STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 94-132
NPDES NO. CA0001198

WASTE DISCHARGE REQUIREMENTS FOR SOUTHERN CALIFORNIA EDISON COMPANY (Ormond Beach Generating Station)

The California Regional Water Quality Control Board, Los Angeles Region, (Regional Board) finds:

1. Southern California Edison Company (Discharger) discharges wastes from the Ormond Beach Generating Station under waste discharge requirements contained in Order No. 90-032, adopted by this Regional Board on February 26, 1990. This Order serves as the National Pollutant Discharge Elimination System (NPDES) permit (CA0001198).

2. The Discharger has filed a Report of Waste Discharge and has applied for renewal of its waste discharge requirements and NPDES permit.

3. The Discharger operates the Ormond Beach Generating Station, a 1,500 megawatts plant, at 6635 South Edison Drive, Oxnard, California, and discharges up to 688.2 million gallons per day (mgd) of wastes consisting of once-through cooling water from two steam electric generating units, metal cleaning wastes, and low volume wastes into the Pacific Ocean at Ormond Beach in Oxnard, a water of the United States. The wastes are jetted vertically from an outfall coffer (Discharge Serial No. 001) located about 1,790 feet offshore at a depth of 20 feet Mean Lower Low Water (MLLW) (Latitude: 34°12'26"; Longitude: 119°10'24").

   The cooling water intake is located about 1,900 feet offshore at a depth of 34 feet MLLW (Discharge Serial No. 002 during heat treatment as described below), and draws water from a depth of 25 feet below MLLW.

   Figure 1 shows the location map of the facility.

4. The chemical metal cleaning and non-chemical metal cleaning wastes are separately collected and pretreated. The pretreated metal cleaning wastes together with other low volume wastes are then stored in two settling basins before discharge to the Pacific Ocean through the outfall for the

once-through cooling water. Residues in the basins and from pretreatment are periodically hauled away to legal disposal sites. Figure 2 shows the Schematic Diagram of the Wastewater Flow.

5. The Discharger controls marine fouling of the cooling water conduits (intake and discharge) by temporarily recirculating (thus increasing the temperature) and reversing the flow of the once-through cooling water alternately in each offshore conduit (i.e., the discharge point becomes the intake point, and the intake point becomes the discharge point). This procedure (referred to as "heat treatment") is typically conducted every five (5) weeks and lasts for about two (2) hours per conduit.

6. Calcareous shell debris accumulates in the intake structure as a result of heat treatments. Approximately once a year, this shell debris is physically removed and disposed of into the ocean.

7. To control biological growth (defouling), the condenser tubes are treated by intermittently injecting chlorine (in the form of sodium hypochlorite), for a maximum of two (2) hours per generating unit per day, into the cooling water stream.

8. The wastes characteristics are as follows:

Temperature in °F during:	Winter (Oct. to Apr.)	Summer (May to Sept.)	Heat Treatment
Average	92.2	95.4	----
Maximum	96	106	130

Total Maximum Flow: 688.2 mgd

Nature of wastes[1]	Average Volume, mgd
Once-through cooling water	687
Fireside and air preheater washes	1.86
Chemical metal cleaning wastes	0.38
Low volume wastes[2]	

[1] Some flows are intermittent.

[2] Consisting of make up demineralizer regeneration wastes (.23 mgd), condensate demineralizer regeneration wastes (0.07 mgd), miscellaneous floor drains (0.07 mgd), and small volumes of boiler and evaporator blowdown, fuel oil area drains, inplant drainage including rainfall run-off, and aquaculture experimental research laboratory wastes.

9. Section 316(b) of the Federal Clean Water Act (Clean Water Act) requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts.

10. On November 19, 1982, the U. S. Environmental Protection Agency (USEPA) promulgated Effluent Guidelines and Standards for the "Steam Electric Power Generating Point Source Category" (40 CFR Part 423). These regulations prescribe effluent limitation guidelines for once-through cooling water and various inplant waste streams.

    40 CFR 423.12(a) provides that effluent limitations either more or less stringent than the USEPA standards may be prescribed if factors relating to the equipment or facilities involved, the process applied, or other such factors are found to be fundamentally different from the factors considered in the establishment of the standards.

