CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. 95-02
NPDES PERMIT NO. CA0001228

WASTE DISCHARGE REQUIREMENTS
FOR
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1
SAN DIEGO COUNTY

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

1. On February 8, 1988, the Regional Board adopted Order No. 88-001, National Pollutant Discharge Elimination System (NPDES) No. CA0001228, Waste Discharge Requirements for Southern California Edison Company, San Onofre Nuclear Generating Station, Unit 1, San Diego County. Order No. 88-001 established requirements for the discharge of once-through cooling water and other wastes from SONGS Unit 1 through the SONGS Unit 1 Outfall to the Pacific Ocean. Order No. 88-001 contained an expiration date of July 1, 1991. On December 17, 1990, the Regional Board adopted Addendum No. 1 to Order No. 88-001 which extended the expiration date of Order No. 88-001 to February 8, 1993. Order No. 88-001 was administratively extended until adoption of this Order.

2. On August 28, 1992, Southern California Edison Company (SCE) submitted a complete report of waste discharge (RWD), dated September 4, 1992, in application for renewal of the NPDES permit for San Onofre Nuclear Generating Station (SONGS) Unit 1. SCE provided supplemental information regarding the current status of the facility through January 23, 1995.

3. SONGS Unit 1 is owned by SCE and San Diego Gas and Electric Company (SDG&E). However, SCE is solely responsible for the operation of SONGS Unit 1. Consequently this permit is issued to SCE, pursuant to the United States Environmental Protection Agency (USEPA) Consolidated Permit Regulations, 40 CFR Part 122.4(b).

4. SONGS is a nuclear-fueled electrical power generating facility located in San Diego County immediately adjacent to the Pacific Ocean, approximately two and one-half miles southeast of San Mateo Point, within the boundaries of the United States Marine Corps Base, Camp Pendleton. SONGS is located in Section 24, T9S, R7W, SBBM, approximately two and

one-half miles southeast of the City of San Clemente and approximately 12 miles northwest of the City of Oceanside. The SONGS Unit 1 Outfall discharges wastes to the Pacific Ocean at latitude 33°21'43" north, longitude 117°33'46" west. Unit 1 began commercial operation in 1968 and was permanently removed from service in November, 1992. However, some systems are being maintained to keep the plant in a safe condition until final decommissioning. Thus, water continues to be drawn in from the ocean through the SONGS Unit 1 intake structure and wastewater continues to be discharged through the SONGS Unit 1 Outfall.

5. The SONGS Unit 1 cooling water intake structure is located approximately 2,980 feet offshore. The depth of the ocean floor at the intake structure is approximately 27 feet. The intake structure rises approximately 10 feet above the ocean floor and is fitted with a velocity cap so that water drawn towards the intake structure tends to move horizontally rather than vertically. The inside diameter of the intake conduit is 12 feet. When SONGS Unit 1 was in operation, the average flowrate of water in the intake conduit was 460.8 million gallons per day (MGD) and the flow velocity was approximately seven feet per second. Since cooling water is currently only used for the saltwater cooling system and not for condenser cooling, which occurred when the unit was producing electricity, the maximum flowrate in the intake conduit is 13.0 MGD and the velocity is approximately 0.2 feet per second. At the shoreward end of the intake conduit, the seawater passes through a screenwell where bar and traveling screens remove entrained debris and larger marine organisms.

   After passing through the saltwater cooling system heat exchangers, the cooling water along with other wastes discharged from the facility are returned to the ocean through the discharge structure via the discharge conduit. The inside diameter of the discharge conduit is 12 feet. The discharge structure is located approximately 2,460 feet offshore. The discharge conduit is buried at a minimum depth of four feet below the ocean floor. The depth of the ocean floor at the discharge structure is approximately 25 feet. The discharge structure rises approximately 10 feet above the ocean floor and is similar to the intake structure but does not have a velocity cap.

6. The maximum combined discharge flowrate through the SONGS Unit 1 Outfall is 13.76 MGD and consists of the following waste streams (maximum flowrates are indicated in parentheses):

   a. Saltwater Cooling System (13.0 MGD)
   b. Low Volume Wastes (0.51 MGD)

c. Yard Drains (0.09 MGD)
d. Domestic Wastewater Treatment Plants (0.16 MGD)

The waste streams identified above are described in Findings 7 through 12 below. For purposes of this Order, low volume wastes, yard drains and domestic wastewater treatment plant wastes shall constitute in-plant wastes as referred to in Chapter IV of the California Ocean Plan. The above information is also diagramed in a water flow schematic prepared by SCE and is presented in Attachment A of this Order. SCE reports that in order to ensure compliance with radiological limits established by the Nuclear Regulatory Commission, it may be necessary to exceed the maximum combined discharge flowrate of 13.76 MGD on not more than two occasions during the next five years. The duration of each period of increased flowrate will not exceed 10 days and the maximum combined discharge flowrate will not exceed 462 MGD at any time.

7. The saltwater cooling system (SWCS) uses ocean water to remove heat from the component cooling water system (CCWS). The CCWS is a closed loop system designed to remove heat from various reactor auxiliary systems. The CCWS provides an intermediate barrier between the reactor auxiliary systems and the SWCS. The SWCS flow is withdrawn from the ocean through the SONGS Unit 1 intake structure and discharged through the SONGS Unit 1 Outfall. The SWCS is chlorinated as needed to control biofouling. SCE reports that the amount of heat added to the SWCS flow is negligible. SCE also reports that the SWCS flow is needed for dilution of radioactive wastes to meet radiological limits established by the U.S. Nuclear Regulatory Commission for discharge. The SWCS flow contains a minor amount of waste heat and may contain residual chlorine and metals leached from piping. A maximum flowrate of 13.0 MGD is discharged from the saltwater cooling system through the SONGS Unit 1 Outfall.

8. Low volume waste streams include the following (maximum flowrates are indicated in parentheses):

a. Plant Drains and Sumps (0.01 MGD)
b. Radwaste System (0.50 MGD)

The low volume waste streams identified above are described in Findings 9 and 10 below.

9. Plant drains and sumps collect leakage and hose-down water from inside the covered area of the SONGS Unit 1 facility. Since water entering plant drains and sumps may contain grease and oil, all water entering plant drains and sumps passes through an oil/water separator prior to discharge

through the SONGS Unit 1 Outfall. The maximum wastewater flowrate from plant drains and sumps to the SONGS Unit 1 Outfall is 0.01 MGD.

10. The radwaste system provides radiological waste management. The system receives wastewater from the spent fuel pool and minor flows from equipment leaks and drains, laboratory drains, personnel decontamination showers, and floor drains. Treatment facilities consist of a series of surge tanks, demineralizers, filter monitor tanks, and flash tanks. The radiological wastewater is treated to meet radiological limits established by the U.S. Nuclear Regulatory Commission for discharge. The maximum wastewater flowrate from the radwaste system to the SONGS Unit 1 Outfall is 0.50 MGD.

11. Yard drains collect groundwater from dewatering, heating ventilation and air conditioning (HVAC) condensate, HVAC rinsate, car wash wastewater, rainfall runoff, and hose-down water from outside areas at the SONGS Unit 1 facility. Water entering yard drains is discharged directly to the SONGS Unit 1 Outfall. Yard drain flows may be virtually negligible in the absence of rainfall. A maximum flowrate of 0.09 MGD is discharged from yard drains to the SONGS Unit 1 Outfall.

12. Domestic sewage generated at SONGS is treated at either the SONGS Unit 1 sewage treatment plant or the Mesa Facility Complex sewage treatment plant. The effluents from both facilities are discharged to either the SONGS Unit 1 Outfall, SONGS Unit 2 Outfall, or SONGS Unit 3 Outfall, depending on operating conditions. SCE is proposing to install and operate a thermophilic digester which would be used to treat kelp debris, dead fish, sludge from both sewage treatment plants and kitchen grease. SCE reports that use of a thermophilic digester would reduce the solid waste disposal needs of the SONGS facilities. SCE plans to begin operation of a thermophilic digester sometime during the life of this Order. A maximum flowrate of 0.01 MGD of supernatant from the thermophilic digester would be discharged to the influent of the SONGS Unit 1 sewage treatment plant. The maximum effluent flowrate from the SONGS Unit 1 sewage treatment plant is 0.11 MGD. The maximum effluent flowrate from the Mesa Facility Complex sewage treatment plant is 0.05 MGD.

13. In order to control the growth of slime-forming organisms on heat exchanger internal surfaces, the saltwater cooling system flow is sometimes chlorinated, depending on operating conditions.

14. SCE reports that heat treatments to control the growth of marine fouling organisms in the cooling water intake and discharge conduits are no longer conducted at SONGS Unit 1.

15. SCE reports that metal cleaning wastes are not discharged from SONGS Unit 1.

16. A USEPA Form 2C was submitted as part of the RWD. The analytical data contained on the Form 2C was obtained from samples collected at the time when Unit 1 was producing electricity. SCE did not provide a USEPA form 2C comparing intake and discharge concentrations for the current discharge. However, SCE submitted analytical results of a sample collected from SONGS Unit 1 combined discharge on January 3, 1995. Table 1 summarizes the analytical data for those pollutants detected in the combined discharge at concentrations greater than the intake concentrations reported on Form 2C. The analytical data below is based on the analysis of single grab samples collected from the influent and combined effluent.

Table 1

Pollutant	Units	Influent Concentration	Effluent Concentration
Chemical Oxygen Demand	mg/l	74	930
Total Suspended Solids	mg/l	17	37
Bromide	mg/l	82	84
Sulfate	mg/l	2,703	4,800
Fecal Coliform	MPN	2	8

mg/l = milligrams per liter
MPN = most probable number

17. The RWD submitted in application for renewal of this permit (as described in Finding No. 2 above) identified a number of substances which will periodically be present in wastewater discharged from SONGS Unit 1. The RWD indicated that these substances were not present in the discharge at the time the discharge was sampled to obtain the information submitted in the application.

