



Southern California Edison Company

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April 11, 1988

TELEPHONE
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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Subject: Docket No. 50-206
Renewal of NPDES Permit
San Onofre Nuclear Generating Station, Unit 1

Pursuant to Section 6.16.2.c of the San Onofre Unit 1 Technical Specifications, 30-day notification of changes to the NPDES Permit for the subject facility is being made. The adopted permit reflects changes in rules and regulations made during the past five years to the standard NPDES permit which were then tailored to San Onofre. A copy of the approved San Onofre Unit 1 NPDES Permit is provided as an enclosure.

If you have any questions regarding the enclosure, please call me.

Sincerely,

M. O. Medford / D. Palmer

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
F. R. Huey, USNRC Senior Resident Inspector, Units 1, 2, and 3

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**Fact Sheet
for
Southern California Edison Company
San Onofre Nuclear Generating Station Unit 1
NPDES Permit
and
Waste Discharge Requirements**

I. Facility Description

SONGS Unit 1 is a nuclear-fueled electrical power generating facility which began commercial operation in 1968. Thermal energy provided by the nuclear reactor is used to generate steam to drive electrical turbine generators. Thermal energy output of the reactor is 1,350 megawatts. The effective operating capacity is currently 436 megawatts, net. Most of the remaining heat is discharged to the marine environment with the ocean water used to cool the steam condensers.

SONGS Unit 1 is 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 Unit 1 is located in Section 24, T9S, R7W, S8BM, approximately two and one-half miles southeast of the City of San Clemente and approximately 12 miles northwest of the City of Oceanside. SONGS Unit 1 discharges wastes to the Pacific Ocean, a water of the United States, at latitude 33°21'43" north, longitude 117°33'46" west.

II. Intake and Discharge Structure Description

The 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. The intake structure is fitted with a velocity cap which tends to produce horizontal rather than vertical currents in the vicinity of the structure. The inside diameter of the intake conduit is 12 feet. The velocity of flow in the intake conduit is seven feet per second. The intake structure is buried at a minimum depth of four feet below the ocean floor. 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 screenwell, the water is drawn into the circulating water pumps. Most of the water then passes through the condenser, where heat exchange occurs. The time required for cooling water to pass through the condenser is approximately eight seconds. Water for component cooling and turbine plant cooling is drawn from the main cooling water flow upstream of the condenser. This water passes through the respective heat exchangers and is returned to the main cooling water flow downstream of the condenser.

After passing through the condenser, the cooling water is returned to the ocean through the discharge structure via the discharge conduit. The inside diameter of the discharge conduit is 12 feet. The time required for cooling water leaving the condenser to reach the ocean is

approximately eight minutes. The discharge structure is located approximately 2,460 feet offshore. The discharge conduit is buried at 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. Cooling water is discharged upward from the discharge structure at a velocity of approximately four feet per second. The discharge structure is similar to the intake structure but does not have a velocity cap.

III. Discharge Description

A. Once-through cooling water

SONGS Unit 1 uses a once-through ocean water cooling system. The design capacity of the circulating water pumps is approximately 504.3 MGD. In actual operation the rate which ocean water is drawn into the plant averages 460.8 MGD. The average condenser cooling water flow rate is 448 MGD. The average component cooling water flow rate is 6.50 MGD. The average turbine plant cooling water flow rate is 6.50 MGD. Cooling water temperature is raised approximately 22°F to 23°F during normal operations.

B. In-plant Wastes

1. Low Volume Wastes

Low volume wastes consist of the following discharges to the once-through cooling water stream:

- (a) Circulating pump bearing lubrication
- (b) Steam generator blowdown
- (c) Plant drains*
- (d) Radwaste

2. Yard Drains

*All waste discharges from the plant drains (ie; secondary plant sump and drains and intake area sump drain) pass through an oily waste flotation separator prior to discharge to the once-through cooling water stream.

IV. Beneficial Uses of Receiving Water

The Comprehensive Water Quality Control Plan Report, San Diego Basin (9) (Basin Plan) established the following beneficial uses of the coastal waters of the Pacific Ocean:

- (a) Industrial Service Supply
- (b) Navigation
- (c) Water Contact Water Recreation
- (d) Non-Contact Water Recreation
- (e) Ocean Commercial and Sport Fishing
- (f) Preservation of Areas of Special Biological Significance
- (g) Preservation of Endangered Species

- (h) Marine Habitat
- (i) Fish Migration
- (j) Shellfish Harvesting

V. Basis for Waste Discharge Requirements

The Environmental Protection Agency (EPA) promulgated Effluent Guidelines and Standards for the "Stream Electric Power Generating Point Source Category" on November 19, 1982. These regulations are contained in 40 CFR Parts 125 and 423 and became effective on January 3, 1983. These regulations establish effluent limitation guidelines, pretreatment standards, and new source performance standards for various in-plant waste streams and once-through cooling water. These regulations apply to the discharge from SONGS Unit 1.

