Parameter	Units ^{2/20/}	6-Month ^{4/} Median	Monthly ^{5/} Average	Weekly ^{6/} Average	Daily ^{7/} Maximum
Arsenic	lb/day	40	-	-	161
Cadmium	lb/day	15	-	-	60
Chromium ^{11/} (Hexavalent)	lb/day	10	-	-	40
Copper	lb/day	25	-	-	100
Lead	lb/day	40	-	-	161
Mercury	lb/day	0.7	-	-	2.8
Nickel	lb/day	100	-	-	402
Silver	lb/day	2.3	-	-	9.0
Zinc	lb/day	100	-	-	402
Cyanide	lb/day	25	-	-	100
Ammonia (expressed as nitrogen)	lb/day	3013	-	-	12053
Phenolic Compounds (non-chlorinated)	lb/day	151	-	-	603
Chlorinated Phenolics	lb/day	5	-	-	20
Aldrin and Dieldrin	lb/day	0.010	-	-	0.020
Chlordane ^{12/} and Related Compounds	lb/day	0.015	-	-	0.030
DDT and ^{13/} Derivatives	lb/day	.005	-	-	0.010
Endrin	lb/day	.010	-	-	0.020
HCH ^{14/}	lb/day	.020	-	-	0.040
Toxaphene	lb/day	.035	-	-	0.070

12. Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.
13. Wastes shall not be discharged into or adjacent to areas of San Diego Bay where the protection of beneficial uses requires spatial separation from waste fields.
14. Waste discharges shall not cause a blockage of zones of passage required for the migration of an anadromous fish.
15. Nonpoint sources of pollutants shall be controlled to the maximum practicable extent.

C. COOLING WATER INTAKE STRUCTURE SYSTEM SPECIFICATIONS

1. The discharger shall dredge sand and silt to eliminate buildup in front of the intake structure and routinely clean the bar racks at South Bay Power Plant as necessary to maintain bar rack approach velocities as close as practical to design levels. The discharger shall rotate and clean intake screen assemblies at a frequency of not less than once every eight hours when the unit is in operation, for the purpose of maintaining intake water velocities as close as practical to design levels.
2. The discharger shall minimize circulation water flow where possible when units are at reduced load or out of service except as required to ensure equipment and personal safety.
3. The discharger shall avoid sudden increases in cooling water flow whenever possible.

D. RECEIVING WATER LIMITATIONS

The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any discharge or discharges cause the following water quality objectives to be violated:

1. Physical Characteristics
 - (a) Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.
 - (b) Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
 - (c) Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
 - (d) Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

- (e) Waters shall not contain oils, greases, waxes or other materials in concentrations that result in visible film or coating on the surface of the water or on objects in the water, or that cause nuisance or otherwise adversely affect beneficial uses.
- (f) The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- (g) Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

2. Chemical Characteristics

- (a) The annual mean dissolved oxygen concentration^{21/} shall not be less than 7 mg/l more than 10 percent of the time.
- (b) The hydrogen ion concentration (pH) shall not be depressed below 7.0 nor raised above 8.5.
- (c) Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses.
- (d) The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- (e) The concentration of substances set forth in Receiving Water Limitation 5(c) in the Bay sediments shall not be increased to levels which would degrade^{15/} indigenous biota.
- (f) The concentration of organic materials in the Bay sediments shall not be increased to levels which would degrade^{15/} marine life.

3. Biological Characteristics

Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, cause nuisance, or adversely affect beneficial uses.

4. Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

5. Toxicity

- (a) All waters shall be maintained free of toxic substances in concentrations that are toxic to or that produce detrimental physiological responses in human, plant, animal, or aquatic life.

- (b) No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increases in pesticide concentrations found in bottom sediments or aquatic life.
- (c) The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any other discharge or discharges cause the following toxic material limitations to be exceeded upon completion of initial dilution:

Parameter	Unit	6-Month ^{4/} Median	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Arsenic	ug/l	8	32	80
Cadmium	ug/l	3	12	30
Chromium (Hexavalent) ^{11/}	ug/l	2	8	20
Copper	ug/l	5	20	50
Lead	ug/l	8	32	80
Mercury	ug/l	0.14	0.56	1.4
Nickel	ug/l	20	80	200
Silver	ug/l	0.45	1.8	4.5
Zinc	ug/l	20	80	200
Cyanide	ug/l	5	20	50
Ammonia (expressed as (nitrogen))	ug/l	600	2400	6000
Toxicity Concentration ^{10/}	tu	0.05	-	-
Phenolic Compounds (non- chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Aldrin and Dieldrin	ug/l	0.002	0.004	0.006
Chlordane and Related ^{12/} Compounds	ug/l	0.003	0.006	0.009
DDT and Derivatives ^{13/}	ug/l	0.001	0.002	0.003
Endrin	ug/l	0.002	0.004	0.006
HCH ^{14/}	ug/l	0.004	0.008	0.012
PCBs	ug/l	0.003	0.006	0.009

Parameter	Unit	6-Month ^{4/} Median	Daily ^{7/} Maximum	Instantaneous ^{8/} Maximum
Toxaphene	ug/l	0.007	0.014	0.021
Radioactivity	Not to exceed limits specified in Title 17, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Administrative Code.			