18. On May 18, 1972, the State Water Resources Control Board (State Board) adopted the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters

and Enclosed Bays and Estuaries of California," hereinafter called the Thermal Plan. A revised Thermal Plan was adopted by the State Board on September 18, 1975. The Thermal Plan contains objectives for discharges of elevated temperature wastes (existing and new discharges) to coastal waters.

19. The SONGS Unit 1 discharge is classified as an existing discharge under the Thermal Plan. The Thermal Plan establishes the following specific water quality objective for existing discharges to coastal waters:

> "Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance."

20. Pursuant to the requirements of the Thermal Plan, SCE and SDG&E conducted a study of the thermal effect of the SONGS Unit 1 discharge. The final summary report, dated August 1973, for the SONGS Unit 1 "Thermal Effect Study" concluded that the SONGS Unit 1 thermal discharge had no apparent adverse effects on the beneficial uses of the receiving waters and that the beneficial uses of the receiving waters appeared to be adequately protected. Regional Board staff reviewed the final summary report of the Thermal Effect Study. By letter to SCE dated December 11, 1975, the Regional Board Executive Officer (hereinafter Executive Officer) concurred with the conclusions of the Thermal Effects Study final summary report. Since the SONGS Unit 1 discharge is classified as an existing unit under the Thermal Plan, and as a result of the conclusions of the Thermal Effect Study, studies of the SONGS Unit 1 thermal discharge pursuant to Section 316(a) of the Clean Water Act (CWA) were not required.

21. The State Board adopted a revised "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan) on March 22, 1990. The Ocean Plan identifies the following beneficial uses of state ocean waters to be protected:

a. Industrial water supply;
b. Water contact recreation;
c. Non-contact water recreation;
d. Aesthetic enjoyment;
e. Navigation;
f. Commercial and sport fishing
g. Mariculture;
h. Preservation and enhancement of Areas of Special Biological Significance;
i. Preservation of rare and endangered species;
j. Marine habitat;
k. Fish migration;

l. Fish spawning; and,
m. Shellfish harvesting.

In order to protect these beneficial uses, the Ocean Plan establishes water quality objectives, general requirements for management of waste discharges to the ocean, quality requirements for waste discharges, discharge prohibitions, and general provisions.

22. The Ocean Plan contains the following general requirements for management of waste discharge to the ocean:

a. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

b. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

c. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

(1) 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.

(2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

(3) Maximum protection is provided to the marine environment.

d. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

The Regional Board has considered these general requirements in adopting this Order. The terms and conditions of this Order are consistent with these general requirements.

23. 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. The Table B Guidelines describe two numerical models for use in estimating the minimum initial dilution of a discharge. If the models described in the Table B Guidelines are not applicable, a discharger may propose another numerical model or use the results of a site-specific physical modeling study.

24. The Ocean Plan defines minimum initial dilution for submerged discharges as complete when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally. For the purposes of the Ocean Plan, minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates shall be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents, of sufficient strength to influence the initial dilution process, flow across the discharge structure.

25. When SONGS Unit 1 was producing electricity and the average combined discharge flowrate was 462.1 MGD, the State Board approved a minimum initial dilution factor of 10 for the combined discharge through the SONGS Unit 1 Outfall. By memorandum dated December 19, 1994, staff of the State Board reported that with the reduced flows at SONGS Unit 1, the minimum initial dilution for the combined discharge through the SONGS Unit 1 Outfall should be 2.4, using the computer model UPLUME and the following characteristics of the ocean outfall:

Outfall Characteristic	Value
Outfall flowrate	13.76 MGD
Number of ports	1
Port spacing	NA
Port diameter	12 feet
Port angle from horizontal (horizontal = 0° vertical = 90°)	90°
Port depth	15 feet

26. The Ocean Plan requires that waste be discharged a sufficient distance from areas designated as being of special biological significance to assure maintenance of natural water quality conditions in such areas. Heisler Park Ecological Reserve, approximately 20 miles northwest of SONGS Unit 1, is the closest designated Area of Special Biological Significance to the SONGS Unit 1 discharge.

27. The Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (Basin Plan) was adopted by the Regional Board on March 17, 1975, and approved by the State Board on March 20, 1975. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and approved by the State Board.

28. The Basin Plan identifies the following beneficial uses of the coastal waters of the Pacific Ocean:

a. Industrial Service Supply;
b. Water Contact Recreation;
c. Non-Contact Water Recreation;
d. Wildlife Habitat;
e. Navigation;
f. Ocean Commercial and Sport Fishing;
g. Mariculture;
h. Preservation of Areas of Special Biological Significance;
i. Preservation of Rare and Endangered Species;
j. Marine Habitat;
k. Fish Migration;
l. Fish Spawning; and,
m. Shellfish Harvesting.

The Basin Plan relies primarily on requirements of the Ocean Plan for protection of these beneficial uses. However, the Basin Plan establishes additional water quality objectives for dissolved oxygen and pH.

29. CWA 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. The general intent of Section 316(b) appeared to be satisfied by operations at Unit 1 when the unit was producing electricity and the average flowrate through the intake structure was 460.8 MGD. The available information indicated that the design, construction, location and operation of the SONGS Unit 1 intake structure reflected Best Available Technology (BAT) when the unit was producing electricity. Now that the unit is no longer producing electricity, the flowrate through the intake structure may vary as described in Finding Nos. 5 and 6 of this Order. The requirements contained in Discharge

Specification B.14 of this Order are intended to comply with CWA Section 316(b) for these variations in flowrate through the intake structure.

30. On November 19, 1991, the State Board adopted the General Industrial Storm Water Permit, Order No. 91-13-DWQ (as amended by Water Quality Order No. 92-12-DWQ), NPDES No. CAS000001. On April 3, 1992, SCE submitted a Notice of Intent to the State Board for obtaining coverage of the SONGS facilities under Order No. 91-13-DWQ. The State Board confirmed coverage of the SONGS facilities under Order No. 91-13-DWQ and assigned WDID# 9 37S003198 to the facilities. SCE is required to comply with all the terms and conditions of Order No. 91-13-DWQ.

31. On February 19, 1993, the USEPA issued the final rule for the use and disposal of sewage sludge (40 CFR Part 503). This regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. USEPA, not this Regional Board, will oversee compliance with 40 CFR Part 503.

32. Effluent limitations, national standards of performance, sludge use and disposal regulations, and toxic and pretreatment effluent standards established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316(b), 403 and 405 of the CWA, as amended, are applicable to the discharge.

33. Receiving Water Limitation No. C.1.a.(2) of this Order establishes bacterial objectives for areas where shellfish may be harvested for human consumption, as determined by the Regional Board. However, as of the date of adoption of this Order, this Regional Board has not designated any shellfish harvesting area. If and when this Regional Board, in consultation with the Department of Fish and Game, health agencies, and other interested parties, does designate shellfish harvesting areas in the vicinity of this discharge, this Order will be amended to identify the area(s) to which Receiving Water Limitation No. C.1.a.(2) applies.

34. On November 19, 1982, the USEPA promulgated effluent guidelines and standards for discharges from the steam-electric power generating point source category. The guidelines establish effluent limitation guidelines, pretreatment standards and new source performance standards and are contained in 40 CFR Parts 125 and 423.

35. The best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) effluent limitations promulgated by USEPA to regulate pollutants for the steam electric power generating point

source category are applicable to discharges from SONGS Unit 1.

36. SONGS Unit 1 waste streams covered by 40 CFR 423 include: (1) saltwater cooling system; and, (2) low volume wastes.

37. On August 11, 1983, SCE submitted an initial request for a CWA Section 301(g) environmental quality variance to the Regional Board in accordance with 40 CFR Part 122.21(L) for SONGS Unit 1. SCE requested a variance from 40 CFR Part 423.13 which limits the concentration of total residual chlorine to 0.2 mg/l. On May 5, 1994, SCE withdrew its application for a Section 301(g) variance citing an ability to operate SONGS Unit 1 subject to the BAT guideline for total residual chlorine.

38. The federal Nuclear Regulatory Commission is responsible for the regulation of SONGS Unit 1 with respect to radiological material. The Regional Board has no jurisdiction over regulation of radiological material or the discharge of radiological wastes from SONGS Unit 1.

39. In accordance with Chapter IV of the Ocean Plan, this Order establishes the following effluent limitations for the combined discharge through the SONGS Unit 1 Outfall:

    a. Ocean Plan Table A limitations for which federal effluent limitations guidelines have not been established pursuant to CWA Sections 301, 302, 304, or 306; and,

    b. Ocean Plan Table B limitations on total chlorine residual, chronic toxicity, and instantaneous maximum limitations on Ocean Plan Table B toxic materials.

    Also in accordance with Chapter IV of the Ocean Plan, this Order establishes effluent mass emission rate limitations for all in-plant waste streams taken together which discharge into the cooling water flow on all Ocean Plan Table B constituents except total chlorine residual and chronic toxicity.

40. Water quality impacts of discharges from SONGS Unit 1 are consistent with maximum benefit to the people of the State, do not unreasonably affect present and anticipated beneficial use of ocean waters, and do not result in water quality less than that prescribed in applicable plans and policies as described in this Order. Therefore, discharges from SONGS Unit 1 as described in this Order are consistent with State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California."

41. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

    a. Beneficial uses to be protected and the water quality objectives reasonably required for that purpose;

    b. Other waste discharges;

    c. The need to prevent nuisance;

    d. Past, present, and probable future beneficial uses of ocean waters under consideration;

    e. Environmental characteristics of ocean waters under consideration, including the quality of water available thereto;

    f. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;

    g. Economic considerations;

    h. The need for developing housing within the region; and,

    i. The need to develop and use recycled water.

