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Director, Office of Nuclear Reactor Regulation
Attention: Mr. H. R. Denton
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Amendment No. 112
San Onofre Nuclear Generating Station
Unit 1

Amendment No. 112, submitted by letter dated July 20, 1983 and later revised and resubmitted by letter dated September 7, 1983, consists of Proposed Change No. 120 to the Technical Specifications incorporated into Provisional Operating License No. DPR-13 as Appendices A and B. Subsequent to this resubmittal, discussions with NRC reviewers have resulted in the need to modify the Proposed Change in order to resolve concerns and provide clarification. These modifications are discussed below.

The first area of concern involved an inconsistency in the Basis for Technical Specification 3.8. This inconsistency was in the first paragraph of the basis which stated that maintaining the reactor subcritical by greater than 5% $\Delta k/k$ with all rods inserted will be sufficient to maintain the reactor subcritical even if no control rods were inserted. Assuming the most conservative case (e.g., reactor subcritical by 5% $\Delta k/k$ with all rods inserted), removal of the control rods could provide enough positive reactivity for the reactor to reach criticality. Therefore, this statement is not completely accurate and has been modified as shown in the attached enclosure. A reference to the Final Safety Analysis was provided in the original basis and has been removed accordingly. Change bars are used to indicate the areas where information has been changed or deleted.

The second area of concern involved the initial assumptions used in the boron dilution transient analysis for the cold shutdown mode of operation. Under certain initial conditions for the cold shutdown analysis, the results could be as conservative as the results of the refueling mode analysis. However, under no conditions during normal cold shutdown mode of operation could circumstances dictate more conservative results than the results of the refueling mode analysis. Therefore, the results of the refueling mode analysis are at least as conservative as the results of the cold shutdown analysis. For this reason, your evaluation of the Proposed Change Safety Analysis should be limited to the refueling mode analysis and results.

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The last area of concern involved the capability of one primary plant makeup pump to inject water into the RCS. Information relative to the amount of water injected by one pump during a boron dilution event is not readily accessible. However, a dilution event involving one primary plant makeup pump would not be the worst case accident. More conservative accident scenarios were analyzed in the Proposed Change Safety Analysis (i.e., both primary plant makeup pumps running, one charging pump running, and both charging pumps running), and were concluded to have acceptable results. For this reason, your evaluation of the Proposed Change Safety Analysis should be limited to these more conservative accident scenarios and results.

If you have any questions or desire additional information in this regard, please contact me.

Very truly yours,

M. D. Medford

Enclosures

cc: J. O. Ward, Chief, Radiological Health Branch, State Department of Health Services

ENCLOSURE

"Basis: During refueling the reactor refueling cavity is filled with approximately 240,000 gallons of borated water whose concentration is sufficient to maintain the reactor subcritical by greater than 5% ΔK/K with all rods inserted. Operation of one method of decay heat removal is provided to assure continuous mixing flow of refueling water through the reactor vessel during the refueling period.(1) Borated water injection capability is provided as per Specification 3.2 Part A in the unlikely event there is any need during the refueling period."

In addition to the above safeguards, interlocks are utilized during refueling to insure safe handling.(2) These include:

(1) An interlock on the lifting hoist to prevent lifting of more than one fuel assembly at any one time.

(2) The spent fuel transfer mechanism can accommodate only one fuel assembly at a time.

The restriction on movement of loads in excess of 1,500 pounds (i.e., the nominal weight of a fuel assembly, RCC, and associated handling tool) over fuel assemblies in the storage pool ensures that in the event this load is dropped 1) the activity release will be limited to that contained in a single fuel assembly, and 2) any possible distoration of fuel in the storage racks will not result in a critical array. This assumption is consistent with activity release assumed in te accident analysis.

Requiring a minimum water elevation of 40'3" in the refueling pool, and similarly in the spent fuel storage pool, ensures that (1) at least 23 feet of water would be available to remove 99% of the iodine gap activity assumed to be released in the event of a dropped and damaged fuel assembly, and (2) there will be at least twelve feet of water above the top of the fuel rods of a withdrawn fuel assembly so as to limit dose rates at the top of the water in accordance with Section 4.2.6 of the facility FSA. Reference elevation is sea level, mean lower low water.

Finally, detailed written procedures are provided, and are carried out under close supervision by licensed personnel.

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel assures that sufficient time has elapsed to allow the radioactive decay of short-lived fission products.

References: (1) Supplement No. 1 to Final Engineering Report and Safety Analysis, Section 5, Question 8 and 9.

(2) Final Safety Analysis, Paragraph 2.9.

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