E. PROVISIONS

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. The discharger must comply with all conditions of this Order. Any permit noncompliance constitutes a violation of the Clean Water Act and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a Report of Waste Discharge application.
3. The discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.
4. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
 - (a) Violation of any terms or conditions of this Order;
 - (b) Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts;
 - (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
5. In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Executive Officer determines that continued discharges may cause unreasonable degradation of the marine environment.
6. Notwithstanding Provision 4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this Order, this Order shall be modified or revoked and

reissued to conform to the toxic effluent standard or prohibition and the discharger so notified.

7. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act or amendments thereto, the Regional Board will revise and modify this Order in accordance with the more stringent standards.
8. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement.
9. This Order is not transferable to any person except after notice to the Executive Officer of this Regional Board. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary under the California Water Code and the Clean Water Act. The discharger shall submit notice of any transfer of this Order's responsibility and coverage to a new discharger as described under Reporting Requirement 3.
10. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from his liabilities under federal, state or local laws, nor create a vested right for the discharger to continue his waste discharge.
11. The discharger shall allow the Regional Board, or an authorized representative thereof, or any authorized representative of the United States Environmental Protection Agency, upon the presentation of credentials and other documents as may be required by law, to:
 - (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
 - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - (d) Sample or monitor at reasonable times, for the purpose of assuring compliance with this Order or as otherwise authorized by the Clean Water Act or California Water Code, any substances or parameters at any location.

12. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.
13. In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.
14. Bypass of Treatment Facilities
 - (a) Definitions
 - (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
 - (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facility which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in productions.
 - (b) Bypass Not Exceeding Effluent Limitations

The discharger may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this provision.
 - (c) Notice of Anticipated Bypass and Unanticipated Bypass
 - (1) Anticipated Bypass: If the discharger knows in advance of the need for a bypass, they shall submit prior notice, if possible, at least ten days before the date of the bypass.
 - (2) Unanticipated Bypass: The discharger shall submit notice of the unanticipated bypass as described under Reporting Requirement 5.

(d) Prohibition of Bypass

- (1) Bypass is prohibited and the Regional Board may take enforcement action against the discharger for bypass unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There was no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the discharger could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. The discharger submitted notices as required under paragraph (c) of this section.
- (2) The Executive Officer may approve an anticipated bypass, after considering its adverse effect, if the Executive Officer determines that it will meet the three conditions listed above in paragraph (1) of this subsection.

15. Upset Conditions

(a) Definition

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions Necessary for a Demonstration of Upset

A discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the discharger can identify the specific cause(s) of the upset;

- (2) The permitted facility was at the time being properly operated; and
- (3) The discharger submitted notice of the upset as required in Reporting Requirement 5.

(d) Burden of Proof

In any enforcement proceeding the discharger seeking to establish the occurrence of an upset has the burden of proof.

16. A copy of this Order shall be maintained at South Bay Power Plant and shall be available to operating personnel at all times.
17. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

F. REPORTING REQUIREMENTS

1. The discharger shall file a new Report of Waste Discharge not less than 180 days prior to the following:
 - (a) Addition of a major industrial waste discharge of essentially domestic sewage, or the addition of a new process resulting in a change in the character of the wastes.
 - (b) Significant change in disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste).
 - (c) Significant change in the disposal area (e.g., moving the discharge to a disposal area significantly removed from the original area, potentially causing different water quality or a nuisance problem).
 - (d) Increase in flow beyond that specified in the waste discharge requirements.
 - (e) Other circumstances which result in a material change in character, amount, or location of the waste discharge.
 - (f) Any planned physical alterations or additions to the permitted facility.
2. The discharger shall give advance notice to the Executive Officer of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this Order.
3. The discharger shall notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an

acknowledgment that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on.

4. The discharger shall comply with the attached Monitoring and Reporting Program No. 85-09. Monitoring results shall be reported at the intervals specified in Monitoring And Reporting Program No. 85-09.
5. The discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer or an authorized representative may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:
 - (a) Any bypass from any waste treatment facility.
 - (b) Any discharge of treated or untreated wastewater resulting from pipe breaks, obstruction, surcharge or any other circumstance.
 - (c) Any upset which causes the discharge limitations of this Order to be exceeded.
 - (d) Any spills of polychlorinated biphenyl compounds (PCB). The spill residue shall be drummed and disposed of in a manner which meets the approval of the Executive Officer. Water shall not be used to wash down the spill area until an inspection is made by the Board's staff and clearance is given for further clean-up procedures. The written notification shall include pertinent information explaining reasons for the spill and shall indicate what steps were taken to prevent the problem from recurring.
 - (e) Any violation of the discharge prohibitions of this Order.
6. The discharger shall notify the Executive Officer as soon as it is known or there is reason to believe:
 - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in this Order, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 ug/l);