42. The issuance of waste discharge requirements for this discharge is exempt from the provisions of the California Environmental Quality Act (Chapter 3, Section 21000 et seq of Division 13 of the Public Resources Code) in accordance with California Water Code Section 13389.

43. The Regional Board has notified SCE and all known interested parties of its intent to prescribe waste discharge requirements for the discharge.

44. The Regional Board has, in a public meeting on February 9, 1995, heard and considered all comments pertaining to the discharge.

45. This Order shall serve as an NPDES permit for the combined discharge of wastes through the SONGS Unit 1 Outfall to the Pacific Ocean pursuant to Section 402 of the CWA, and amendments thereto.

IT IS HEREBY ORDERED, that Southern California Edison Company (hereinafter Discharger), 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 adopted thereunder, shall comply with the following requirements for the combined discharge through the SONGS Unit 1 Outfall to the Pacific Ocean.

A. PROHIBITIONS

1. Discharges of wastes in a manner or to a location which have not been specifically authorized by the Regional Board in this Order or for which valid waste discharge requirements are not in force are prohibited.

2. The discharge of oil or any residuary product of petroleum to the waters of the State, except in accord with waste discharge requirements or other provisions of Division 7, California Water Code is prohibited.

3. The discharge of any radiological, chemical or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

4. Waste shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

5. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.

6. The bypassing of untreated wastes containing concentrations of pollutants in excess of those in the Ocean Plan Table A or Table B or the effluent limitations of this Order to the ocean is prohibited, except as provided for in Provision D.13 of this Order.

7. The discharge through the SONGS Unit 1 Outfall in excess of 13.76 MGD is prohibited until the conditions specified in Discharge Specification No. B.14 are met. After those conditions are met, the maximum combined discharge flowrate of 13.76 MGD shall not be exceeded on more than two occasions during the life of this Order. The duration of each period of increased

flowrate shall not exceed 10 days and the maximum combined discharge flowrate shall not exceed 462 MGD at any time.

8. The discharge of effluent from the SONGS Unit 1 sewage treatment plant in excess of 0.11 MGD is prohibited unless the Discharger obtains revised waste discharge requirements for the proposed increased discharge flowrate.

9. The discharge of effluent from the SONGS Mesa Facility Complex sewage treatment plant in excess of 0.05 MGD is prohibited unless the Discharger obtains revised waste discharge requirements for the proposed increased discharge flowrate.

10. The discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.

11. Total residual oxidants may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the Regional Board Executive Officer that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination/bromination is permitted.

12. Except as permitted herein, the dumping or deposition from shore or from vessels of oil, garbage, trash or other solid municipal, industrial, or agricultural waste 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 waters subject to tidal action is prohibited.

13. Except as permitted herein, 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.

14. Except as permitted herein, the dumping or deposition of chemical wastes, chemical agents or explosives into waters subject to tidal action is prohibited.

B. DISCHARGE SPECIFICATIONS

1. The following effluent limitations apply to the combined discharge of wastewater through the SONGS Unit 1 Outfall:

a. Effluent Limitations for Major Wastewater Constituents and Properties

Constituent/ Property	Units	Monthly Average[10/]	Weekly Average[11/]	Maximum at any time
Settleable Solids	ml/l	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	pH units	within the limits of 6.0 to 9.0 at all times		
Acute toxicity[12/]	TUa	1.5	2.0	2.5

Note: ml/l = milliliters per liter
NTU = Nephelometric Turbidity Units

b. Effluent Limitations for Toxic Materials[2/]

Parameter	Units[3/4/]	6-Month Median[5/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Arsenic	ug/l lb/day	--	--	260 30
Cadmium	ug/l lb/day	--	--	34 3.9
Chromium (Hexavalent)[8/]	ug/l lb/day	--	--	68 7.8
Copper	ug/l lb/day	--	--	97 11
Lead	ug/l lb/day	--	--	68 7.8
Mercury	ug/l lb/day	--	--	1 0.1
Nickel	ug/l lb/day	--	--	170 20
Selenium	ug/l lb/day	--	--	510 59
Silver	ug/l lb/day	--	--	20 2

Parameter	Units[3/4/]	6-Month Median[5/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Zinc	ug/l lb/day	--	--	660 76
Cyanide[16/]	ug/l lb/day	--	--	34 3.9
Total Chlorine Residual[9/]	ug/l lb/day	7 0.8	30 3	200 23
Ammonia (as N)	ug/l lb/day	--	--	20,000 2,300
Chronic Toxicity[13/]	TUc	--	3	--
Phenolic Compounds (non-chlorinated)	ug/l lb/day	--	--	1,000 110
Chlorinated Phenolics	ug/l lb/day	--	--	34 3.9
Endosulfan[1/]	ng/l lb/day	--	--	92 0.011
Endrin	ng/l lb/day	--	--	20 0.002
HCH[1/]	ng/l lb/day	--	--	41 0.0047

Note: ug/l = micrograms per liter
lb/day = pounds per day
ng/l = nanograms per liter

2. Waste discharged through the SONGS Unit 1 Outfall to the ocean must be essentially free of:

   a. Material that is floatable or will become floatable upon discharge.

   b. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.

   c. Substances which will accumulate to toxic levels in marine waters, sediments or biota.

d. Substances that significantly decrease the natural light to benthic communities and other marine life.

e. Materials that result in aesthetically undesirable discoloration of the ocean surface.

3. All waste treatment, containment and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

4. All waste treatment, containment and disposal facilities shall be protected against erosion, overland runoff and other impacts resulting from a 100-year frequency 24-hour storm.

5. Collected screenings, sludges, and other solids removed from liquid wastes, shall be disposed of in a manner approved by the Executive Officer.

6. The discharge of elevated temperature wastes through the SONGS Unit 1 Outfall to the ocean shall comply with limitations necessary to assure protection of beneficial uses and designated areas of special biological significance.

7. At all times, the maximum temperature of the discharge through the SONGS Unit 1 Outfall to the ocean shall not average more than 5°F above that of the incoming ocean water during any 24-hour period.

8. The combined discharge of all SONGS Unit 1 low volume wastes to the once-through cooling water flow containing pollutants in excess of the following effluent limitations is prohibited: (based on a maximum flow rate of 0.51 MGD)[14/]

Parameter	Units[3/]	Monthly Average[10/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Total Suspended Solids	mg/l lb/day	30.0 130	100.0 430	100.0 430
Grease and Oil	mg/l lb/day	15.0 64	20.0 85	20.0 85

9. The combined discharge from all SONGS Unit 1 in-plant waste sources, taken together, to the once-through saltwater cooling system flow containing pollutants in excess of the following effluent limitations is prohibited:[2/] (based on a maximum combined discharge flowrate of 13.76 MGD)

Parameter	Units[3/15/]	6-Month Median[5/]	Daily Maximum[6/]
Arsenic	lb/day	2	11
Cadmium	lb/day	0.3	1
Chromium (Hexavalent)[8/]	lb/day	0.8	3
Copper	lb/day	0.6	4.1
Lead	lb/day	0.8	3
Mercury	lb/day	0.01	0.062
Nickel	lb/day	2	7.8
Selenium	lb/day	5.9	23
Silver	lb/day	0.2	1.0
Zinc	lb/day	5.6	29
Cyanide[16/]	lb/day	0.3	1
Ammonia (as N)	lb/day	230	940
Phenolic Compounds (non-chlorinated)	lb/day	11	47
Chlorinated Phenolics	lb/day	0.3	1
Endosulfan	lb/day	0.003	0.0070
Endrin	lb/day	0.0008	0.001
HCH[1/]	lb/day	0.001	0.003

Parameter	Units[3/15/]	30-day Average
acrolein	lb/day	86
antimony	lb/day	470

Parameter	Units[3/15/]	30-day Average
bis(2-chloroethoxy) methane	lb/day	1.7
bis(2-chloroisopropyl) ether	lb/day	470
chlorobenzene	lb/day	220
chromium (III)	lb/day	75,000
di-n-butyl phthalate	lb/day	1,400
dichlorobenzenes[1/]	lb/day	2,000
1,1-dichloroethylene	lb/day	2,800
diethyl phthalate	lb/day	13,000
dimethyl phthalate	lb/day	320,000
4,6-dinitro-2-methylphenol	lb/day	86
2,4-dinitrophenol	lb/day	1.6
ethylbenzene	lb/day	1,600
fluoranthene	lb/day	5.9
hexachlorocyclopentadiene	lb/day	23
isophorone	lb/day	59,000
nitrobenzene	lb/day	2.0
thallium	lb/day	5.5
toluene	lb/day	33,000
1,1,2,2-tetrachloroethane	lb/day	470
tributyltin	lb/day	0.00055
1,1,1-trichloroethane	lb/day	210,000
1,1,2-trichloroethane	lb/day	17,000
acrylonitrile	lb/day	0.039
aldrin	lb/day	8.6E-06
benzene	lb/day	2.3
benzidine	lb/day	2.6E-05
beryllium	lb/day	0.013
bis(2-chloroethyl) ether	lb/day	0.017
bis(2-ethylhexyl) phthalate	lb/day	1.4

Parameter	Units[3/15/]	30-day Average
carbon tetrachloride	lb/day	0.36
chlordane[1/]	lb/day	9.0E-06
chloroform	lb/day	50
DDT[1/]	lb/day	6.7E-05
1,4-dichlorobenzene	lb/day	7.0
3,3-dichlorobenzidine	lb/day	0.0032
1,2-dichloroethane	lb/day	50
dichloromethane	lb/day	170
1,3-dichloropropene	lb/day	3.4
dieldrin	lb/day	1.6E-05
2,4-dinitrotoluene	lb/day	1.0
1,2-diphenylhydrazine	lb/day	0.062
halomethanes[1/]	lb/day	50
heptachlor[1/]	lb/day	0.00028
hexachlorobenzene	lb/day	8.2E-05
hexachlorobutadiene	lb/day	5.5
hexachloroethane	lb/day	0.98
N-nitrosodimethylamine	lb/day	2.9
N-nitrosodiphenylamine	lb/day	0.98
PAHs[1/]	lb/day	0.0034
PCBs[1/]	lb/day	7.5E-06
TCDD equivalents[1/]	lb/day	1.5E-09
tetrachloroethylene	lb/day	39
toxaphene	lb/day	8.2E-05
trichloroethylene	lb/day	11
2,4,6-trichlorophenol	lb/day	0.11
vinyl chloride	lb/day	14

