From: Thomas Alexion
To: ENGLAND, LESLEY A
Date: 4/14/04 3:48PM
Subject: INITIAL QUESTION/COMMENTS - ANO EAL SUBMITTAL

Les,

See the attached.

Tom

- dockets 50-313
& 50-368

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Subject:	INITIAL QUESTION/COMMENTS - ANO EAL SUBMITTAL
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"QUESTIONS / COMMENTS FOR DISCUSSION BASED ON INITIAL STAFF REVIEW"

"DRAFT" REQUESTS FOR ADDITIONAL INFORMATION (RAIs) REGARDING ADOPTION OF NEI 99-01, REVISION 4 FOR ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 DOCKET NUMBERS 50-313 AND 50-368

By letter #OCAN020407, dated February 27, 2004 (ML040630161), Entergy Operations, Inc. submitted proposed changes to the Arkansas Nuclear One Emergency Plan, Tables D-1 and D-2, and proposed changes to emergency action levels (EALs) in EPIP 1903.010. This submittal revises the ANO EALs for Units 1 and 2 from the current NUREG-0654, Appendix 1 basis to Revision 4 to NEI 99-01.

The NRC staff has the following questions related to this submittal:

General Comments:

1. 10 CFR 50, Appendix E -- Section IV.B (Assessment Actions) states, "...emergency action levels shall be discussed and agreed on by the applicant *[licensee]* and State and local governmental authorities, and approved by NRC." Please provide documentation indicating that these discussion have occurred and that there is agreement with State and local governmental authorities on the implementation of the proposed EAL changes based on NEI 99-01, Revision 4.

2. Clarify "deviation" example provided in Attachment 4 (ANO NEI EAL Deviations and Differences) to identify any deletions to NEI 99-01 Initiating Condition (IC) statements or example emergency action levels (EALs) criterion, or significant changes (other than nomenclature, simple terminology or system names, etc.) that may impact intent or thresholds established or guidance provided in NEI 99-01. In addition, evaluate changes proposed to NEI 99-01 guidance in submittal, reclassify appropriately as a deviations or differences and provide specific technical justification for any deviations and differences, as appropriate. (Specific examples listed under "Specific Comments".)

3. Discuss application of differences in design between systems, setpoints, instrumentation, etc. on ANO-1 (Babcock & Wilcox) and ANO-2 (Combustion Engineering), as they appropriately apply to EALs. Has any effort been made to coordinate EALs revision for ANO-2 with Entergy's Waterford 3 for consistency in application within Entergy and among Combustion Engineering designs?

4. Provide rational for the inconsistent use of unit nomenclature "ANO-1 / ANO-2" versus "Unit 1 / Unit 2", or revise accordingly to ensure consistency in terminology.

5. Provide a simplified drawing or schematic illustrating unit auxiliary and start-up transformers and describe inter-relationship regarding conditions needed for a loss of off-site power and the ability of emergency diesel generators to supply on essential busses.

6. Describe whether temporary RCS water level instrumentation is installed in Modes 5 and 6, and if installed, whether ANO-1 and ANO-2 instrumentation capabilities in Modes 5 and 6 would monitor water level at or below the bottom ID of the RCS loop and at the top of active fuel (TOAF) for either unit.

7. Provide copy of calculations used to determine effluent monitor thresholds under **AG1, AS1, AA1 and AU1**, and specify any deviations from guidance in Appendix A to NEI 99-01 (Basis for Radiological Effluent Initiating Conditions).

Specific Comments:

1. **Section 6.2.1** (Downgrading the Emergency Classification) appears to allow for downgrading regardless of event class severity. Describe how the recommendation in NEI 99-01, Section 3.11 (Emergency Class Downgrading) is being addressed, which states in part that "[a] combination approach involving recovery from General Emergencies and some Site Area Emergencies and termination from NOUEs, Alerts and certain Site Area Emergencies causing no long-term plant damage..."

2. **AU1-EAL 2** (corresponds to NEI 99-01, AU1-EAL 2)
Licensee inserted the statement "...during a discharge", which is not addressed under NEI 99-01, AU1 - Example EAL 2. However, statement was not used in licensee AA1, EAL 2. Address insertion of statement as either deviation or difference under Attachment 4, and provide justification for change and inconsistency with AA1, EAL 2.

3. **AU1 (and AA1)-EAL 4** (corresponds to NEI 99-01, AU1-EAL 5 / AA1-EAL 5)
Licensee modified NEI 99-01, AU1 / AA1 - Example EAL 5, under AU1 (and AA1), EAL 4 to reflect "RDAC data indicating NUE (Alert)." Identify in EAL 4 the site-specific value, as required under NEI 99-01, AU1 (AA1) - Example EAL 5, for event classification consistent with initiating condition criteria of two times the radiological ODCM limits. In addition, clarify that actual meteorology is used for RDAC calculations per guidance in NEI 99-01, AU1 (AA1) Basis for Example EAL 5.

4. **AU1 Basis** (corresponds to NEI 99-01, AU1-Basis)
Licensee under AU1 Basis does not address NEI 99-01, AU1 Basis guidance, which states "...if an ongoing release is detected and the starting time for that release is unknown, the Emergency Director should, in the absence of data to the contrary, assume the release has exceeded 60 minutes." Statement is included under licensee AA1 Basis. Address deletion of Basis statement as either a deviation or difference under Attachment 3, and provide justification for deletion of Basis guidance and how EAL will be interpreted without guidance.