- (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony; and
 - (3) Five times the maximum concentration value reported for that toxic pollutant in the Report of Waste Discharge submitted in application for this Order.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the Report of Waste Discharge application for this Order.
7. The discharger shall furnish to the Executive Officer within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The discharger shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.
 8. Where the discharger becomes aware that any relevant facts were not submitted in the Report of Waste Discharge, or that incorrect information was submitted in the Report of Waste Discharge or in any report to the Regional Board, the discharger shall promptly submit such facts or information.
 9. If a need for a discharge bypass is known in advance, the discharger shall submit prior notice and, if at all possible, such notice shall be submitted at least 10 days prior to the date of the bypass.
 10. This Order expires on January 28, 1990. If the discharger wishes to continue activity regulated by this Order after the expiration date of this Order, the discharger must apply for and obtain new waste discharge requirements. The discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date, as application for issuance of new waste discharge requirements.
 11. All applications, reports, or information submitted to the Executive Officer of this Regional Board shall be signed and certified.
 - (a) The Report of Waste Discharge shall be signed as follows:
 - (1) For a corporation - by a principal executive officer of at least the level of vice-president.
 - (2) For a partnership or sole proprietorship - by general partner or the proprietor, respectively.
 - (3) For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.
 - (b) All other reports required by this Order and other information requested by the Executive Officer shall be signed by a person designated in paragraph (a) of this provision or by a duly authorized

representative of that person. An individual is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described in paragraph (a) of this provision;
 - (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) The written authorization is submitted to the Executive Officer.
- (c) Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

12. Except for data determined to be confidential under Title 40, United States Code of Federal Regulations Part 2, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the California Regional Water Quality Control Board, San Diego Region. As required by the Clean Water Act, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.
13. The discharger shall submit reports required under this Order to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
6154 Mission Gorge Road, Suite 205
San Diego, California 92120

Environmental Protection Agency
Region IX
Permits Branch, Water Quality Office
215 Fremont Street
San Francisco, California 94105

G. NOTIFICATION

1. The Clean Water Act provides that any person who violates a condition of this Order implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates conditions of this Order implementing Sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
2. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
3. Except as provided in Provisions 14 and 15, nothing in this Order shall be construed to relieve the discharger from civil or criminal penalties for noncompliance.
4. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject under Section 311 of the Clean Water Act.
5. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.
6. This Order shall become effective 10 days after the date of its adoption provided the Regional Administrator, United States Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.
7. Order No. 76-10 is hereby rescinded.
8. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall take effect at the end of 10 days from date of adoption provided the Regional Administrator, Environmental Protection Agency, has no objections.

I, Ladin H. Delaney, 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 Diego Region, on January 28, 1985.

Ladin H. Delaney

*Ladin H. Delaney
Executive Officer*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Footnote references for waste discharge requirements of Order No. 85-09 (NPDES No. CA0001368), WASTE DISCHARGE REQUIREMENTS FOR SAN DIEGO GAS & ELECTRIC CO., SOUTH BAY POWER PLANT, SAN DIEGO, CA.

1. The discharge limitation for Ocean Plan Table B parameters were determined using the procedures outlined in the Ocean Plan and initial dilution.
2. The mass emission rate (MER) of a substance is calculated using the following equation:

$$\text{MER} = 8.34 \times Q \times C_e$$

Where MER is the mass emission rate in lb/day, Q is the discharge flow rate in MGD, C_e is the concentration of the substance in the discharge in mg/l.

If a composite sample is taken, C_e is the concentration measured in the composite sample and Q is the average discharge flow rate occurring during the period over which the composite sample is collected.

3. The MER values in this table were obtained using $Q = 602.2$ MGD, the maximum daily combined discharge flow rate reported in the Report of Waste Discharge and C_e values from Table B of the Ocean Plan. When the combined discharge flow rate is lower than 602.162 MGD, the MER limits shall be correspondingly lower.
4. The six-month median effluent concentration limit shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
5. The monthly average shall be the arithmetic mean, using the results of analyses of all samples collected during any 30 consecutive calendar day period.
6. The weekly average shall be the arithmetic mean using the results of analyses of all samples collected during any 7 consecutive calendar day period.
7. The daily maximum effluent limitation shall apply to the results of a single composite sample collected over a period of 24 hours, except total residual chlorine.
8. The effluent concentration limit shall apply to grab sample determinations.
9. Discharge limitations for total residual chlorine are based on EPA Standards for the Steam Electric Power Generating Point Source category. The maximum concentration for the combined discharge is limited to 200 ug/l of total residual chlorine, and the maximum MER is limited to 84 lbs/day per unit based on a two hour daily maximum allowable duration of total residual chlorine discharge. The MER value for total residual chlorine discharge is based on a cooling water discharge flow of 601,056,000 gallons/day. When the respective flow is lower

than the value listed here then the MER limit shall be correspondingly lower. Concentration and MER values for remainder of this table are for the full 24-hour period.