11. On March 22, 1990, the State Water Resource Control Board (State Board) adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan). The Ocean Plan contains water quality objectives for coastal waters of California. This Order includes effluent and receiving water limitations, prohibitions, and provisions which implement the objectives of the Ocean Plan.

12. On May 18, 1972, (amended on September 18, 1975), the State Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). The Thermal Plan contains temperature objectives for the Pacific Ocean.

13. On October 22, 1990, the Regional Board adopted an updated Water Quality Control Plan for Santa Clara River Basin (Basin Plan 4A). The Water Quality Control Plan incorporates by reference State Board's water quality control plans for ocean waters, control of temperature, significant State Board policies that are applicable to the Los Angeles Region, and the antidegradation policy.

14. The beneficial uses of the Pacific Ocean are as follows:

    Nearshore Zone (Bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contour, whichever is farther from shore): Industrial service supply, navigation,

water contact and non-water-contact recreation, ocean commercial and sport fishing, preservation of areas of special biological significance, preservation of rare and endangered species, marine habitat, shellfish harvesting, and fish spawning.

Offshore Zone: Industrial service supply, navigation, water-contact and non-water-contact recreation, ocean commercial and sport fishing, preservation of rare and endangered species, marine habitat, and shellfish harvesting.

15. Pursuant to Section 402(p) of the Clean Water Act and 40 CFR Parts 122, 123, and 124, the State Board adopted a general NPDES permit to regulate stormwater discharges associated with industrial activity (State Board Order No. 91-13-DWQ adopted in November 1991, amended by Order No. 92-12-DWQ adopted in September 1992). Stormwater discharges from power plants are subject to requirements under this general permit.

16. Effluent limitations and guidelines, national standards of performance, and toxic effluent standards established pursuant to Sections 208, 301, 302, 303, 304, 306, 307, and 316 of the Federal Clean Water Act, and amendments thereto, are applicable to the discharge.

17. In compliance with the Thermal Plan and in accordance with Regional Board specifications, the Discharger conducted a thermal effects study. The study, completed in 1984, demonstrated that waste discharges from the power plant are in compliance with the Thermal Plan and beneficial uses of the receiving waters are protected, as required by Section 316(a) of the Clean Water Act.

18. In accordance with Federal and State guidelines for Section 316(b) of the Clean Water Act, the Discharger conducted a study to determine whether the cooling water intake structures are in compliance with regulations established pursuant to Section 316(b) of the Clean Water Act. The study adequately addressed the important ecological and engineering factors specified in the guidelines, demonstrated that the ecological impacts of the intake system are environmentally acceptable, and determined that no modification to the intake structure is required. The design, construction, and operation of the intake structure represents Best Available Technology as required by Section 316(b) of the Clean Water Act.

19. At times of peak demand during defouling treatment, residual chlorine levels in the once-through cooling water (up to 0.26

mg/l) have exceeded effluent limitations based on 40 CFR Part 423 guidelines (0.20 mg/l) and Ocean Plan objectives (0.068 mg/l). However, chlorination bioassay studies performed by the Discharger showed no significant adverse impact on the receiving waters as a result of the chlorine levels in the discharge.

In September 1984, the Discharger submitted a request for variance from the effluent residual chlorine limitation based on Ocean Plan objectives. The Regional Board and the State Board approved the variance request and forwarded it to the USEPA in August 1988 for concurrence, pursuant to Section 301(g) of the Clean Water Act. To date, the USEPA has not yet rendered its final decision on the request.

20. The requirements contained in this Order, as they are met, will be in conformance or in compliance with the goals of the aforementioned water quality control plans and statutes.

21. Effluent limitations based on Ocean Plan objectives were calculated using a minimum dilution ratio of 6.5 to 1 for Discharge Serial No. 001, except for residual chlorine which is 7.5:1, i.e., parts sea water to one part effluent. These ratios were based on calculations made by the Discharger and approved by the State Board (transmitted to the Regional Board in a State Board memorandum dated February 4, 1985).

