From: Kalyanam, Kaly
Sent: Thursday, May 10, 2012 12:14 PM
To: BICE, DAVID B
Cc: Lent, Susan; Burkhardt, Janet
Subject: Request for Additional Information - TAC Nos. ME7661 and ME7662

Plant: Arkansas Nuclear One – Units 1 and 2
Docket No.: 50-313 and 50-368
Subject: Proposed Emergency Action Levels Using NEI 99-01 Revision 5 Scheme
TAC Nos.: ME7661 and ME7662
SUNSI Review Done: Yes. Publicly Available, Normal Release, Non-sensitive,
From: N. Kalyanam
To: D. Bice

Dave,

By letter dated December 1, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML113350317), and pursuant to 10 CFR 50, Appendix E, Section IV.B(1), Entergy Operations Inc. (Entergy, the licensee) requested NRC review and approval of the Arkansas Nuclear One (ANO) proposed revision to the Emergency Plan (EP) Emergency Action Levels (EALs). The proposed changes involve revisions to ANO's current EP EAL scheme which is based on NUREG 0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

The NRC staff has reviewed the submittal and the significant hazards consideration involved with the proposed amendment by and has generated the request for additional information (RAI) below. Please provide your response within 60 days from the receipt of this RAI.

In order to do its review, the staff needs the following additional information:

Thanks

Kaly

REQUEST FOR ADDITIONAL INFORMATION

ARKANSAS NUCLEAR ONE, UNITS 1 AND 2

EMERGENCY ACTION LEVEL SCHEME CHANGE

DOCKET NOS. 50-313 AND 50-368

By letter dated December 1, 2011, Entergy Operations, Inc., (Entergy), (Agencywide Documents Access and Management System (ADAMS) Accession No. ML113350317 [package]) requested prior approval to upgrade the emergency action level (EAL) scheme for Arkansas Nuclear One, Units 1 and 2 (ANO-1 and 2).

In the letter, the licensee stated that its current ANO EAL scheme is based on the generic development guidance from NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980 (ADAMS Accession No. ML040420012). Numerous enhancements and clarification efforts have subsequently been made to the generic EAL development guidance resulting in the most latest document, Nuclear Energy Institute (NEI) 99-01, Revision 5, “Methodology for Development of Emergency Action Levels,” (ADAMS Accession No. ML080450149), which was found to be acceptable for use as generic EAL development guidance by the Nuclear Regulatory Commission (NRC) staff by letter dated February 22, 2008 (ADAMS Accession No. ML080430535).

The proposed EAL scheme was developed using the generic development guidance from NEI 99-01, Revision 5, with numerous differences and deviations based upon design criteria applicable to the site. In addition, the proposed EAL scheme reflects various licensee preferences for terminology, format, and other licensee-desired modifications to the generic EAL scheme development guidance provided in NEI 99-01, Revision 5.

Attached are the requests for additional information (RAIs) to facilitate the technical review being conducted by the Operating Reactor Licensing and Outreach Branch staff. In a telephone call between the licensee and the NRC staff, the licensee committed to provide a response to the RAIs within 60 days from the receipt of this RAI. Please note that the staff assumes the licensee has verified that all values and setpoints can be read on the stated instrumentation, i.e., all values are within the calibrated range (0-100% of scale) of the stated instrumentation.

1. EAL Technical Basis Document – Front Section:

    a. The endorsed EAL scheme development guidance document contains information the staff considers to be necessary for EAL decision makers to understand consistently. Please provide justification for the omission of the following sections from NEI 99-01 Revision 5 into your site specific EAL Basis Document or revise accordingly to include:

i. Section 3.2 – Definitions of emergency classification level, initiating condition, and emergency action level.

ii. Section 3.7 – Definitions of unusual event, alert, site area emergency, and general emergency.

iii. Sections 3.9, 3.10, 3.11, 3.12, and 3.13 – All of the information provided.

iv. Section 5.3 – Last paragraph.

2. Definitions – Please provide justification why the site-specific definition of "CONTAINMENT CLOSURE" was not included or revise accordingly.

3. EALs AA1, AS1, AG1: Please explain how the limits from the table were developed. If this is the top of the calibrated scale, please explain how this will be differentiated from failed instrumentation.

4. EAL CG1: Please revise the EAL accordingly to reflect that the inability to monitor reactor vessel level for ≥ 30 minutes with core uncovery indicated, by any of the bulleted items you provided, is what the EAL is intended to be. This is a known inconsistency with the generic EAL development guidance for CG1 (NEI) and CS1 (NEI).

5. EAL E-HU1: Please clarify, via adding a note or other means, that security events are bounded by the Hazard EALs.

6. FISSION BARRIER MATRIX – CONTAINMENT BARRIER: Please explain, in more detail, why there is no threshold for a "Ruptured steam generator is also faulted outside containment."

7. EAL HU6, HA6: Please explain whether the 0.01g acceleration alarm is available to Operators in the Control Room.

8. EAL HA3: Please develop a list of areas applicable to this EAL. The intent of this EAL is to declare an Alert when access to an area is impeded due to a gaseous event. The areas of concern are limited to those that must be entered for safe operation, safe shutdown, or safe cooldown. If access to the area is unnecessary to operate said equipment, then the table does not need the area listed. Note that this EAL is to be declared when an area, already pre-identified as an area where access is required, is subject to a gaseous event that impedes access. Note that this EAL would be declared regardless of whether access was required at the present time or not. Also note that this may entail a column on the table for operating mode applicability. In addition, please revise the wording in the initiating condition and EAL from "prohibited" to "impeded" as this error is to be corrected with the next revision of the generic EAL scheme development guidance.

9. EAL HA6: Please explain how the list of areas can be susceptible to the specific hazards. Please provide a hazard specific list of applicable areas for these EALs (which may need to be operating mode dependent), or provide justification that supports these areas being considered for the particular hazard.

10. EAL SU6, SA6, SS6: Please provide a site-specific list of annunciators and indicators, or provide more detail on the specific systems being monitored.

11. EAL SA3: Please explain how there can be two required thresholds with competing reactor power values (i.e., SA3.1.a requires reactor power ≥ 5% while SA3.1.b requires reactor power < 5%). Please provide further justification for differing reactor power levels or revise accordingly to remove the reactor power value from SA3.1.a orSA3.1.b.

12. EAL SG1: Please explain why the nomenclature used to depict the safety busses of concern (vital 4.16 KV) changed for this EAL to "safety busses" or revise accordingly.