Note: lb/day = pounds per day

11. The discharge from the SONGS Unit 1 sewage treatment plant shall not exceed the following effluent limitations: (based on a maximum flowrate of 0.11 MGD)[17/]

Parameter	Units[2/]	Monthly Average[10/]	Weekly Average[11/]	Maximum at any time
Grease and Oil	mg/l lb/day	25 23	40 37	75 69
Total Suspended Solids	mg/l	Not more than 25% of influent total suspended solids		
Settleable Solids	ml/l	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	pH units	Within the limits of 6.0 to 9.0 at all times		
Acute Toxicity[12/]	TUa	1.5	2.0	2.5

Note: ml/l = milliliters per liter
NTU = Nephelometric turbidity units

12. The discharge from the Mesa Facility Complex sewage treatment plant shall not exceed the following effluent limitations: (based on a maximum flowrate of 0.05 MGD)[17/]

Parameter	Units[2/]	Monthly Average[10/]	Weekly Average[11/]	Maximum at any time
Grease and Oil	mg/l lb/day	25 10	40 17	75 31
Total Suspended Solids	mg/l	Not more than 25% of influent total suspended solids		
Settleable Solids	ml/l	1.0	1.5	3.0
Turbidity	NTU	75	100	225

Parameter	Units[2/]	Monthly Average[10/]	Weekly Average[11/]	Maximum at any time
pH	pH units	Within the limits of 6.0 to 9.0 at all times		
Acute Toxicity[12/]	TUa	1.5	2.0	2.5

Note: ml/l = milliliters per liter
NTU = Nephelometric turbidity units

13. The discharge of substances for which effluent limits are not established by this Order shall be prevented or, if the discharge cannot be prevented, minimized.

14. No later than 180 days prior to increasing the combined discharge flowrate through the SONGS Unit 1 Outfall in excess of 13.76 MGD, the discharger shall submit to the Executive Officer and the California Department of Fish and Game, San Diego Office:

    a. a report explaining the need for and purpose of, and the alternatives to, discharge(s) from SONGS Unit 1 in excess of 13.76 MGD;

    b. an evaluation of the adverse impacts of the proposed increased flowrate on the marine environment in the vicinity of the SONGS Unit 1 intake and discharge structures;

    c. a description of the measures to be taken to minimize such impacts; and,

    d. a description of monitoring to be conducted by the discharger to evaluate such impacts.

    The discharger shall not discharge from SONGS Unit 1 in excess of 13.76 MGD without first submitting notifications as required in Reporting Requirement No. E.16 and obtaining written authorization from the Executive Officer. At least 30 days prior to issuance of written authorization by the Executive Officer, notification of the planned increase in combined discharge flowrate will be provided to the Regional Board at a public meeting. The proposed measures to be taken to minimize any adverse impacts and proposed monitoring shall be subject to the approval of the Executive Officer with direction from the Regional Board. Additional requirements may be imposed by the

Executive Officer or the Regional Board as a condition of the authorization.

C. RECEIVING WATER LIMITATIONS

1. The SONGS Unit 1 discharge of waste to the ocean shall not by itself or jointly with any discharge(s) cause violation of the following Ocean Plan ocean water quality objectives. Compliance with these objectives shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

a. Bacterial Characteristics

(1) Water-Contact Standards

Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

(a) Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

(b) The fecal coliform density based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

The "Initial Dilution Zone" of wastewater outfalls shall be excluded from designation as "kelp beds" for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g. outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

(2) Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

b. Bacterial Assessment and Remedial Action Requirements

The requirements listed below shall be used to 1) determine the occurrence and extent of any impairment of a beneficial use due to bacterial contamination; 2) generate information which can be used in the development of an enterococcus standard; and 3) provide the basis for remedial actions necessary to minimize or eliminate any impairment of a beneficial use.

Measurement of enterococcus density shall be conducted at all stations where measurement of total and fecal coliforms are required. In addition to the requirements of Receiving Water Limitation C.1.a.(1) of this Order, if a shore station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 ml for a 30-day period or 12 organisms per 100 ml for a six-month period, the Regional Board may require the discharger to conduct or participate in a survey to determine the source of the contamination. The geometric mean shall be a moving average based on no less than five samples per month, spaced evenly over

the time interval. When a sanitary survey identifies a controllable source of indicator organisms associated with a discharge of sewage, the Regional Board may require the discharger and any other responsible parties identified by the Regional Board to take action to control the source.

c. Physical Characteristics

(1) Floating particulates and grease and oil shall not be visible.

(2) The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

(3) Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

(4) The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

d. Chemical Characteristics

(1) The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

(2) The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

(3) The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

(4) The concentration of substances set forth in Table B of the Ocean Plan in marine sediments shall not be increased to levels which would degrade indigenous biota.

(5) The concentration of organic materials in marine sediments shall not be increased to levels which would degrade marine life.

(6) Nutrient materials shall not cause objectionable aquatic growth or degrade indigenous biota.

e. Biological Characteristics

(1) Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

(2) The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

(3) The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

2. The discharge through the SONGS Unit 1 Outfall to the ocean shall not by itself or jointly with any other discharge(s) cause the following Ocean Plan water quality objectives to be exceeded in ocean waters upon completion of initial dilution:

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	ug/l	8	32	80
Cadmium	ug/l	1	4	10
Chromium (Hexavalent)[8/]	ug/l	2	8	20
Copper	ug/l	3	12	30
Lead	ug/l	2	8	20
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5	20	50
Selenium	ug/l	15	60	150

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Silver	ug/l	0.7	2.8	7
Zinc	ug/l	20	80	200
Cyanide	ug/l	1	4	10
Total Chlorine Residual[9/]	ug/l	2	8	60
Ammonia (as N)	ug/l	600	2400	6000
Chronic Toxicity	TUc	--	1	--
Phenolic Compounds (non-chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Endosulfan[1/]	ng/l	9	18	27
Endrin	ng/l	2	4	6
HCH[1/]	ng/l	4	8	12

Parameter	Units	30-day Average
acrolein	ug/l	220
antimony	mg/l	1.2
bis(2-chloroethoxy) methane	ug/l	4.4
bis(2-chloroisopropyl) ether	mg/l	1.2
chlorobenzene	ug/l	570
chromium (III)	mg/l	190
di-n-butyl phthalate	mg/l	3.5
dichlorobenzenes[1/]	mg/l	5.1
1,1-dichloroethylene	mg/l	7.1
diethyl phthalate	mg/l	33

Parameter	Units	30-day Average
dimethyl phthalate	mg/l	820
4,6-dinitro-2-methylphenol	ug/l	220
2,4-dinitrophenol	ug/l	4.0
ethylbenzene	mg/l	4.1
fluoranthene	ug/l	15
hexachlorocyclopentadiene	ug/l	58
isophorone	mg/l	150
nitrobenzene	ug/l	4.9
thallium	ug/l	14
toluene	mg/l	85
1,1,2,2-tetrachloroethane	mg/l	1.2
tributyltin	ng/l	1.4
1,1,1-trichloroethane	mg/l	540
1,1,2-trichloroethane	mg/l	43
acrylonitrile	ug/l	0.10
aldrin	ng/l	0.022
benzene	ug/l	5.9
benzidine	ng/l	0.069
beryllium	ng/l	33
bis(2-chloroethyl) ether	ug/l	0.045
bis(2-ethylhexyl) phthalate	ug/l	3.5
carbon tetrachloride	ug/l	0.90
chlordane[1/]	ng/l	0.023
chloroform	mg/l	0.13
DDT[1/]	ng/l	0.17
1,4-dichlorobenzene	ug/l	18
3,3-dichlorobenzidine	ng/l	8.1
1,2-dichloroethane	mg/l	0.13
dichloromethane	mg/l	0.45

Parameter	Units	30-day Average
1,3-dichloropropene	ug/l	8.9
dieldrin	ng/l	0.040
2,4-dinitrotoluene	ug/l	2.6
1,2-diphenylhydrazine	ug/l	0.16
halomethanes[1/]	mg/l	0.13
heptachlor[1/]	ng/l	0.72
hexachlorobenzene	ng/l	0.21
hexachlorobutadiene	ug/l	14
hexachloroethane	ug/l	2.5
N-nitrosodimethylamine	ug/l	7.3
N-nitrosodiphenylamine	ug/l	2.5
PAHs[1/]	ng/l	8.8
PCBs[1/]	ng/l	0.019
TCDD equivalents[1/]	pg/l	0.0039
tetrachloroethylene	ug/l	99
toxaphene	ng/l	0.21
trichloroethylene	ug/l	27
2,4,6-trichlorophenol	ug/l	0.29
vinyl chloride	ug/l	36

Note: mg/l = milligrams per liter
ug/l = micrograms per liter
ng/l = nanograms per liter
pg/l = picograms per liter
lb/day = pounds per day

3. The discharge through the SONGS Unit 1 Outfall to the ocean shall not by itself or jointly with any discharge(s) cause violation of the following Basin Plan ocean water quality objectives:

   a. The mean annual dissolved oxygen concentration shall not be less than 7.0 mg/l nor shall the minimum dissolved oxygen concentration be reduced below 5.0 mg/l at any time.

b. The pH value shall not be depressed below 7.0 nor raised above 8.6.

