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

Gentlemen:

Subject: Docket No. 50-206
Overpressure Mitigation System
San Onofre Nuclear Generating Station
Unit 1

The purpose of this letter is to advise you of additional administrative controls which will be implemented prior to reducing RCS temperature below 360°F to ensure that the Overpressure Mitigating System (OMS) will continue to perform its required functions. The OMS calculations upon which these administrative controls are based are presently undergoing independent review. We project this review will be completed within 10 days. If the independent review results in additional changes you will be promptly advised.

Our letter of April 20, 1990 identified several OMS issues such as instrument uncertainties, PORV flow capacity, and event specific single failure scenarios which required further evaluation. We have completed these evaluations and have concluded that additional administrative controls are required to provide overpressure protection for low temperature operation of San Onofre Unit 1. On May 25, 1990 we reported the need for additional administrative controls to the Commission in a non-emergency one hour report.

Background

As stated above, we have completed our OMS evaluations including consideration of instrument uncertainties, PORV flow capacity, and single failure effects and have arrived at the following conclusions:

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- o Instrumentation

The uncertainty associated with the pressurizer pressure transmitters (PT 425 X1 and X2), which are an integral part of the OMS, were evaluated. These instruments, normally calibrated to a 3000 psig range during power operation, must be calibrated to a nominal range of 1000 psig for OMS service.

- o PORV Flow Assumptions

The PORV flow capacity was evaluated, and we have concluded that the most limiting mass addition transient, taking into account the most severe single failure scenarios, would exceed the flow capacity of one PORV.

- o Single Failure Evaluation

Review of event specific single failure effects associated with OMS identified the following two bounding single failure scenarios which could adversely impact the performance of OMS:

- 1) The first scenario consists of an initiating event which results in loss of instrument air, concurrent with a single failure of the common PORV backup nitrogen supply.
- 2) The second scenario consists of an initiating event which disables Vital Bus No. 1 concurrent with a single failure of Vital Bus No. 2.

Both of these bounding scenarios result in loss of both PORVs, thereby precluding an OMS relief path.

Administrative Controls

In order to ensure the OMS will be operable in the event of a credible overpressurization event including the above discussed single failure scenarios, additional administrative controls are being implemented to augment those currently in effect.

CURRENT ADMINISTRATIVE CONTROLS

The following OMS administrative controls are currently implemented:

- o PORV actuation setting for OMS is 420 psig.

- o OMS is operable whenever RCS temperature is below 360°F regardless of pressurizer level.
- o OMS is operable whenever RHR is aligned to the RCS regardless of pressurizer level.
- o A maximum of one charging pump is operable whenever RCS pressure is less than 400 psig regardless of pressurizer level.

ADDITIONAL ADMINISTRATIVE CONTROLS

- o A maximum of one charging pump is operable whenever RCS temperature is below 360°F, which is the OMS enable temperature. This modifies an existing administrative control to refer to OMS enable temperature rather than RCS pressure.

The following administrative controls will be in effect from the time OMS is required to be enabled until the RCS is depressurized and an adequate vent established.

- o RHR relief valve (RV-206) shall be operable and connected to the RCS. This provides additional overpressure protection capability for those events where one or both PORVs become inoperable.
- o Recalibrate PT-425 X1 and X2 to a nominal range of 0 - 1000 psig from their initial range of 0 - 3000 psig prior to enabling OMS. This minimizes instrument uncertainties and ensures an accurate PORV actuation setting.
- o Throttle and lock manual globe valve VCC-307 if charging pump G-8B is in service, or VCC-308 if charging pump G-8A is in service to limit charging flow to less than 90 gpm (at an RCS pressure of 500 \pm 25 psig). This reduces the most limiting mass addition transient to a flow rate less than the capacity of the combination of one PORV and RV-206.
- o If the long term recirculation flow control valves FCV 1115 D, E, and F are placed in manual mode, maintain them in their normally closed positions. In response to a plant event requiring use of the long term recirculation path, these valves should be aligned as required. This administrative control limits the bounding mass addition transient to a flow rate less

than the capacity of the combination of one PORV and RV-206.

- o With no reactor coolant pumps (RCP) in operation but at least one RCP operable, the following conditions must be satisfied:
 - 1) If pressurizer level is <50%, maintain steam generator temperature less than 80°F above RCS temperature.
 - 2) If pressurizer level is >50% and RCS temperature is <180°F, maintain steam generator temperature less than 34°F above RCS temperature.
 - 3) If pressurizer level is >50% and RCS temperature is >180°F, maintain RCS temperature greater than or equal to the steam generator temperature.

The above temperatures and levels include instrument errors. This administrative control reduces the energy available for the most limiting energy addition transient to an amount which can be accommodated by the combination of one PORV and RV-206. If all RCP breakers are racked out, the above restrictions do not apply.

- o Vital Buses 1 and 2 are aligned to their respective inverters, with their auto-transfer switches operable, and Motor Control Center 2 is energized and aligned via MTS-7 for Vital Bus 1 and 2 backup power. This prevents a common-mode loss of the two OMS/PORV channels due to a single active failure.
- o At least one air compressor powered from Train A is capable of automatically providing instrument air to the PORVs. This prevents a common-mode loss of the instrument air and backup nitrogen motive sources for the PORVs due to a single active failure.

These additional administrative controls together with the existing administrative controls provide satisfactory overpressure protection to the RCS and the RHR system during the low temperature operation of the plant. The reduction of maximum charging flow and crediting RV-206 ensure that OMS relief capacity is greater than the flow produced by the most limiting mass or energy addition transients. If these administrative controls are not satisfied the OMS will be declared inoperable and the existing 8 hour OMS Technical Specification action statement entered.

In order to permanently credit the RHR relief valve (RV 206) as part of OMS, RV-206 will be added to the ASME Section XI Inservice Testing Program, and a spare relief valve will be tested to verify the conservatively calculated flow capacity of RV 206. This test is scheduled in June 1990. If the results of the testing indicate a relief capacity for RV-206 different from the calculated value, the administrative controls will be re-assessed and changes will be made if necessary.

An amendment application revising all OMS related technical specifications will be submitted for NRC review prior to restart from the cycle 11 outage.

If you have any question or desire further information, please let me know.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. B. Martin".

cc: J. B. Martin, Regional Administrator, NRC Region V
C. Caldwell, NRC Senior Resident Inspector, San Onofre Units
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