10. This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological responses.

a. Toxicity Concentration (Tc)

Expressed in Toxicity Units (tu)

$$Tc (tu) = \frac{100}{96\text{-hr. TLm\%}}$$

b. Median Tolerance Limit (TLm%)

The TLm shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, the TLm may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hr. TLm due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TC (tu) = \frac{\log (100 - S)}{1.7}$$

S = Percentage survival in 100% waste. If S > 99, TC shall be reported as zero.

If the calculated value for toxicity concentration in the combined discharge falls below the limit of detection of the test method specified in the Code of Federal Regulations 40 CFR, Part 136, "Guidelines Establishing Test Procedures For Analysis of Pollutants," or by a more sensitive method specified by the State Water Resources Control Board or the Regional Board, the limit of detection shall serve as the limiting effluent concentration. The limit of detection of acute toxicity in standard test methods is less than, or equal to, 0.59 tu.

11. The discharger may at their option meet this limitation as a total chromium limitation.
12. Chlordane and related compounds shall mean the sum of chlordane (cis + trans), trans-nonachlor, oxychlordane, heptachlor and heptachlor epoxide.
13. DDT and derivatives shall mean the sum of the p, p' and o, p' isomers of DDT, DDD (TDE) and DDe.
14. HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers.

15. Degradation shall be determined by analysis of the effects of the discharge on species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species.
16. Initial dilution is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.
17. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfish and body contact sports areas to maintain applicable bacteriological standards without disinfection. Where conditions are such that an adequate distance cannot be obtained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Consideration should be given to disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard in their production, transport, and utilization.
18. The MER values in this table were obtained using $Q = .555$ MGD, the low volume waste discharge flow rate determined from the Report of Waste Discharge, and the following C_e values from the EPA Standards for the Steam Electric Power Generating Source Category:

Parameter	Units	Monthly Average	Daily Maximum
Total Suspended Solids	mg/l	30.0	100.0
Grease and Oil	mg/l	15.0	20.0

When the low volume waste discharge flow rate is lower than .555 MGD, the MER limits shall be correspondingly lower.

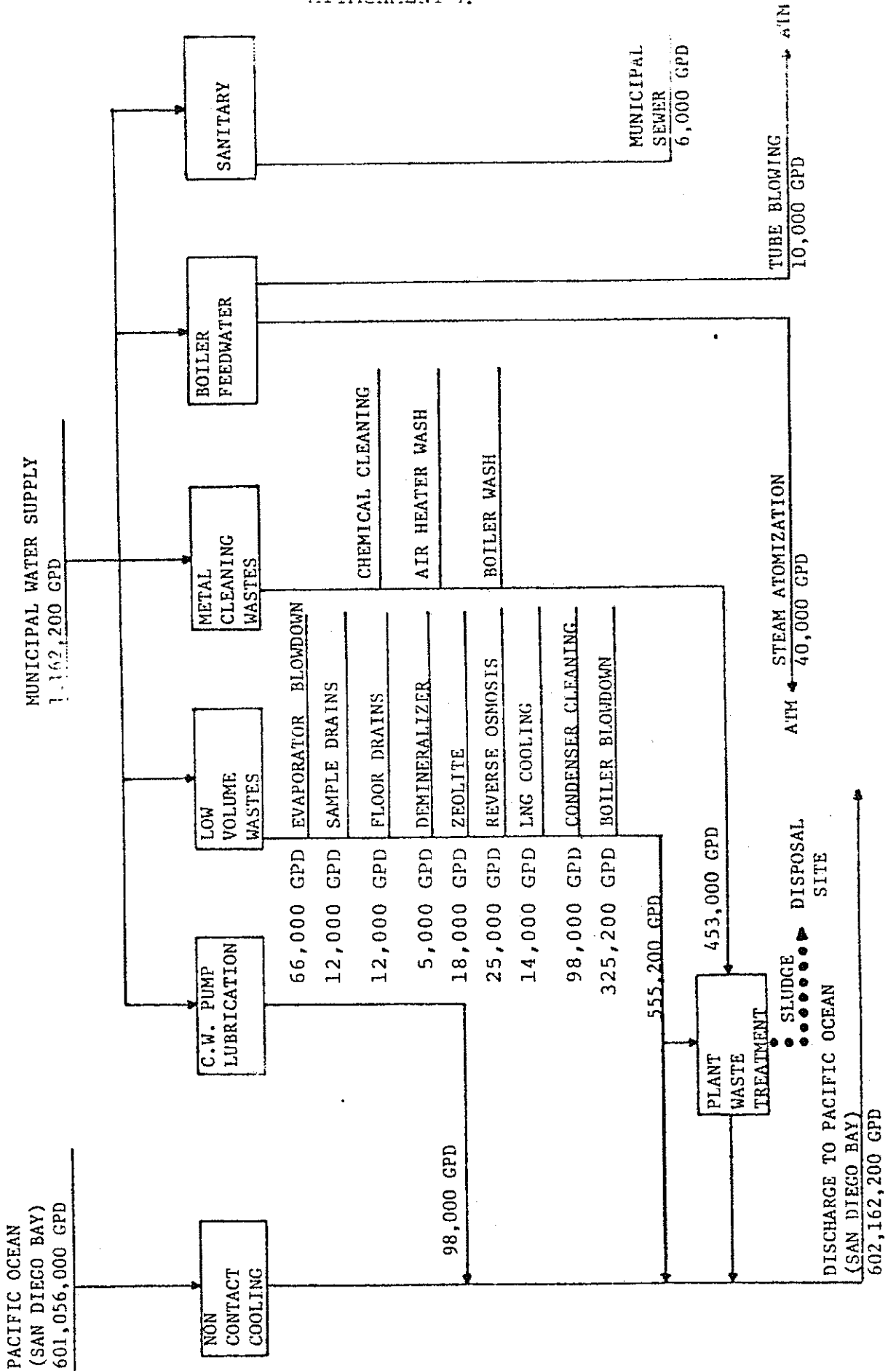
19. The MER values in this table were obtained using the metal cleaning waste discharge of 453,000 gal per day, the flow rates determined from the Report of Waste Discharge, and the following C_e values from the EPA Standards for the Steam Electric power Generating Point Source Category:

Parameter	Units	Monthly Average	Daily Maximum
Total Suspended Solids	mg/l	30.0	100.0
Grease and Oil	mg/l	15.0	20.0
Total Copper	mg/l	1.0	1.0
Total Iron	mg/l	1.0	1.0

When the metal cleaning waste discharge flow rate is lower than 453,000 gal per day, the MER limits shall be correspondingly lower.

20. The MER values in this table were obtained using procedures outlined in the Ocean Plan, C values from Table B of the Ocean Plan and $Q = 602.162$ MGD, the combined discharge. When the combined discharge flow rate is lower than 602.162 MGD, the MER limits shall be corresponding lower.
21. Compliance with this water quality objective shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

SCHMATIC OF WATER FLOWS*
 SOUTH BAY POWER PLANT
 CHULA VISTA, CALIFORNIA
 OCTOBER, 1980



*MAXIMUM DAILY FLOWS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Footnote references for waste discharge requirements of Order No. 85-09 (NPDES No. CA0001368), SAN DIEGO GAS & ELECTRIC COMPANY, SOUTH BAY POWER PLANT, SAN DIEGO COUNTY.

1. A grab sample is defined as an individual sample of at least 100 milliliters collected over a period not exceeding 15 minutes. Grab samples shall be collected at times when wastewater flows and characteristics are most demanding on the treatment facilities.
2. Temperature shall be recorded at a minimum frequency of once every two hours. The average and maximum temperature for each 24-hour period shall be reported.
3. Samples shall be collected and analyzed for pH during chlorination, and also during metal cleaning waste discharge into combined effluent.
4. Combined discharge monitoring shall be conducted at a point in the circulating water system downstream of the condenser, downstream of the point(s) at which the component cooling and turbine plant cooling waste streams reenter the circulating water stream, and downstream of the point(s) at which all in-plant waste streams reenter the circulating water stream. Combined discharge samples shall be collected immediately following collection of cooling water intake samples.
5. Samples shall be collected and analyzed for total chlorine residual at times when the concentrations of total chlorine residual in the combined discharge are greatest. The times of uninterrupted chlorine discharges on the days the samples are collected and the times at which the samples are collected, shall be reported.
6. The discharger may at their option meet this limitation as a Total Chromium limitation.
7. Samples shall be collected and analyzed for toxicity concentration no less frequently than once each week if, at any time, the toxicity concentration exceeds .05 tu. Collection and analysis of samples for toxicity concentration on a weekly basis shall continue until measured toxicity concentration is less than .05 tu. Toxicity concentration shall be measured in the following manner.

a. Toxicity Concentration (Tc)

Expressed in Toxicity Units (tu)

$$Tc \text{ (tu)} = \frac{100}{96\text{-hr. TLM\%}}$$

b. Median Tolerance Limit (TLM%)

TLM (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard

test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the TLM may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hr. TLM due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TC \text{ (tu)} = \frac{\log (100 - S)}{1.7}$$

S = Percentage survival in 100% waste. If S > 99, TC shall be reported as zero.