The State Water Resources Control Board adopted the Revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on November 17, 1983. The Ocean Plan contains water quality objectives for the coastal waters of California which apply to the discharge from SONGS Unit 1.

The State Water Resources Control Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this Plan on September 18, 1975. The Thermal Plan contains temperature objectives for the Pacific Ocean which apply to the discharge from SONGS Unit 1.

The Comprehensive Water Quality Control Plan Report, San Diego Basin (9), (Basin Plan) was adopted by this Regional Board on March 17, 1975; approved by the State Water Resources Control Board on March 20, 1975; and updated by the Regional Board on February 27, 1978; March 23, 1981; January 24 and October 3, 1983; August 27, 1984; December 16, 1985; and March 25, 1986. The updates were subsequently approved by the State Board. The Basin Plan contains water quality objectives and beneficial uses of the waters in the San Diego Region which apply to the discharge from SONGS Unit 1.

VI. Proposed Effluent Limitations

Effluent limitations, national standards of performance, toxic and pretreatment effluent standards, and discharge criteria established pursuant to Sections 301, 302, 303 (d), 304, 306, 307, and 316 of the Federal Clean Water Act and amendments thereto are applicable to this discharge.

The Clean Water Act, Section 301 (b)(2)(A), requires the application of Best Available Technology Economically Achievable (BAT) effluent limitations for all nonconventional pollutants.

Section 301(g) of the Clean Water Act established a mechanism whereby a discharger may obtain a modification of the requirements of the Clean Water Act, provided specific conditions are met. On July 28, 1987, the discharger submitted a complete request for a variance from the United

States Environmental Protection Agency's BAT effluent limitation for total residual chlorine pursuant to Section 301(g) of the Clean Water Act.

Based on the chlorine injection duration (15 minutes), the initial dilution (10:1), and an effluent limit derivation method contained in the Ocean Plan, SCE has requested that the daily maximum effluent limitation for total residual chlorine for the discharge from SONGS Unit 1 be set at 0.57 mg/l. The EPA's BAT daily maximum effluent limitation for total residual chlorine is 0.20 mg/l.

The 301(g) variance request submitted by SCE is being reviewed by EPA and, as yet, no tentative decision has been made. EPA requires concurrence by the state prior to making a final decision on 301(g) variance request. Total residual chlorine effluent limitations for SONGS Unit 1, with and without a 301(g) variance are prescribed by Discharge Specification B.2. Until or unless EPA grants final written approval of SCE's 301(g) variance request, the BAT limit shall be in effect.

In March 1980, the State Board investigated the initial dilution capacity for the power plant ocean outfalls throughout the State. The State Board assigned an "initial dilution" factor of 10 to the discharger's SONGS Unit 1 outfall. This dilution factor has been utilized in setting the waste discharge limitations which are based on the Ocean Plan objectives.

Effluent limitations for substances listed in Discharge Specification B 2 a. and b. determined through the use of the following equation:

$$C_e = C_o + D_m (C_o - C_s)$$

where:

C_e = the effluent concentration limit,
 C_o = the concentration to be met at the
completion of initial dilution,
 C_s = background seawater concentration,
 D_m = minimum probable initial dilution
expressed as parts seawater per
part wastewater.

VII. Procedures for Final Decision

In accordance with 40 CFR 124.10 the Regional Board must issue a public notice that a draft NPDES permit has been prepared and that the draft permit will be brought before the Regional Board at a public hearing. The public notice must be issued at least 30 days prior to the public hearing. The public notice for preparation of a draft permit and the public notice for a public hearing may be given at the same time and the two notices may be combined.

On December 29, 1987 a combined public notice was issued by the Regional Board regarding the drafting of a tentative NPDES permit for SONGS Unit 1 discharge. The public notice also notifies the public of the Regional Board's intent to hold a public hearing on the draft permit at its February 8, 1988 meeting.

Persons wishing to comment upon or object to the proposed determinations should submit their comments in writing by February 5, 1988 to the California Regional Water Quality Control Board, San Diego Region, 9771 Clairemont Mesa Boulevard, Suite B, San Diego, CA 92124-1331.

All comments or objections received at the above address of the Regional Board by the appropriate date will be retained and considered in the formulation of the final determinations regarding the draft permit. A public hearing will be held on February 8, 1988, at 9:00 a.m. in San Diego, CA. Oral and written statements may be presented at the public hearing, and all comments and objections will be considered by the Regional Board.