D. PROVISIONS

1. Neither the treatment nor the discharge of waste 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 CWA 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 submitted in application for permit modification or reissuance.

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; or

   c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

   The filing of a request by the discharger for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

5. If any applicable toxic effluent standard or prohibition (including any schedule of compliance

specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Executive Officer may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

6. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use and disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this Order has not yet been modified to incorporate the requirement.

7. The discharger shall comply with all existing federal and state laws and regulations that apply to its sewage sludge use and disposal practice(s), and with CWA Section 405(d) and 40 CFR Part 257.

8. This Order does not convey any property rights of any sort or any exclusive privilege. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from liabilities under federal, state, or local laws, nor create a vested right for the discharger to continue the waste discharge.

9. The discharger shall allow the Regional Board, or any authorized Regional Board representative, or any authorized representative of the USEPA (including an authorized contractor acting as a representative of the Regional Board or USEPA), upon 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 purposes of assuring compliance with this Order or as otherwise authorized by the CWA or California Water Code, any substances or parameters at any location.

10. 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 also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the discharger only when the operation is necessary to achieve compliance with the conditions of this Order.

11. It shall not be a defense for the discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. Upon reduction, loss, or failure of a 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 a treatment facility fails, is reduced, or is lost.

12. The discharger shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.

13. 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 facilities which cause 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 production.

b. Bypass not Exceeding Limitations

The discharger may allow any bypass to occur which does not cause effluent limitations of this Order or the concentrations of pollutants set forth in Ocean Plan Table A or Table B 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

(1) Anticipated bypass. If the discharger knows in advance of the need for a bypass, it 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 an unanticipated bypass as required in Reporting Requirement E.6.

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 were no feasible alternatives 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 adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement 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 effects, if the Executive Officer determines that it will meet the three conditions listed above in paragraph d.(1) of this section.

14. Upset

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 cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The discharger submitted notice of the upset as required in Reporting Requirement E.6. of this Order; and

(4) The discharger complied with any remedial measures required under Provision D.12. of this Order.

d. Burden of Proof

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

15. Supervisors and operators of the discharger's wastewater treatment facilities shall posses a certificate of appropriate grade in accordance with Chapter 14 of Division 4 of Title 23 of the California Code of Regulations.

16. 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.

17. The discharger shall comply with any interim effluent limitations as established by addendum, enforcement action or revised waste discharge requirements which have been or may be adopted by this Regional Board.

18. The discharger shall have and implement a Best Management Practices (BMP) program in accordance with 40 CFR 125.100-125.104. The BMP program shall prevent, or minimize the potential for, the release of toxic or hazardous pollutants, including any such pollutants referred to in Finding No. 17, from ancillary activities to waters of the United States. The discharger shall maintain the BMP program in an up-to-date condition and shall amend the BMP program in accordance with 40 CFR 125.100-125.104 whenever there is a change in facility design, construction, operation, or maintenance which materially affects the potential for discharge from SONGS Unit 1 of significant amounts of hazardous or toxic pollutants into waters of the United States. The BMP program, and any amendments thereto, shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the BMP program and any amendments thereto

to the Executive Officer upon request of the Executive Officer.

19. A copy of this Order and the BMP plan shall be located in the central offices at SONGS Unit 1, and shall be available to operating personnel at all times.

20. If only one sample is collected during the time period associated with the effluent limitations (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

21. All analytical data shall be reported uncensored with detection limits and quantitation limits identified. For any effluent limitation, compliance shall be determined using appropriate statistical methods to evaluate multiple samples. Sufficient sampling and analysis shall be conducted to determine compliance.

22. Compliance based on a single sample analysis should be determined where appropriate as described below.

    a. When a calculated effluent limitation is greater than or equal to the PQL (defined below), compliance shall be determined based on the calculated effluent limitation and either single or multiple sample analyses.

    b. When the calculated effluent limitation is below the PQL, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL.

    c. When the calculated effluent limitation is below the PQL and recurrent analytical responses between the PQL and the calculated limit occur, compliance shall be determined by statistical analysis of multiple samples.

23. Published values for MDLs (defined below) and PQLs should be used except where revised MDLs and PQLs are available from recent laboratory performance evaluations, in which case the revised MDLs and PQLs should be used. Where published values are not available, the Executive Officer will determine appropriate values based on available information, including information submitted by the discharger upon request of the Executive Officer.

a. The Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR Part 136 Appendix B.

b. The Practical Quantitation Level (PQL) is the lowest concentration of a substance which can be consistently determined within +/-20% of the true concentration by 75% of the labs tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL for carcinogens is the MDL x 5, and for noncarcinogens is the MDL x 10.

24. When determining compliance based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs) concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL for that parameter.

25. In accordance with CWA Sections 316(a) and 316(b), the discharger shall comply with any applicable standards and guidelines which may be established by USEPA pursuant to these sections. The discharger shall conduct such studies deemed necessary by the Executive Officer to demonstrate compliance with CWA Sections 316(a) and 316(b).

26. No later than 6 months after adoption of this Order, the discharger shall develop a Toxicity Reduction Evaluation (TRE) workplan in accordance with USEPA's Toxicity Reduction Evaluation Procedures: Phases 1, 2, and 3, (USEPA document Nos. USEPA 600/3-88/034, 600/3-88/035 and 600/3-88/036, respectively), and TRE Protocol for Industrial Plants (USEPA 600/2-88/070). The TRE workplan shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the TRE workplan to the Executive Officer upon request of the Executive Officer.

If toxicity testing results show a violation of any acute or chronic toxicity limitation identified in Discharge Specification B.1 of this Order, the discharger shall:

a. Take all reasonable measures necessary to immediately minimize toxicity; and

b. Increase the frequency of the toxicity test(s) which showed a violation to at least two times per month until the results of at least two consecutive toxicity tests do not show violations.

If the Executive Officer determines that toxicity testing shows consistent violation of any acute or chronic toxicity limitation identified in Discharge Specification B.1. of this Order, the discharger shall conduct a TRE which includes all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations identified in Discharge Specification B.1 of this Order.

Within fourteen days of completion of the TRE, the discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations of this Order and prevent recurrence of violations of those limitations, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

27. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 MPN (most probable number). The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those presented in the most recent edition of Standard Methods for the Examination of Water and Wastewater or any improved method determined by the Regional Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate.

28. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL) found on each day of sampling.

29. As used in this Order, waste includes a discharger's total discharge, of whatever origin, i.e. gross, not net, discharge.

30 Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

E. REPORTING REQUIREMENTS

1. The discharger shall file a new Report of Waste Discharge not less than 180 days prior to any material change or proposed change in the character, location, or volume of the discharge including, but not limited to, the following:

   a. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

   b. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

   c. Significant change in disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area, potentially causing different water quality or nuisance problem.

   d. Increase in flow beyond that specified in this Order.

2. The discharger shall give notice to the Executive Officer as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b);

   b. The alteration or addition could significantly change the nature or increase the quantity of

pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order, nor to notification requirements under Reporting Requirement E.9; or

c. The alteration or addition results in a significant change in the discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of conditions in this Order that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

3. 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.

4. This Order is not transferable to any person except after notice to the Executive Officer. The Executive Officer 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 CWA or the California Water Code in accordance with the following:

a. Transfers by Modification

Except as provided in paragraph b. of this reporting requirement, this Order may be transferred by the discharger to a new owner or operator only if this Order has been modified or revoked and reissued, or a minor modification made to identify the new discharger and incorporate such other requirements as may be necessary under the CWA or California Water Code.

b. Automatic Transfers

As an alternative to transfers under paragraph a. of this reporting requirement, any NPDES permit may be automatically transferred to a new discharger if:

(1) The current discharger notifies the Executive Officer at least 30 days in advance of the proposed transfer date in paragraph b.(2) of this reporting requirement;

(2) The notice includes a written agreement between the existing and new dischargers containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

(3) The Executive Officer does not notify the existing discharger and the proposed new discharger of his or her intent to modify or revoke and reissue the Order. A modification under this subparagraph may also be a minor modification under 40 CFR Part 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph b.(2) of this reporting requirement.

5. The discharger shall comply with Monitoring and Reporting Program No. 95-02. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 95-02.

6. 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 5 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 shall be included as information which must be reported within 24 hours under this reporting requirement:

a. Any unanticipated bypass which exceeds any effluent limitation in this Order.

b. Any discharge of treated or untreated wastewater resulting from pipeline breaks, obstruction, surcharge or any other circumstance.

c. Any upset which exceeds any effluent limitation in this Order.

d. Violation of a daily maximum effluent limitation as specified in this Order.

e. Any spills of polychlorinated biphenyl compounds (PCB). The spill residue shall be drummed and disposed of in a manner which is compliance with all federal, state and local laws and regulations. Written notification shall include pertinent information explaining reasons for the spill and shall indicate what steps were taken to prevent the problem from recurring.

f. Any violation of the effluent limitations for acute or chronic toxicity as specified in this Order.

g. Any violation of the prohibitions of this Order.

h. Any finding of levels of bacteria in a receiving water sample which exceeds bacterial water quality objectives specified in Receiving Water Limitation C.1.a of this Order.

7. Whenever a receiving water sample is found to contain levels of bacteria which exceed bacterial water quality objectives specified in Receiving Water Limitation C.1.a of this Order, the discharger shall immediately notify the County of San Diego Department of Environmental Health Services and post signs prohibiting body contact with the water in all areas affected by the contamination.

8. The discharger shall furnish to the Executive Officer, State Board Executive Director, or USEPA, within a reasonable time, any information which the Executive Officer, State Board Executive Director, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order, or to determine compliance with this Order. The discharger shall also furnish to the Executive Officer, State Board Executive Director, or USEPA, upon request, copies of records required to be kept by this Order.