If the calculated value for toxicity concentration in the combined discharge falls below the limit of detection of the test method specified in the Code of Federal Regulations 40 CFR, Part 136, "Guidelines Establishing Test Procedures For Analysis of Pollutants," or by a more sensitive method specified by the State Water Resources Control Board or the Regional Board, the limit of detection shall serve as the limiting effluent concentration. The limit of detection of acute toxicity in standard test methods is less than, or equal to, 0.59 tu.

8. CHLORDANE AND RELATED COMPOUNDS shall mean the sum of chlordane (cis + trans), trans-nonachlor, oxychlordane, heptachlor and heptachlor epoxide.
9. DDT AND DERIVATIVES shall mean the sum of the p, p' and o,p' isomers of DDT, DDD (TDE) and DDe.
10. HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.
11. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.
12. Samples of metal cleaning waste discharge excepting samples for toxicity shall be collected and analyzed when discharged to the cooling water flow. Samples for toxicity shall be collected semiannually.
13. Samples of low volume waste, excepting samples for toxicity and blowdown, shall be collected and analyzed when discharged to the cooling water flow. Samples for toxicity shall be collected semiannually; and monthly for blowdown.

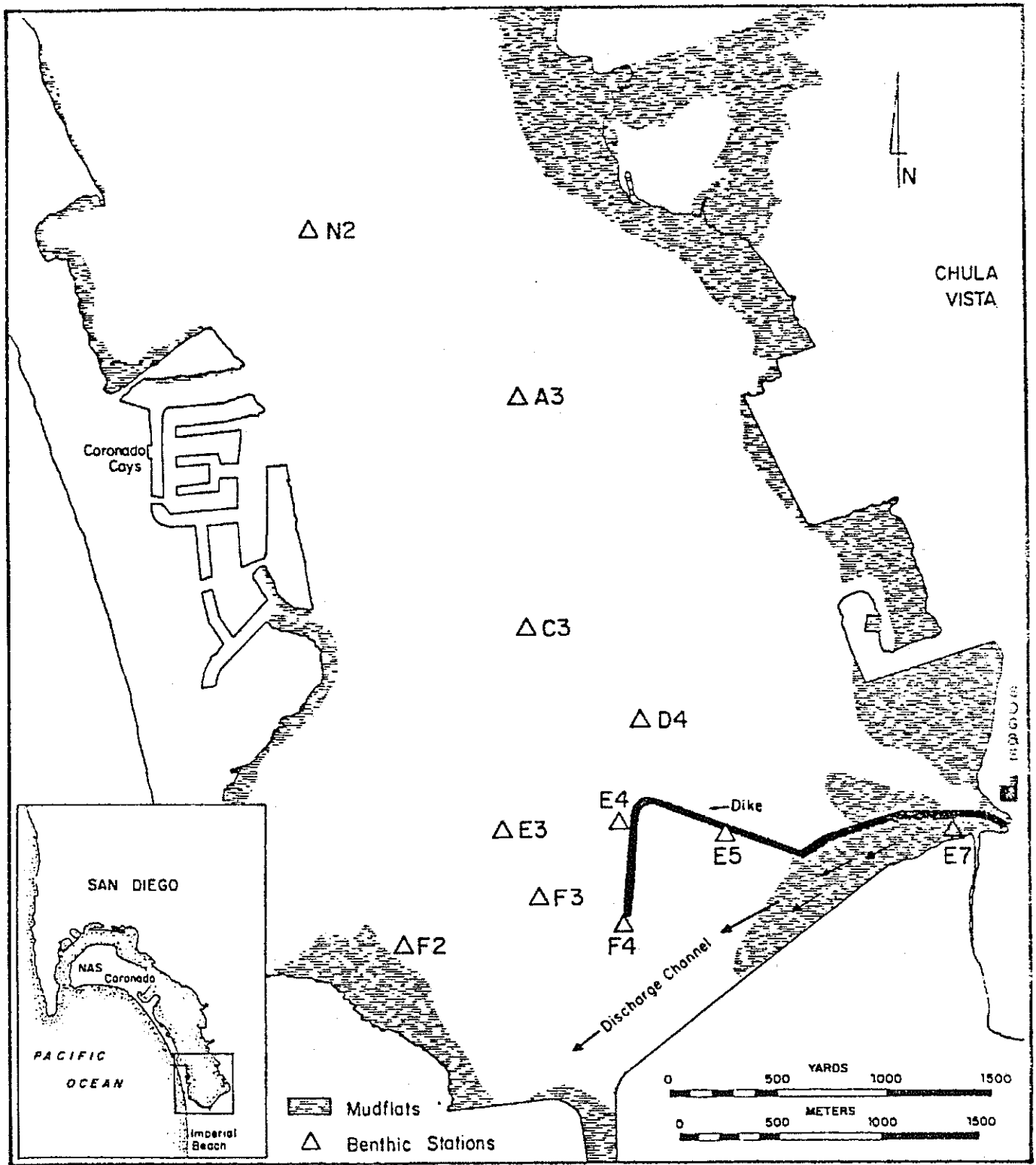


Figure I. Map of South San Diego Bay Showing Benthic Station Locations.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 85-09

FOR THE

SAN DIEGO GAS & ELECTRIC COMPANY
SOUTH BAY POWER PLANT
SAN DIEGO COUNTY

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Executive Officer.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:
 - (a) "A Guide to Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
 - (b) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
 - (c) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)
 - (d) "NPDES Compliance Sampling Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (GSA), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)
3. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, United States

Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants."