22. For toxic constituents regulated in the Ocean Plan (Table B) which the Discharger does not add into or produce in the treatment process and/or waste streams, no numerical limits are prescribed. No numerical limits are also prescribed for toxic constituents which are added but usage has been determined that there is very low probability of causing or contributing to excursions in the water quality standards. However, a narrative limit to comply with all Ocean Plan objectives is provided.

23. Acute toxicity monitoring conducted over the past five years demonstrated consistent compliance with the Ocean Plan objectives. However, since the Ocean Plan objectives are not applicable to steam electric generating plants, no numerical limits are prescribed for acute toxicity.

24. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act or amendments thereto, and shall take effect at the end of ten days from the date of its adoption provided the Regional Administrator, USEPA, has no objections.

IT IS HEREBY ORDERED that Southern California Edison Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE LIMITATIONS

A. EFFLUENT LIMITATIONS

1. Wastes discharged shall be limited to those described in the findings only, as proposed.

2. The temperature of waste discharged shall not exceed 105°F during normal operation of the facility. During heat treatment, the temperature of waste discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed 135°F. Temperature fluctuations during gate adjustment above 125°F shall not last for more than 30 minutes.

3. The pH of water discharged shall at all times be within the range of 6.0 to 9.0 pH units.

4. The wastes discharged from Discharge Serial No. 001 with constituents in excess of the following limits are prohibited:

Constituent	Units	DISCHARGE LIMITATIONS[1] 30-day Average	Daily Maximum
Arsenic	µg/l	40.5	220
Cadmium	µg/l	7.5	30
Copper	µg/l	9.5	47
Chromium[2] (hexavalent)	µg/l	15	60
Lead	µg/l	15	60
Mercury	µg/l	0.297	1.188
Nickel	µg/l	37.5	150
Selenium	µg/l	112.5	450
Silver	µg/l	4.21	20
Zinc	µg/l	98	548
Chronic toxicity[3]	TU_c	---	7.5
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269, California Code of Regulations.		

[1] Concentration limits are based on Ocean Plan objectives using a dilution ratio of 6.5 parts of seawater to 1 part effluent. The daily mass emission limits (in lbs per day) shall be determined using the tabulated concentration limits and actual flow rate.

[2] The discharger has the option to meet the hexavalent chromium limitations with a total chromium analysis. However, if the total chromium level exceeds the hexavalent chromium limitation, it will be considered a violation unless an analysis has been made for hexavalent chromium in a replicate sample and the result show within the hexavalent chromium limits.

[3] Expressed as Chronic Toxicity Units (TU_c)

$TU_c = 100/NOEC$

where: NOEC (No Observed Effect Concentration) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism as determined by the result of a

7. Effluent Limitations for Inplant Waste Streams:

a. The discharge of metal cleaning wastes[1] with constituents in excess of the following limits is prohibited:

		DISCHARGE LIMITATIONS[2]	
Constituents	Units	30-day Average	Daily Maximum
Suspended solids	mg/l	30	100
Oil and grease	mg/l	15	20
Copper, total	mg/l	1.0	1.0
Iron, total	mg/l	1.0	1.0

[1] For the purpose of these limitations, metal cleaning wastes shall mean any wastewater resulting from chemical cleaning of any metal process equipment including, but not limited to, boiler tube, boiler fireside, and air preheaters.

[2] The daily mass emission limits (in lbs/day) shall be determined using the tabulated concentration limits and the actual volume of metal cleaning wastes.

b. The discharge of low volume wastes with constituents in excess of the following limits is prohibited:

		DISCHARGE LIMITATIONS[1]	
Constituents	Units	30-day Average	Daily Maximum
Suspended solids	mg/l	30	100
Oil and grease	mg/l	15	20

[1] The daily mass emission limits (in lbs/day) shall be determined using the tabulated concentration limits and actual flow rate.

c. In the event that waste streams from various sources (7-a and 7-b) are combined for treatment or discharge, the quantity of each pollutant or

pollutant property controlled attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

B. RECEIVING WATER LIMITATIONS

1. Floating particulates and oil and grease shall not be visible as a result of wastes discharged.

2. Wastes discharged shall not: alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; nor cause aesthetically undesirable discoloration of the ocean surface.

