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September 13, 1982

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Director, Office of Nuclear Reactor Regulation
Attention: D. M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Amendment No. 108
San Onofre Nuclear Generating Station
Unit 1

Reference: Letter Robert Dietch (SCE) to H. R. Denton (NRC), August 11, 1982,
Amendment No. 108, Docket 50-206

This letter is in regard to further changes that are proposed to proposed Amendment No. 108, which was transmitted to you by the referenced letter. These new changes were discussed with Mr. Walter Paulson of your staff in a telephone conversation on September 2, 1982, and are enclosed herewith as a markup to the proposed text of Amendment No. 108. Two points will clarify the bases for these changes.

- 1) The specific activity limit of $100/\bar{E}$ $\mu\text{Ci/gm}$ is already part of the limiting Conditions for Operation, per Section 3.1.1 of the Technical Specifications. This limit should be added in Table 4.1.2 for completeness.
- 2) The exclusion of tritium from the definition of \bar{E} is suggested for the following reasons: 1) Tritium emits very low energy beta particles and no gammas. It is of less serious concern in site boundary dose analysis than the gamma emitters. 2) Since most of

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the tritium is generated from radioactive transformations within the coolant, inclusion of tritium does not furnish useful information as to the fuel clad integrity. We feel that exclusion of tritium will provide a definition of \bar{E} which is more consistent with the intent of the periodic sampling, and is more sensitive to changes in the fuel integrity. Such a definition is also consistent with current industry practice.

Should you have any questions regarding the above, please contact me.

Very truly yours,



Enclosure

ENCLOSURE

3.1 REACTOR COOLANT SYSTEM

3.1.1 Maximum Reactor Coolant Activity

Applicability: Applies to measured maximum activity in the reactor coolant system at any time.

Objective: To limit the consequences of an accidental release of reactor coolant to the environment.

Specification: A. The specific activity of the reactor coolant shall be limited to:

1. $\leq 1.0 \mu \text{ Ci/gm}$ dose equivalent I-131.
2. $\leq 100/\bar{E} \mu \text{ Ci/gm}$, where \bar{E} is the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MEV) for isotopes, other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

and tritium

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B. Action

1. With the specific activity of the coolant determined to be $>1.0 \mu \text{ Ci/gm}$ but $<60 \mu \text{ Ci/gm}$ dose equivalent I-131, the reactor may be started up or operation may continue for up to 48 hours provided that operation under these circumstances does not exceed 800 hours in any consecutive 12 month period. Should the total operating time at a reactor coolant specific activity $>1.0 \mu \text{ Ci/gram}$ Dose Equivalent I-131 exceed 500 hours in any consecutive six month period, the licensee shall report the number of hours of operation above this limit to the NRC within 30 days.
2. With the specific activity of the reactor coolant determined to be $>1 \mu \text{ Ci/gm}$ dose equivalent I-131 for more than 48 hours during one continuous time interval or $>60 \mu \text{ Ci/gm}$

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TABLE 4.1.2

MINIMUM EQUIPMENT CHECK AND SAMPLING FREQUENCY

	Check	Frequency
1a. Reactor Coolant	1. Gross Activity Determination	At least once per 72 hours. Required during Modes 1, 2, 3, 4, 5 and 6.
	2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days. Required only during Mode 1.
	3. Spectroscopic for \bar{E} (1) Determination	1 per 6 months(2). Required only during Mode 1.
	4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) 1 per 4 hours, (3) whenever the DOSE EQUIVALENT I-131 <i>specific activity</i> exceeds $1.0 \mu\text{Ci}/\text{gram}$ <i>DOSE EQUIVALENT I-131 or $100/\bar{E}$ $\mu\text{Ci}/\text{gram}$.</i> b) 1 sample between 2 and 6 hours following a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.
	5. Boron Concentration	2/week
1b. Secondary Coolant	1. Gross Activity Determination	At least once per 72 hours. Required only during Modes 1, 2, 3 and 4.
	2. Isotopic Analysis for DOSE EQUIVALENT I-131 concentration	a) 1 per 31 days, whenever the secondary coolant gross activity determination indicates iodine concentrations greater than 10% of the allowable limit. Required only during Modes 1, 2, 3 and 4. b) 1 per 6 months, whenever the secondary coolant gross activity determination indicates iodine concentrations below 10% of the allowable limit. Required only during Modes 1, 2, 3 and 4.

in Section 3.1.1.A.2.

- (1) \bar{E} is defined as ~~the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total noniodine activity in the coolant.~~
- (2) Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.
- (3) Until the specific activity of the reactor coolant system is restored within its limits.