4. Monitoring results must be reported on Discharge Monitoring Report forms supplied by the Regional Board. Duplicate copies of the monitoring reports signed and certified as required by Reporting Requirement 11 must be submitted to the United States Environmental Protection Agency and the Regional Board at the addresses listed in Reporting Requirement 13.
5. If the discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
6. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by the request of the Executive Officer at any time.
7. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer in this Order.
8. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
9. The discharger shall report all instances of noncompliance not reported under Reporting Requirement 5 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement 5.
10. Records of monitoring information shall include:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The individual(s) who performed the sampling or measurements;
 - (c) The date(s) analyses were performed;
 - (d) The individual(s) who performed the analyses;
 - (e) The analytical techniques or method used; and
 - (f) The results of such analyses.
11. This monitoring program may be modified by the Executive Officer at any time.

B. COOLING WATER INTAKE STRUCTURE MONITORING PROGRAM

1. The following shall constitute the monitoring program for the intake structure:

The discharger shall annually measure bar rack approach velocity sediment accumulation at the intake structure and shall submit to the Executive Officer an annual summary describing any operational difficulties at the intake structure or the bar rack. The discharger shall also discuss preventive maintenance and corrective measures taken to assure intake water velocities are as close as practical to design levels.

2. Samples of the cooling water intake shall be collected in accordance with the following criteria:

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis	Reporting Frequency
Temperature	°F	Measurement	Continuous ^{2/}	Monthly
pH	-	Grab	Monthly ^{3/}	Monthly

C. COMBINED DISCHARGE MONITORING PROGRAM^{4/}

Samples of the combined discharge shall be collected in accordance with the following criteria:

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	---	Continuous	Monthly
Temperature	°F	Measurement	Continuous ^{2/}	Monthly
Total Suspended Solids	mg/l lbs/day	Grab	Monthly	Monthly
Grease and Oil	mg/l lbs/day	Grab	Monthly	Monthly
Total Residual Chlorine	ug/l lbs/day	Grab	Monthly ^{5/}	Monthly

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis	Reporting Frequency
pH	pH units	Grab	Monthly ^{3/}	Monthly
Arsenic	ug/l lbs/day	Grab	Semiannual	Semiannual
Cadmium	ug/l lbs/day	Grab	Semiannual	Semiannual
Chromium ^{6/} (Hexavalent)	ug/l lbs/day	Grab	Semiannual	Semiannual
Copper	ug/l lbs/day	Grab	Semiannual	Semiannual
Lead	ug/l lbs/day	Grab	Semiannual	Semiannual
Mercury	ug/l lbs/day	Grab	Semiannual	Semiannual
Nickel	ug/l lbs/day	Grab	Semiannual	Semiannual
Silver	ug/l lbs/day	Grab	Semiannual	Semiannual
Zinc	ug/l lbs/day	Grab	Semiannual	Semiannual
Cyanide	ug/l lbs/day	Grab	Semiannual	Semiannual
Ammonia (expressed) as nitrogen)	ug/l lbs/day	Grab	Semiannual	Semiannual
Toxicity Concentration ^{7/}	Toxicity units	Grab	Semiannual	Semiannual
Phenolic Compounds (non-chlorinated)	ug/l lbs/day	Grab	Semiannual	Semiannual
Chlorinated Phenolics	ug/l lbs/day	Grab	Semiannual	Semiannual
Aldrin and Dieldrin	ug/l lbs/day	Grab	Semiannual	Semiannual

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis	Reporting Frequency
Chlordane and Related Compounds ^{8/}	ug/l lbs/day	Grab	Semiannual	Semiannual
DDT and Derivatives ^{9/}	ug/l lbs/day	Grab	Semiannual	Semiannual
Endrin	ug/l lbs/day	Grab	Semiannual	Semiannual
HCH ^{10/}	ug/l lbs/day	Grab	Semiannual	Semiannual
PCBs	ug/l lbs/day	Grab	Semiannual	Semiannual
Toxaphene	ug/l lbs/day	Grab	Semiannual	Semiannual

D. METAL CLEANING WASTE MONITORING PROGRAM

Samples of the metal cleaning waste shall be collected in accordance with the following criteria:

Parameter	Units	Sample ^{11/} Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	-	<u>12/</u>	Monthly
Total Suspended Solids	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Grease and Oil	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Total Copper	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Total Iron	mg/l lbs/day	24-hr. composite	<u>12/</u>	Monthly
Toxicity	Toxicity Units	Grab	<u>12/</u>	Semiannual