9. The discharger shall notify the Executive Officer as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic or non-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;

(3) Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge submitted in application for this Order; or

(4) The level established by the Regional Board in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic or non-toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge submitted in application for this Order; or,

(4) The level established by the Regional Board in accordance with 40 CFR 122.44(f).

10. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each schedule date.

11. The discharger shall report all instances of noncompliance not reported under Reporting Requirements E.5, E.6, and E.9 of this Order, at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement E.6 of this Order.

12. Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste

Discharge, or submitted incorrect information in a Report of Waste Discharge, or in any report to the Regional Board, it shall promptly submit such facts or information.

13. This Order expires on February 9, 2000. If the discharger wishes to continue any 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 Code of Regulations not later than 180 days in advance of the expiration date of this Order as application for issuance of new waste discharge requirements.

14. All applications, reports, or information submitted to the Executive Officer shall be signed and certified.

    a. All Reports of Waste Discharge shall be signed as follows:

        (1) **For a corporation**: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (b) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        (2) **For a partnership or sole proprietorship:** by a general partner or the proprietor, respectively; or

        (3) **For a municipality, State, Federal or other public agency:** by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (a) the chief executive officer of the agency, or (b) a senior executive officer having responsibility for the overall operations of a principal

geographic unit of the agency (e.g., Regional Administrators of USEPA).

b. All reports required by this Order, and other information requested by the Executive Officer shall be signed by a person described in paragraph a. of this reporting requirement, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph a. of this reporting requirement;

(2) The authorization specifies 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, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (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. If an authorization under paragraph b. of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this reporting requirement must be submitted to the Executive Officer prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Any person signing a document under paragraph a. or b. of this reporting requirement shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and

evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

15. Except for data determined to be confidential under 40 CFR 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 CWA, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.

16. After obtaining written authorization from the Executive Officer as required in Discharge Specification No. B.14 of this Order, and no later than 30 days prior to any planned increase in combined discharge flowrate through the SONGS Unit 1 Outfall in excess of 13.76 MGD, the discharger shall notify the Executive Officer and the California Department of Fish and Game, San Diego Office of the planned increased flowrate. The notification shall include the predicted maximum combined discharge flowrate and the proposed dates and duration of the planned increased flowrate.

17. The discharger shall submit reports and provide notifications to the Regional Board and other agencies as specified in this Order. These other agencies include USEPA and the County of San Diego, Department of Health Services. Reports shall be submitted and notifications shall be made to:

    a. Surface Water Unit
    California Regional Water Quality Control Board
    San Diego Region
    9771 Clairemont Mesa Blvd, Suite B
    San Diego, California 92124-1331
    Phone - (619) 467-2952
    Fax - (619) 571-6972

b. U.S. Environmental Protection Agency
Region IX
Permits Issuance Section (W-5-1)
75 Hawthorne Street
San Francisco, California 94105

c. County of San Diego, Department of Health Services
Phone - (619) 338-2222
Fax - (619) 338-2174

d. California Department of Fish and Game
San Diego Office
(Contact Regional Board office for current address)

F. SLUDGE REQUIREMENTS

1. Management of all solids and sludge must comply with all requirements of CFR Parts 257, 258, 501, and 503, including all monitoring, record-keeping, and reporting requirements. Since the State of California, hence the Regional and State Boards, has not been delegated the authority by the USEPA to implement the sludge program, enforcement of sludge requirements of CFR Part 503 is under USEPA's jurisdiction.

2. All solids and sludge must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Parts 503 and 258, and Title 23 CCR Chapter 15. If the discharger desires to dispose of solids or sludge by a different method, a request for permit modification must be submitted to the USEPA and this Regional Board 180 days prior to the alternative disposal.

3. All the requirements of 40 CFR 503 and 23 CCR 15 are enforceable by the USEPA and this Regional Board whether or not the requirements are stated in an NPDES permit or other permit issued to the discharger.

4. The discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order which has a likelihood of adversely affecting human health or the environment.

5. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

6. The solids and sludge treatment and storage site shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

7. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the state.

8. The discharger shall submit an annual report to the USEPA and this Regional Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 CFR 503. The discharger shall also report the quantity of sludge disposed and the disposal method. This self-monitoring report must be postmarked by February 19 of each year and report for the period covering the previous calendar year.

G. NOTIFICATION

1. California Water Code Section 13263(g) states:

   No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights.

2. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation of this Order, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for

not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, and who knows at that time that he or she thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

3. Except as provided in Provisions D.13 and D.14, 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 to under Section 311 of the CWA.

5. Nothing in this Order shall be construed to preclude 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 CWA.

6. This Order shall become effective 10 days after the date of its adoption, provided the USEPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.

7. This Order supersedes Order No. 88-001 upon the effective date of this Order.

Appendix A: Endnote References

Endnote references for Order No. 95-02 (NPDES No. CA0001228), WASTE DISCHARGE REQUIREMENTS FOR SOUTHERN CALIFORNIA EDISON COMPANY, SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1, SAN DIEGO COUNTY

1. See Appendix I of the Ocean Plan for definition of terms.

2. The effluent concentration limits for Ocean Plan Table B parameters were determined using the procedures outlined in the Ocean Plan and a minimum initial dilution value of 2.4.

3. The mass emission rate (MER) of a substance is calculated using the following equation:

   $$MER = 8.34 \times Q \times C$$

   Where MER is the mass emission rate in lb/day, Q is the discharge flowrate in MGD, and C is the effluent concentration in mg/l.

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

4. The MER limits in this table were obtained using Q = 13.76 MGD (the maximum daily combined discharge flowrate) and effluent concentration limits determined as specified in Endnote 2. When the combined discharge flowrate is lower than 13.76 MGD, the MER limits shall be correspondingly lower.

5. 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. The 6-month median receiving water limitation shall apply as a moving median of daily values for any 180-day period.

6. The daily maximum effluent limitation shall apply to flow weighted 24 hour composite samples, except that total chlorine residual and grease and oil daily maximum limitations shall apply to grab sample determinations. The daily maximum receiving water limitation shall apply to grab sample determinations.

7. The instantaneous maximum effluent limitation shall apply to grab sample determinations. The instantaneous maximum receiving water limitation shall apply to grab sample determinations.

8. The discharger may at its option meet this limitation as a total chromium limitation.

9. In samples obtained from marine, saline, or other waters containing bromine, total chlorine residual limitations shall apply to total residual oxidants.

   a. Discharge Specification B.1

      (1) The total chlorine residual effluent limitations shown are for continuous chlorine/bromine sources. The 6-month median and daily maximum effluent limitations are based on the Ocean Plan water quality objectives using the procedure described in Endnote 2. MER limits are calculated using maximum flowrates and the procedures described in Endnote 3. When the flowrate is less than the maximum flowrate, the MER limit shall be correspondingly lower.

      (2) If the discharge of chlorine/bromine is an intermittent discharge not exceeding two hours, the total chlorine residual effluent limitation shall be the lower of the following:

         (a) an effluent limitation calculated using the procedure described in Endnote 2 and water quality objectives determined through the use of the following equation:

            $\log y = -0.43(\log x) + 1.8$ (Equation 3)

            where: y = the water quality objective (in ug/l) to apply when chlorine/bromine is being discharged;

            x = the duration of uninterrupted chlorine/bromine discharge in minutes; or,

         (b) the USEPA BAT effluent limitation contained in 40 CFR 423 (0.20 mg/l).

      (3) MER limits for intermittent discharges shall be calculated using the following equation:

MER limit (lb/day) = 8.34 x C x Q x z/24

where: C = effluent concentration limit as calculated from Endnote 9.a.(2) (mg/l)

Q = discharge flowrate (MGD)

z = total time (hours) chlorine/bromine is discharged per day, not to exceed two (2.0) hours per unit.

b. Receiving Water Limitation C.2

In Receiving Water Limitation C.2, objectives for total chlorine residual are for continuous chlorine/bromine discharges. Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours shall be determined using Equation 3 above.

10. The monthly (30-day) average is the arithmetic mean using the results of analyses of all samples collected during any 30 consecutive calendar day period.

11. The weekly (7-day) average is the arithmetic mean using the results of analyses of all samples collected during any 7 consecutive calendar day period.

12. Compliance with the Acute Toxicity limitation shall be determined using an established protocol, e.g., American Society for Testing Materials (ASTM), USEPA, American Public Health Association, or State Board. Acute Toxicity shall be expressed in Toxic Units Acute (TUa) as follows:

$$TUa = \frac{100}{\text{96-hr LC 50}}$$

where LC 50 is the Lethal Concentration 50% (percent waste giving 50% survival of test organisms). LC 50 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 LC 50 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-hour LC 50 due to greater than 50% survival of the test species in 100% waste,

the toxicity concentration shall be calculated by the expression:

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

where S is the percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

13. Compliance with the Chronic Toxicity effluent limitation shall be determined using critical life stage toxicity tests. Chronic Toxicity shall be expressed as Toxic Units Chronic (TUc) as follows:

$$TUc = \frac{100}{NOEL}$$

where NOEL is the No Observed Effect Level and is expressed as the maximum percent effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed below.

A minimum of three test species with approved test protocols shall be used to measure compliance with the chronic toxicity limitation. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring may be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

The tests specified in the Ocean Plan shall be used to measure TUc. Other tests may be added to the list when approved by the SWRCB.

14. The MER limits in this table were obtained using the indicated maximum flowrate and effluent concentration limits from the USEPA power plant regulations contained in 40 CFR Part 423 as shown in the table. When the discharge flowrate is lower than the maximum flowrate, the MER limit shall be correspondingly lower.

15. The MER limits in this table were obtained using the indicated maximum combined discharge flowrate and effluent concentration limits determined as specified in Endnote 2. When the combined discharge flowrate is lower than the maximum combined discharge flowrate, the MER limits shall be correspondingly lower.