For further information regarding the NPDES renewal application draft NPDES permit or public hearing for SONGS Unit 1, contact Mr. William Paznokas in writing at the above address or by telephone at (619)265-5114. Copies of the application, proposed waste discharge requirements, and other documents (other than those which the Executive Officer maintains as confidential) are available at the Regional Board office for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday (excluding holidays).

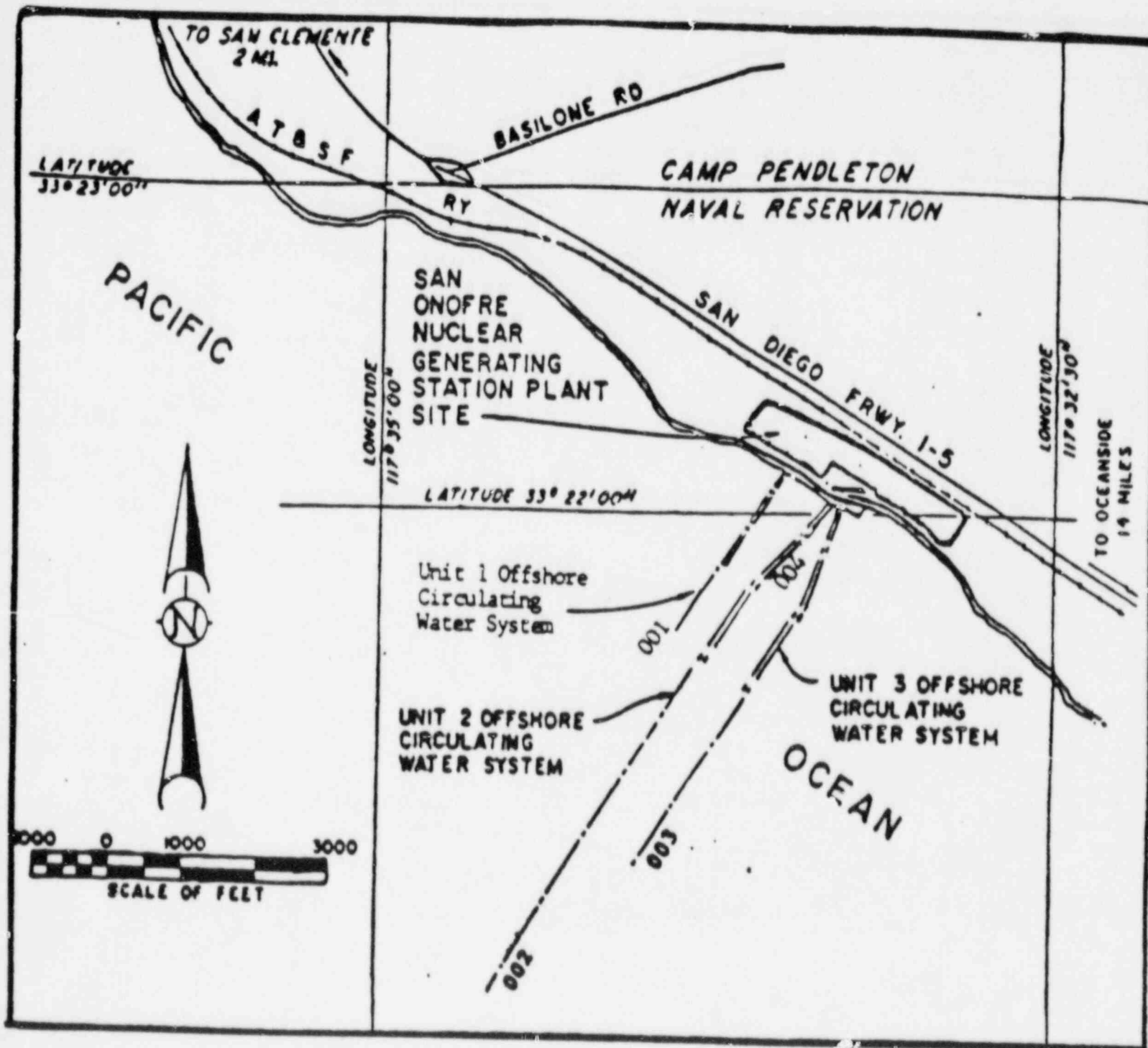
After the close of the public hearing the Regional Board may issue a final permit decision. If the final determinations of the Regional Board, after consideration of all comments and objections, are substantially unchanged from the tentative determinations, the Regional board will forward a copy of the final determinations to the permittee and to any person who has submitted written comments regarding the permit.