E. LOW VOLUME WASTE MONITORING PROGRAM

Samples of the low volume waste shall be collected in accordance with the following criteria:

Parameter	Units	Sample ^{11/} Type	Minimum Frequency of Analysis	Reporting Frequency
Flow	MGD	-	<u>13/</u>	Monthly
Total Suspended Solids	mg/l lbs/day	24-hr. composite	<u>13/</u>	Monthly
Grease and Oil	mg/l lbs/day	24-hr. composite	<u>13/</u>	Monthly
Toxicity	Toxicity Units	Grab	<u>13/</u>	Semiannual

F. IN-PLANT WASTESTREAM MONITORING PROGRAM

The following shall constitute the in-plant wastestream monitoring program:

Parameter	Units	Sample ^{14/} Type	Minimum Frequency of Analysis
Arsenic	lbs/day	Grab	Semiannually
Cadmium	lbs/day	Grab	Semiannually
Chromium ^{6/} (Hexavalent)	lbs/day	Grab	Semiannually
Copper	lbs/day	Grab	Semiannually
Lead	lbs/day	Grab	Semiannually
Mercury	lbs/day	Grab	Semiannually
Nickel	lbs/day	Grab	Semiannually
Silver	lbs/day	Grab	Semiannually
Zinc	lbs/day	Grab	Semiannually
Cyanide	lbs/day	Grab	Semiannually
Ammonia	lbs/day	Grab	Semiannually
Phenolic Compounds (non-chlorinated)	lbs/day	Grab	Semiannually
Chlorinated Phenolics	lbs/day	Grab	Semiannually
Aldrin and Dieldren	lbs/day	Grab	Semiannually
Chlordane and Related Compounds ^{8/}	lbs/day	Grab	Semiannually
DDT and Derivatives ^{9/}	lbs/day	Grab	Semiannually
Endrin	lbs/day	Grab	Semiannually
HCH ^{10/}	lbs/day	Grab	Semiannually
PCB	lbs/day	Grab	Semiannually
Toxaphene	lbs/day	Grab	Semiannually

G. RECEIVING WATER AND SEDIMENT MONITORING

Receiving water and sediment monitoring shall be conducted as specified below. Sampling, sampling preservation and analysis, when not specified, shall be by methods described in the discharger's report titled "Thermal Distribution and Biological Studies for the South Bay Power Plant, May 1973" (Thermal Effects Study), or approved by the Executive Officer. The monitoring program may be modified by the Executive Officer at any time.

1. Station Locations

Receiving waters and sediment shall be monitored at the following stations designated in the discharger's report titled "Thermal Distribution and Biological Studies for the South Bay Power Plant, May 1973":

E7, E5, F4, F3, F2, E4, E3, D4, C3, A3, N2

The approximate locations of the stations are shown on the attached Figure 1.

2. Receiving water monitoring shall be conducted in accordance with the following schedule:

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis
Temperature	°F	Measurement (at 2 foot depth Intervals)	Annual
Transparency	Meters (Secchi Disk)	Measurement	Annual
Salinity	°/00	Grab or Measurement (within 2 feet of surface and just above the bottom)	Annual
Dissolved Oxygen	°/00	Grab or Measurement (within 2 feet of surface and just above the bottom)	Annual

Note: °F = Degrees Fahrenheit
°/00 = Parts per thousand

3. Sediment Monitoring shall be conducted as follows:

Parameter	Units	Sample ^{1/} Type	Minimum Frequency of Analysis
Temperature	°F	3 measurements	Annual
Chemical Oxygen Demand	mg/l	3 grabs	Annual
Total Kjeldahl Nitrogen	mg/l	3 grabs	Annual
Lithological Description	-	3 grabs	Annual
Identification Enumeration and biomass of animals and Benthic Algae and grasses	-	3 grabs	Annual

Note: °F = Degrees Fahrenheit
mg/l = Milligrams per liter

4. Air temperature shall be measured and recorded at each station at the time of sampling.
5. Appropriate statistical relationships between animal and physical parameters shall be developed and reported.
6. Receiving water and sediment monitoring shall be performed in August.

H. ANNUAL SUMMARY OF MONITORING DATA

By January 30 of each year, the discharger shall submit an annual report to the Executive Officer. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements of this Order.

I. MONITORING REPORT SCHEDULE

Monitoring reports shall be submitted to the Executive Officer according to the dates in the following schedule:

Monitoring Frequency

Continuous, daily,
weekly, or monthly

Semiannually

Annually

Report Due

By the 30th day of the
following month

January 30, July 30

January 30

Ladin H. Delaney

Ordered by

Ladin H. Delaney
Executive Officer
January 28, 1985

14. Grab samples of individual in-plant waste streams shall be collected and composited on a flow-weighted basis for analysis. Measurements or estimates of flows of individual in-plant waste streams used as a basis for compositing shall be reported.