16. If the discharger can demonstrate to the satisfaction of the Regional Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by Standard Methods 4500-CN G, H, and J (Standard Methods for the Examination of Water and Wastewater. Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Pollution Control Federation. 18th Edition)

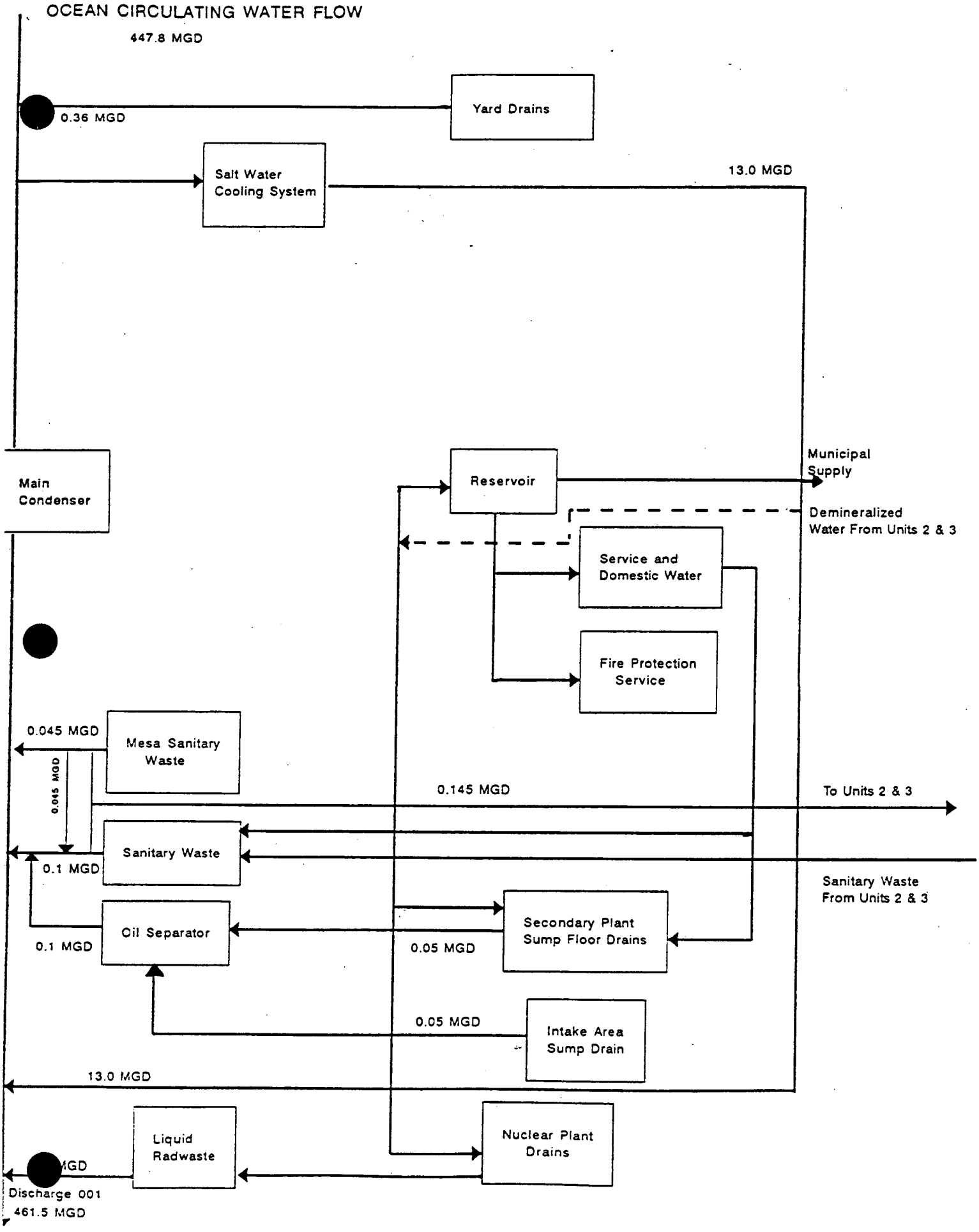
17. The MER limits in this table were obtained using the indicated maximum flowrate and effluent concentration limits from Table A of the Ocean Plan. When the flowrate is lower than the indicated maximum flowrate, the MER limits shall be correspondingly lower.

I, Arthur L. Coe, 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 February 9, 1995.

Arthur L. Coe
Executive Officer

UNIT 1 FLOW DIAGRAM

ATTACHMENT A



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 95-02
NPDES PERMIT NO. CA0001228
FOR
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1
SAN DIEGO COUNTY

Until a revised monitoring and reporting program is issued, Monitoring and Reporting Program (MRP) No. 88-001 for the Southern California Edison Company San Onofre Nuclear Generating Station Unit 1 will remain in effect. A copy of MRP No. 88-001 is included as Attachment A.

Ordered by: _____
Arthur L. Coe
Executive Officer
February 9, 1995

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

NPDES NO. CA0001228

MONITORING AND REPORTING PROGRAM NO. 88-001
FOR
SOUTHERN CALIFORNIA EDISON COMPANY
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1
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 ±5 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, 97 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. 127,19/2: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 (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

3. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this Order.

4. 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.

5. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.

6. If the discharger monitors any pollutants 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.

7. 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. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer or the United States Environmental Protection Agency.

8. 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.

9. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Officer a written statement signed by a registered professional engineer certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required by Monitoring Provision A.2.

11. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. An annual report shall be submitted by January 30 of each year which summarizes the QA activities for the previous year. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The discharger should have a success rate equal to or greater than 80 percent.

12. The discharger shall report all instances of noncompliance not reported under Reporting Requirement E.6 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement E.6.

13. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement No. E.12.

14. A composite sample is defined as a combination of at least 8 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.

15. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

B. FISH ENTRAINMENT MONITORING

1. Monitoring

During heat treatments and for at least one continuous 24-hour period per week during normal operation, the following shall be obtained:

(a) Total weight and number of each species of fish removed from the traveling bar racks and screens.

(b) Standard length and sex of select species in a representative sample[1]/ removed from the traveling bar racks and screens.

2. Reporting

(a) A report containing detailed analyses of the previous year's fish entrainment monitoring data shall be submitted by July 30 of each year.

(b) The annual report requirement in Section K of this monitoring and reporting program will not apply to Fish Entrainment Monitoring.

C. COOLING WATER INTAKE MONITORING

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

Parameter	Units	Type of[2]/ Sample	Minimum Frequency of Analysis
Turbidity	NTU	Grab	Monthly
Temperature	°F	--	Continuous[3]/
pH[4]/	pH Units	Grab	Monthly

D. COMBINED DISCHARGE[5]/MONITORING PROGRAM

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

Parameter	Units	Type of Sample[2]/	Minimum Frequency of Analysis
Flow Rate	MGD	--	Continuous
Turbidity	NTU	Grab	Monthly

Parameter	Units	Type of Sample[2]/	Minimum Frequency of Analysis
pH[4]/	pH Units	Grab	Monthly
Temperature[3]/	°F	--	Continuous
Polychlorinated Biphenyls	µg/l lb/day	Grab	Semiannually
Total Residual Chlorine[6]/	µg/l lb/day	Grab	Daily
Free Available Chlorine[6]/	µg/l lb/day	Grab	Daily
Hydrazine[7]/	µg/l lb/day	Grab	Monthly
Toxicity Concentration[8]/	tu	Grab	Semiannually
Arsenic	µg/l lb/day	Grab	Semiannually
Cadmium	µg/l lb/day	Grab	Semiannually
Chromium (Hexavalent)[9]/	µg/l lb/day	Grab	Semiannually
Copper	µg/l lb/day	Grab	Semiannually
Lead	µg/l lb/day	Grab	Semiannually
Mercury	µg/l lb/day	Grab	Semiannually
Nickel	µg/l lb/day	Grab	Semiannually
Silver	µg/l lb/day	Grab	Semiannually
Zinc	µg/l lb/day	Grab	Semiannually
Cyanide	µg/l lb/day	Grab	Semiannually

Parameter	Units	Type of Sample[2]/	Minimum Frequency of Analysis
Ammonia (expressed as Nitrogen)	µg/l lb/day	Grab	Semiannually
Phenolic Compounds	µg/l lb/day	Grab	Semiannually
Chlorinated Phenolics	µg/l lb/day	Grab	Semiannually
Aldrin & Dieldrin	µg/l lb/day	Grab	Semiannually
Chlordane[10]/ Related Compounds	µg/l lb/day	Grab	Semiannually
DDT[11]/ & Derivative	µg/l lb/day	Grab	Semiannually
Endrin	µg/l lb/day	Grab	Semiannually
HCH[12]/	µg/l lb/day	Grab	Semiannually
Toxaphene	µg/l lb/day	Grab	Semiannually

E. IN-PLANT WASTE STREAMS[13]/MONITORING PROGRAM

The following shall constitute the in-plant waste streams monitoring program for the purpose of monitoring discharge compliance with discharge specification B.15.

Note: NTU = Nephelometric Turbidity Units
°F = degrees Fahrenheit
MGD = million gallons per day
tu = toxicity units
µg/l = micrograms per liter

Parameter	Units	Type of Sample[2]/[13]/	Minimum Frequency of Analysis
Toxicity	tu	Grab	Semiannually
Arsenic	lbs/day	Grab	Semiannually
Cadmium	lbs/day	Grab	Semiannually
Chromium (Hexavalent)[9]/	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 (Expressed as Nitrogen)	lb/day	Grab	Semiannually
Phenolic Compounds	lb/day	Grab	Semiannually
Chlorinated Phenolics	lb/day	Grab	Semiannually
Aldrin & Dieldrin	lb/day	Grab	Semiannually
Phenolic Compounds (Nonchlorinated)	lb/day	Grab	Semiannually
Chlordane and Compounds[10]/	lb/day	Grab	Semiannually
DDT[11]/ & Derivative	lb/day	Grab	Semiannually

Parameter	Units	Type of Sample[2/13]	Minimum Frequency of Analysis
Endrin	lb/day	Grab	Semiannually
HCH[12]	lb/day	Grab	Semiannually
Toxaphene	lb/day	Grab	Semiannually

F. LOW VOLUME WASTES MONITORING

The following shall constitute the low volume wastes monitoring program for each low volume waste stream.