A final permit decision will become effective ten (10) days after the notice of the final permit decision, unless a later date is specified in the decision or an appeal to the State Water Resources Control Board (State Board) is filed.

Appeals to the State Board must be filed in writing within thirty (30) days following the Regional Board's final permit decision.

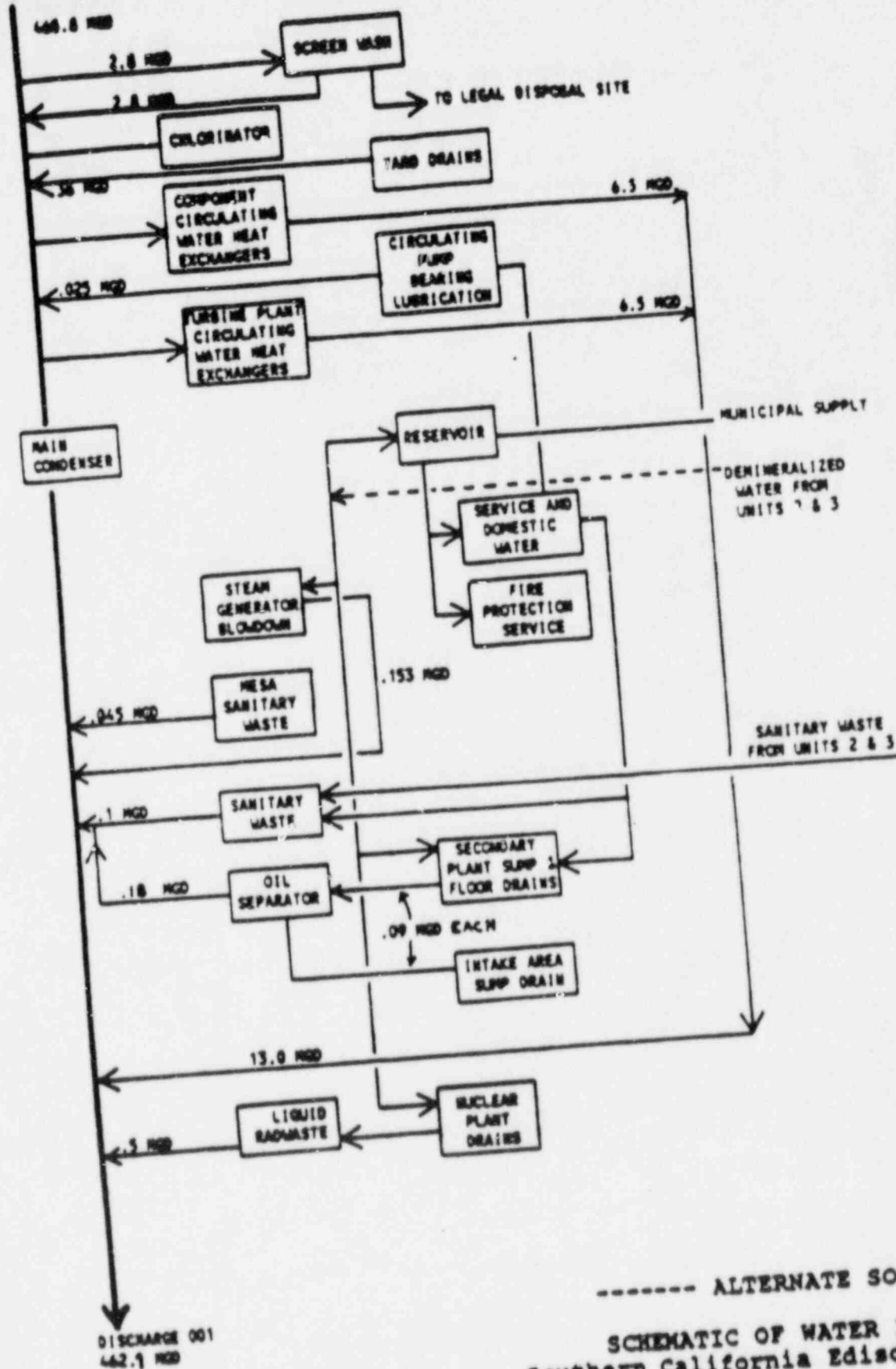
Written appeals to Regional Board actions must be sent to the State Water Resources Control Board, PO Box 100, Sacramento, CA 95801.

ATTACHMENT A



ATTACHMENT B

OCEAN CIRCULATING WATER FLOW



----- ALTERNATE SOURCE

SCHEMATIC OF WATER FLOW
Southern California Edison Company
San Onofre Nuclear Generating Station, Unit 1
San Diego County, CA.
December 1986