

October 6, 2006

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

**Subject: Docket Nos. 50-361, 50-362
Response to Request for Additional Information on
Proposed Change Number 555 – Alternative Source Term
San Onofre Nuclear Generating Station, Units 2 and 3**

References: 1) Letter from D. E. Nunn (SCE) to Document Control Desk dated December 27, 2004, Subject: "San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362, Proposed Change Number (PCN) 555, Alternative Source Term"

Dear Sir or Madam:

On August 22, 2006, Southern California Edison (SCE) received two questions from the NRC staff regarding SCE's submittal dated December 27, 2004. The reference is a License Amendment Request, designated by SCE as PCN-555, that requests adoption of an Alternative Source Term. Enclosed is SCE's response to the two questions.

If you have any questions or require additional information, please contact me.

Sincerely,



Enclosure:

cc: B. S. Mallett, Regional Administrator, NRC Region IV
N. Kalyanam, NRC Project Manager, San Onofre Units 2 and 3
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 and 3

ENCLOSURE

Response to Questions Regarding PCN-555

Alternative Source Term

Question 1:

In response to Generic Letter 2003-01, SCE completed control room inleakage testing. As stated in SCE's submittal dated December 27, 2004, "Since testing was completed, [San Onofre Nuclear Generating Station] SONGS Units 2 and 3 have continued to operate based on operability assessments that rely on [Alternative Source Term] AST methodology." The NRC requested clarification on who performed the operability assessments and how the operability assessments were performed.

Response:

The operability assessments were performed by Southern California Edison. The operability assessments were performed consistent with a letter from Eric J. Leeds, (NRC) to James W. Davis (Nuclear Energy Institute), dated January 30, 2004. Specifically, the operability assessments were performed using AST methodology and the current licensing basis acceptance criteria.

Question 2:

In support of the AST license amendment request, SCE analyzed the Loss of Coolant Accident (LOCA), Fuel Handling Accidents (FHAs) in the Fuel Handling Building and Inside Containment, and pre-trip Steam Line Break Outside Containment (SLB-OC) accident. SCE stated that the current licensing basis analyses for these events challenge the offsite dose acceptance criteria and the pre-trip SLB-OC had not been previously evaluated for control room dose consequences. The NRC requested the basis for determining that the remaining design basis accidents do not challenge control room dose consequences.

Response:

The pre-trip SLB-OC design basis accident analysis was included in the license amendment request as the limiting non-LOCA event. The determination of the limiting non-LOCA event was based on a combination of factors, the primary factor being that the current licensing basis pre-trip SLB-OC event had the maximum 2-hour Exclusion Area Boundary (EAB) thyroid dose of 222.2 rem. In addition, the current licensing basis pre-trip SLB-OC event had the highest equivalent EAB Total Effective Dose Equivalent (TEDE) dose when calculated using the 3 percent thyroid dose plus whole body dose equation presented in Regulatory Guide 1.183 Footnote 7. The equivalent current licensing basis EAB TEDE doses are approximately 8.2 rem TEDE for the pre-trip SLB-OC event, 5.2 rem TEDE for the Control Element Assembly (CEA) Ejection event, 3.1 rem TEDE for the Increased Main Steam Flow with single failure (IMSF+SF) event, and 0.4 rem TEDE for the Steam Generator Tube Rupture (SGTR) event with a pre-existing iodine spike. The current licensing basis SGTR event doses are comparatively low because the SONGS Units 2 and 3 Core Protection Calculators (CPCs) are set to ensure that the SGTR event does not fail fuel.

The determination that an AST evaluated pre-trip SLB-OC event would be the limiting non-LOCA event for control room habitability (CRH) is supported by a review of the event-independent and event-dependent input parameters that are affected by AST modeling.

The primary event-independent parameters that are affected by AST modeling are the core inventory, the ARCON96 atmospheric dispersion (X/Q) factors between the secondary side Main Steam Safety Valve (MSSV) and Atmospheric Dump Valve (ADV) release points to the Control Room (CR), and consideration of increased CR unfiltered air leakage. The changes to these event-independent parameters (relative to the current licensing basis values) would have a similar effect for all evaluated events. As an example, a reduction in the MSSV or ADV to CR release path X/Q factors would have a similar dose impact on all events modeling this parameter. Likewise, an increase in the control room unfiltered air leakage rate would have a similar dose impact on all events modeling this parameter. Therefore, changes in the event-independent parameters will not cause a less limiting event to become the limiting event.

The primary event-dependent parameters are fuel failure and Steam Generator (SG) iodine partitioning and flashing due to SG tube uncover, which are unaffected by AST modeling. With respect to SG tube uncover, the current licensing basis pre-trip SLB-OC event is characterized by an extended duration of tube uncover (with the corresponding increased iodine release) due to its rapid mass release via the steam piping. It is primarily for this reason that the current licensing basis pre-trip SLB-OC event has a higher thyroid dose and a higher equivalent TEDE dose.