

October 29, 1998

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

Gentlemen:

Subject: **Docket Nos. 50-361 and 50-362
Additional Information for Amendment Application Nos. 178 and 164
Turbine Missile Protection
San Onofre Nuclear Generating Station Units 2 and 3**

- References: 1) Letter dated June 12, 1998, from D. E. Nunn (SCE) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, Amendment Applications 178 and 164, Turbine Missile Protection, San Onofre Nuclear Generating Station, Units 2 and 3.
- 2) Letter dated September 19, 1998, from J. L. Rainsberry (SCE) to Document Control Desk (NRC), Subject: Docket Nos. 50-361 and 50-362, Response to Request for Additional Information Regarding Amendment Application Nos. 178 and 164, Turbine Missile Protection, San Onofre Nuclear Generating Station, Units 2 and 3.

This letter provides replacement input for the No Significant Hazards Consideration and additional information in support of Amendment Applications 178 and 164, Turbine Missile Protection, for San Onofre Units 2 and 3, submitted by Reference 1. Reference 1 proposed a change to the methodology for evaluating the probability of damage to equipment due to turbine missiles. This proposed change is in support of the turbine rotor replacement project that is scheduled for the upcoming Units 2 and 3 Cycle 10 refueling outages.

Provided in Enclosure 1 to this letter is replacement input for the No Significant Hazards Consideration in Reference 1. Enclosure 2 of this letter contains a non-proprietary version of the San Onofre Retrofit Missile Analysis Report which was originally submitted as Enclosure 2 of Reference 1. Enclosure 3 contains the original signed copy of an affidavit from Alstom

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requesting that the proprietary information from Enclosure 2 of Reference 1 and from Enclosure 3 of the additional information letter dated September 19, 1998 (Reference 2) be withheld from public disclosure. Enclosure 4 contains a copyright release for information submitted as Enclosure 3 to Reference 2.

As previously requested, approval of these Amendment Applications is requested by December 1, 1998, to support planning efforts for the Unit 2 Cycle 10 refueling outage.

If you have any additional questions on this subject, please feel free to contact me or Mr. J. Rainsberry at (949) 368-7420.

Sincerely,



Enclosures

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
J. W. Clifford, NRC Project Manager, San Onofre Units 2 and 3
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3

ENCLOSURE 1

REVISED NO SIGNIFICANT HAZARDS CONSIDERATION

AMENDMENT APPLICATIONS 178 AND 164
FOR SAN ONOFRE UNITS 2 AND 3

NO SIGNIFICANT HAZARDS CONSIDERATION:

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in a margin of safety. A discussion of these standards as they relate to this amendment request follows:

- (1) Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

This change is in support of a planned replacement of the existing shrunk-on disc turbines with welded-rotor turbines for Units 2 and 3. The new design is believed to be superior to the existing design in terms of the probability of generation of missiles. However, because a new missile strike-and-damage analysis has not been performed, and due to differences in the method of calculation of missile generation probability--for instance, inclusion of stress-corrosion cracking as a potential failure mechanism--it is difficult to quantify the change in probability of damage to safety-related equipment due to turbine missile strikes.

However, in order to characterize the effect of the proposed change, a comparison can be made using the current turbine missile methodology for the current design and the proposed methodology for the proposed design. Using the methodology currently approved for San Onofre Units 2 and 3 for the current shrunk-on disc rotor design, the overall probability of damage to safety-related systems, structures, and components is 0.9×10^{-7} .

Using the methodology proposed by this change for the new welded rotor design, the overall probability of damage to safety-related systems, structures, and components is calculated to be 1.7×10^{-8} per year.

Ultimately, the proposed change is acceptable because the overall probability of damage to safety-related systems, structures, and components will be less than or equal to the acceptance criteria of 1×10^{-7} per year stated in Regulatory Guide (RG) 1.115. The difference between the calculated value of 1.7×10^{-8} and the

acceptance criteria of 1×10^{-7} is considered margin that is available to account for any future changes to the turbine missile generation analysis.

Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

Damage to safety-related systems, structures, and components from turbine missiles is currently evaluated in Section 3.5.1.3 of the Updated Final Safety Analysis Report (UFSAR). This proposed change merely provides an alternate method to demonstrate that the overall probability of damage to safety-related systems, structures, and components from turbine missiles will remain less than or equal to the acceptance criterion of 1×10^{-7} per year, which is the current acceptance criterion.

Therefore, this proposed change will not create a new or different kind of accident from any accident that has been previously evaluated.

- (3) Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

Response: No.

There is no change to the method of operation of the turbine for Units 2 and 3 as a result of this change. Turbine overspeed protection is unaffected, and provides assurance that the turbine will operate within design limits.

Therefore, there will be no significant reduction in a margin of safety as a result of this change.

ENVIRONMENTAL CONSIDERATION

Southern California Edison has determined that the proposed amendment involves no changes in the amount or type of effluent that may be released offsite, and results in no increase in individual or cumulative occupational radiation exposure. As described above, the proposed TS amendment involves no significant

hazards consideration and, as such, meets the eligibility criteria for categorical exclusion set forth in 10CFR51.22(c)(9).

10/28/88

ENCLOSURE 2

SAN ONOFRE RETROFIT MISSILE ANALYSIS REPORT

NON-PROPRIETARY VERSION