

From: Wang, Alan
Sent: Tuesday, December 22, 2009 9:20 AM
To: 'BICE, DAVID B'
Cc: Burkhardt, Janet; Lent, Susan; Kalyanam, Kaly
Subject: Arkansas Nuclear One, Unit 1 Request for Additional Information Regarding TSTF-490-A

Dave,

By letter dated March 13, 2008, (Agencywide Documents Access & Management System (ADAMS) ML080850906), Entergy Operations, Inc. (the licensee), submitted a license amendment request regarding proposed changes to the technical specifications (TSs) for Arkansas Nuclear One, Unit 1 (ANO-1). The proposed amendment would replace the current ANO-1 TS limit on Reactor Coolant System (RCS) gross specific activity with a new limit on RCS noble gas specific activity. The noble gas specific activity limit would be based on a new dose equivalent Xenon-133 (DEX) definition that would replace the current E Bar average disintegration energy definition. In addition, the current dose equivalent Iodine-131 definition would be revised. The amendment request is consistent with TS Task Force Traveler TSTF-490-A.

The US Nuclear Regulatory Commission (NRC) staff has determined that the following additional information is needed to complete its review of the subject license amendment request for ANO-1. This request was discussed with David Bice of your staff on December 16, 2009, and it was agreed that a response would be provided within 30 days of receipt of this email. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1445 or via e-mail at Alan.Wang@nrc.gov. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-1445 or via e-mail at Alan.Wang@nrc.gov.

2.0 REQUEST FOR ADDITIONAL INFORMATION

1.) The application dated March 13, 2008, refers to an NRC staff Safety Evaluation(SE), described as Reference 1, dated September 27, 2006 (ADAMS Accession No. ML062700612). This document is not publicly available. The NRC acknowledges that reference to ADAMS Accession No. ML062700612 was mistakenly contained in the notice of availability of model application for this TS improvement that was published in the Federal Register (72 FR 12217). However, since the submittal states that the methodology described in this NRC staff's SE was applied to develop the proposed TS changes, it is not clear how this was accomplished. In order to make the application complete, the NRC staff requests that Entergy supplement the application to provide a corrected reference for the methodology used to develop this proposed TS change as well as a correct reference to the public version of the NRC's SE for this Technical Specification Task Force Traveler (TSTF-490).

2.) Consistent with the SE for TSTF-490, please confirm that the site-specific limits for both dose equivalent iodine (DEI) and DEX, and the dose conversion factors (DCFs) used for the determination of DEI and DEX surveillances, are consistent with the current design bases radiological dose consequence analyses (for

example, steam generator tube rupture and main steam line break). For DEX, the licensee states a reactor coolant DEX specific activity of $\leq 2200 \mu\text{Ci/gm}$. Please provide the information necessary (dose conversion factors and RCS radioisotopic concentrations) for the NRC to verify the proposed value in the limiting condition for operation (LCO).

3.) In the subject license amendment request, the licensee proposed TS changes to revise LCO 3.4.12, "RCS Specific Activity," APPLICABILITY requirements to specify that the LCO is applicable in MODES 1, 2, 3, and 4. In accordance with this proposal, the licensee also proposed to add the NOTE that states, "Only required to be performed in MODE 1," to the surveillance requirements (SR) of the TS, thus removing the applicability of the SR to other MODES.

The proposed change revises the conditions for sampling, and may exclude sampling during the plant conditions where LCO 3.4.12 may be exceeded. After transient conditions (i.e. reactor trip, plant depressurization, shutdown or startup) that end in MODES 2, 3, or 4, the SR is not required to be performed. Isotopic spiking and fuel failures are more likely during transient conditions than during steady state plant operations.

Because LCO 3.4.12 could potentially be exceeded after plant transient or power changes, please justify why sampling is no longer needed in the plant MODES that are proposed to be eliminated and justify how the LCO 3.4.12 remains consistent with the design bases analysis from which the LCO limits are derived (i.e. main steamline break, steam generator tube rupture, etc.). Furthermore, please justify why there is an apparent disparity between the modes of applicability (MODES 1, 2, 3, and 4) and the limited mode (MODE 1) under which the surveillance is required.