Parameter	Units	Type of Sample[14]	Minimum Frequency of Analysis
Flow Rate	MGD	--	Monthly
Total Suspended Solids	mg/l lb/day	14	Monthly
Grease & Oil	mg/l lbs/day	14	Monthly

G. SEWAGE TREATMENT PLANT INFLUENT MONITORING

The following shall constitute the influent monitoring program for both sewage treatment plants.

Determination	Units	Type of Sample[2/15]	Minimum Frequency of Analysis
Total Suspended Solids	mg/l	Grab	Monthly

H. SEWAGE TREATMENT PLANT EFFLUENT MONITORING

The following shall constitute the effluent monitoring program for both sewage treatment plants.

Determination	Units	Type of [2/15] Sample	Minimum Frequency of Analysis
Flow Rate	MGD	-	Daily
Grease & Oil	mg/l	Grab	Monthly
Total Suspended Solids	mg/l	Grab	Monthly
Setteable Solids	ml/l	Grab	Monthly
Turbidity	NTU	Grab	Monthly
pH	pH Units	Grab	Monthly

Note: ml/l = milliliters per liter

RECEIVING WATER MONITORING

1. Station Locations

Station	Description
XO	Discharge structure
C1N	1,000 ft upcoast of the Unit 1 Outfall between the 25 and 30 ft depth contours.
C2N	2,000 ft upcoast of the Unit 1 Outfall between the 25 and 30 ft depth contours.
C1S	1,000 ft downcoast of the Unit 1 Outfall between the 25 and 30 ft depth contours.
C2S	2,000 ft downcoast of the Unit 1 Outfall between the 25 and 30 ft depth contours.
C22S (reference)	22,000 ft downcoast of the Unit 1 Outfall between the 25 and 30 ft depth contours.
SMK	San Mateo Kelp Bed
SOK	San Onofre Kelp Bed
BK	Barn Kelp
TSO2	Otter trawl station starting at approximately 2,000 ft downcoast of the Unit 1 Outfall at the 20 ft depth contour.
TSO4	Otter trawl station starting at approximately 1,200 ft directly offshore of the Unit 1 discharge point at the 40 ft depth contour.

Station	Description
TSO6	Otter trawl station starting at approximately 1,000 ft downcoast of the Unit 1 Outfall at the 60 ft depth contour.
TR2 (reference)	Otter trawl station starting at approximately 22,000 ft downcoast of the Unit 1 Outfall at the 20 ft depth contour.
TR4 (references)	Otter trawl station starting at approximately 22,000 ft downcoast of the Unit 1 Outfall at the 40 ft depth contour.
TR6 (reference)	Otter trawl station starting at approximately 22,000 ft downcoast of the Unit 1 Outfall at the 60 ft depth contour.

2. Receiving water monitoring shall be conducted as follows:

a. Continuous Temperature Monitoring

Continuously recording thermagraphs shall be deployed at stations C2S and C22S. Measurements shall be obtained from the surface, 5 meter, 10 meter, and near bottom depths. Measurements shall be reported as hourly data.

b. Turbidity

Quarterly aerial photographic surveys shall be conducted in the vicinity of the Unit 1 discharge.

c. Fish Populations

Bimonthly trawling surveys shall be conduced at stations TSO2, TSO4, TSO6, TR2, TR4, and TR6. Each trawl shall be of ten minute duration at a uniform speed of between 2.0 and 2.5 knots. Collected fishes shall be identified to species and enumerated. Standard length and weight of all fishes shall be determined. Any external anomolies observed shall be reported.

d. Kelp Mapping

Acoustic data for kelp, depth, and bottom composition shall be acquired by side-scanning and down-looking sonar at San Mateo Kelp, San Onofre Kelp and Barn Kelp semiannually. Ground truth data shall also be taken. Sonar data shall be analyzed to provide bottom composition and kelp density information.

e. Kelp Densities

Individual giant kelp plants and the number of associated stipes greater than 2 m shall be counted three times a per year at six fixed sampling sites located in the San Onofre kelp bed (SOK) as identified in Chapter 4 of the 1986 SONGS "Marine Environmental Analysis and interpretation Report". The composition of the substrate shall be qualitatively described. Additional substrate and percent cover information shall be collected.

In addition to the above information, SCE shall sample a randomly selected 100 m^2 site in the SOK semiannually to enumerate giant kelp, and to qualitiatively estimate percent sand, cobble and boulders in the sampling site area.

f. Kelp Bed Monitoring

Kelp bed monitoring is conducted to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds.

The discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum areal extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area, which ordinarily occurs in August or September in the San Diego Region. The entire San Diego Region coastline, from the International Boundary to the San Diego/Santa Ana Region boundary, shall be photographed on the same day. The date of each annual survey shall be approved by Regional Board staff. (Verbal approval will be sufficient, so that the survey will not be delayed while written approval is prepared and distributed.)

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The areal extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

g. Transmissometer Profiles

Surface to bottom profiles of light transmittance shall be conducted quarterly from stations XO, C1N, C2N, C1S, C2S, and C22S using a standardized transmissometer.

h. Water Quality Measurements

Dissolved oxygen, hydrogen ion concentration and temperature, shall be measured quarterly, at the surface, mid-depth and bottom at stations XO, C1N, C2N, C1S, C2S and C22S.

i. Bioaccumulation Monitoring

Bagged mussels shall be deployed at stations XO, C1N, C2N, C1S, C2S and C22S to evaluate the bioaccumulation of toxic pollutants in the vicinity of the SONGS Unit 1 discharge. The mussels shall be deployed, collected and analyzed semiannually as described in Appendix A of the "California State Mussel Watch Marine Water Quality Monitoring Program 1985-86" (Water Quality Monitoring Report No. 87-2WQ).

J. REPORTING

1. A report containing detailed analyses of the previous year's receiving water monitoring data shall be submitted by July 30 of each year.

2. The annual report requirement in Section K of this Monitoring and Reporting Program will not apply to Receiving Water Monitoring.

K. 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 discharge into full compliance with Order No. 88-001.

L. MONITORING REPORT SCHEDULE

Monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

Reporting Frequency	Report Period	Report Due
Continuous, Daily, Weekly, Monthly	January, February March, April, May, June, July, August, September, October, November, December	By the 30th of the following month
Quarterly	October - December January - March April - June July - September	January 30 April 30 July 30 October 30
Semiannually	July - December January - June	January 30 July 30
Annually	January - December	January 30 (Effluent) July 30 (Receiving Water)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

Footnote references for Monitoring and Reporting Program No. 88-001 (NPDES NO. CA0101228), SOUTHERN CALIFORNIA EDISION COMPANY, SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 1, SAN DIEGO COUNTY.

1. A representative sample for determination of fish length for species removed from SONGS Unit 1 intake structure bar racks and screens shall consist of all individual of a species removed, or not less than 125 individuals when more than 125 individuals are removed. A representative sample for determination of fish sex for species removed from SONGS Unit 1 intake structure bar racks and screens shall consist of all individuals of a species removed, or not less than 50 individuals when more than 50 individuals are removed.

2. 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.

3. 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.

4. Samples shall be collected and analyzed for pH during chlorination.

5. 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 water streams reenter the circulating water stream, and downstream of the point(s) at which all in-plant waste steams enter the circulating water stream. Combined discharge samples shall be collected immediately following collection of cooling water intake samples.

6. Samples shall be collected and anlayzed for total residual chlorine and free available chlorine at times when the concentration of total residual chlorine and free available chlorine in the combined discharge is greatest. The times of uninterrupted chlorine discharges on the days the samples are collected and the times at which samples are collected shall be reported.

7. Samples shall be collected and analyzed for hydrazine on the day(s) of the month when the hydrazine concentration is the greatest, but no less frequently than once each month.

8. Samples shall be collected and anlyzed for toxicity concentrations no less frequently than once each week if, at any time, the toxicity concentration exceeds 0.55 tu. Collection and analysis of samples for toxicity concentration on a weekly basis shall continue until measured toxicity concentration is less than 0.55 tu. In addition, the toxicity concentration shall be determined when the hydrazine concentration is anticipated to be at a maximum. Toxicity concentration shall be measured in the following manner:

(a) Toxicity Concentration (Tc)
Expressed in Toxicity Units (tu)

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

(b) Median Tolerance Limit (TLm%)

TLm (percent waste giving 50 percent 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-hour 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 percent 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 reulations 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.

9. The discharger may at their option meet this limitation as a total chromium limitation.

10. Chlordane and related compounds shall mean the sum of chlordane (cis+trans), trans-nonachlor, oxychlordane, heptachlor and hexachlor epoxide.

11. DDT and derivatives shall mean the sum of the P, P' and O, P' isomers of DDT, DDD (TDE) and DDE.

12. HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

13. Grab samples of individual in-plant waste streams as identified in Finding No. 7 of this Order 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.

14. During a single 24-hour period, each low volume waste stream shall be individually sampled in the following manner:

    At maximum flow and concentration, three grab samples shall be taken of each low volume waste stream. Each sample shall be separated from the last by at least ten minutes. These three grab samples shall then be combined to form a flow weighted composite sample which shall then be analyzed for total suspended solids and oil and grease. Concentration limits, as shown in Discharge Specifications Nos. B. 11 thru 15, shall apply to these individual low volume waste streams.

15. Samples shall be collected during the day shift, Monday through Friday, except on holidays.

Ordered by _____

LADIN H. DELANEY
Executive Officer
February 8, 1988