3. The transmittance of natural light shall not be significantly reduced at any point outside the zone of initial dilution as a result of wastes discharged.

4. The rate of deposition and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded as a result of wastes discharged.

5. The wastes discharged shall not depress the dissolved oxygen concentration outside the zone of initial dilution at any time by more than 10 percent from that which occurs naturally, excluding effects of naturally induced upwelling.

6. The wastes discharged shall not change the pH of the receiving waters at any time by more than 0.2 units from that which occurs naturally outside the zone of initial dilution.

7. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions as a result of wastes discharged.

8. The wastes discharged shall not increase the concentrations, in marine sediments of toxic substances listed in Table B of the Ocean Plan, to levels which would degrade indigenous biota.

9. The concentration of organic materials in marine sediments shall not be increased above that which would degrade marine life as result of wastes discharged.

10. The wastes discharged shall not cause objectionable aquatic growths or degrade indigenous biota.

11. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded as a result of wastes discharged.

12. 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 as a result of wastes discharged.

13. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered as a result of wastes discharged.

14. The wastes discharged shall not cause objectionable odors to emanate from the receiving waters.

15. The wastes discharged shall not cause receiving waters to contain any substance in concentrations toxic to human, animal, plant, or fish life.

16. No physical evidence of wastes discharged shall be visible at any time in the water or on beaches, shores, rocks, or structures.

17. The salinity of the receiving waters shall not be changed by the wastes discharged to an extent such as to be harmful to marine biota.

18. The wastes discharged shall not contain individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses.

II. REQUIREMENTS AND PROVISIONS

A. The discharger must develop and implement a Storm Water Pollution Prevention Plan in accordance with Attachment A (Storm Water Pollution Prevention Plan) within 120 days of the effective date of this Order. An existing SWPPP which complies with the requirements in Attachment A is acceptable.

B. The discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water

management programs developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

C. The wastes discharged shall comply with all Ocean Plan objectives.

D. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, and 423 of the Federal Clean Water Act and amendments thereto.

E. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States is prohibited unless specifically authorized elsewhere in this permit. This requirement is not applicable to products used for lawn and agricultural purposes. Discharge of chlorine for disinfection in plant potable and service water systems and in sewage treatment is authorized.

F. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream which ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.

G. There shall be no discharge of polychlorinated biphenyl compounds such as those once commonly used for transformer fluid.

H. The Discharger shall notify the Executive Officer in writing no later than six months prior to planned discharge of any chemical, other than chlorine or other product previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

1. Name and general composition of the chemical,
2. Frequency of use,
3. Quantities to be used,
4. Proposed discharge concentrations, and
5. USEPA registration number, if applicable.

No discharge of such chemical shall be made prior to the Executive Officer's approval.

I. The Regional Board and USEPA shall be notified, immediately by telephone, of the presence of adverse conditions in the receiving waters or on beaches and shores as a result of

wastes discharge; written confirmation shall follow as soon as possible but not later than five working days after occurrence.

J. This Order may be modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this order and permit, endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption and issuance.

The filing of a request by the Discharger for an order and permit modification, revocation and issuance, or termination; or a notification of planned changes or anticipated noncompliances does not stay any condition of this order and permit.

K. This Order may also be modified, in accordance with the provisions set forth in 40 CFR Part 122 and 124, to include requirements for the implementation of the watershed protection management approach.

L. This Order includes the attached "Standard Provisions and General Monitoring and Reporting Requirements" ("Standard Provisions", Attachment B). If there is any conflict between provisions stated hereinbefore and said "Standard Provisions", those provisions stated hereinbefore prevail.

III. EXPIRATION DATE

This Order expires on November 10, 1999.

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 such expiration date as application for issuance of new waste discharge requirements.

IV. RESCISSION

Order No. 90-032, adopted by this Board on February 26, 1990, is hereby rescinded, except for enforcement purposes.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on December 5, 1994.

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env.
Executive Officer

/AF