5. **AU2-EAL 1 / AA2-EAL 2** (corresponds to NEI 99-01, AU2-EAL 1 / AA2-EAL 2)
Licensee does not address the "fuel transfer canal", which is identified under NEI 99-01, AU2 - Example EAL 1 and AA2 - Example EAL 2. Identify deletion as either deviation or difference under Attachment 4 and provide justification for change, or provide proposed changes to comply with NEI 99-01 guidance.

6. AA2 (corresponds to NEI 99-01, AA2)
Initiating Condition (IC) statement under Index of EALs, contained in Attachment 1 to EAL classification procedure, does not contain statement "outside the reactor vessel", as reflected in NEI 99-01, AA2 and Attachments 2 and 3 of the proposed EAL classification procedure. Provide change to reflect NEI 99-01, AA2 guidance or justify difference from guidance and AA2 IC statement in remainder of procedure.

7. AA3-EAL 1 (corresponds to NEI 99-01, AA3-EAL 1)
Differences listed in Attachment 4 state that "[f]or EAL #1...of the ANO's EALs, a site-specific list is not provided since the possible plant conditions and configurations are very diverse." However, the licensee does provide a listing of site-specific areas under AA3-EAL 1, contrary to the statement made in Attachment 4. In addition, the site-specific listing under AA3, EAL 1 in Attachment 2 (EAL Matrix) states "Control Room, TSC...", while Attachment 3 (EAL Basis) states "Control Room/TSC...". Clarify the use of a site-specific listing under AA3, EAL 1. Also, clarify the inconsistency between the EAL Matrix and Basis regarding whether the TSC from the Control Room, and whether the TSC is a continuously occupied area as specified in Basis.

8. AA3-EAL 2 (corresponds to NEI 99-01, AA3-EAL 2)
Licensee states in Attachment 4 that "[f]or EAL...#2 of the ANO's EALs, a site-specific list is not provided since the possible plant conditions and configurations are very diverse." However, the licensee states in Basis (last paragraph) that "[a]pplicable areas requiring infrequent access are identified in the site's Abnormal Operating Procedures, Emergency Operating Procedures, the 10 CFR 50 Appendix R analysis, and/or analyses performed in response to Section 2.1.6b of NUREG-0578..." Provide further justification why the referenced documents cannot be used to identify areas containing safe shutdown equipment, or proposed changes to comply with NEI 99-01 guidance.

9. AA3, EAL 2 (corresponds to NEI 99-01, AA3-EAL 2)
Licensee specifies a threshold of 5000 mR/hr. Describe whether the station's normal occupational exposure guidelines and limits would impede (delay) access to areas, i.e., the need for administrative approvals and briefings prior to entry, as discussed in NEI 99-01, AA3 Basis. If so, provide further justification or proposed change to dose rate threshold that would ensure unimpeded access during an emergency.

10. AA3, EAL 2 (corresponds to NEI 99-01, AA3-EAL 2)
Licensee inserted the qualifier: "and access is required for safe plant operation, but is impeded due to radiation dose rates", which is not part of criterion in NEI 99-01 AA3 - Example EAL 2. Identify change as a deviation or difference under Attachment 3, and provide justification for proposed change based on NEI 99-01 example EAL criterion and basis.

11. CU2 (corresponds to NEI 99-01, CU2)
Licensee IC statement in Attachment 4) is inconsistent with that listed in Attachment 1 (Index of EALs), Attachment 2 (EAL Matrix) and under NEI 99-01 CU2. Correct inconsistency between IC statements.

12. CU2-EAL 1 (corresponds to NEI 99-01, CU2-EAL 2)
Licensee states "UNPLANNED RCS level drop below the reactor vessel flange greater than 15 minutes," rather than NEI 99-01, CU2 - Example EAL 1 criterion of "*[greater than or equal to]* $\geq$ 15 minutes." Provide justification for deviation, or proposed changes to comply with NEI 99-01 guidance.

13. **CU3-EAL 1** (corresponds to NEI 99-01, CU3-EAL 1) /
SU1-EAL 1 (corresponds to NEI 99-01, CU3-EAL 1)
NEI 99-01 IC statements and Example EALs for both CU3 and SU1, with the exception of mode applicability, are identical. However, listing of offsite power sources and criteria use for threshold 1.b, "At least (site-specific) emergency generators are supplying power to emergency busses," are inconsistent between licensee CU3 and SU1, EAL 1. Provide justification for inconsistencies between criteria in CU3 and SU1 based on common NEI 99-01 guidance, or proposed changes to eliminate inconsistency.

14. **CU3** (corresponds to NEI 99-01, CU3)
Licensee has chosen to make IC applicable for modes 5 (Cold Shutdown), 6 (Refueling) and D (Defueled). NEI 99-01 CU3 guidance lists applicability to Cold Shutdown and Refueling only. Basis merely states that licensee chose to add Defueling to mode applicability. Provide technical justification for deviation regarding applicability to Defueled mode, or proposed change to comply with NEI 99-01 guidance.

15. **CU4-EAL 1** (corresponds to NEI 99-01, CU4-EAL 1)
CA4-EALs 1, 2 & 3 (corresponds to NEI 99-01, CA4-EALs 1, 2 & 3)
Licensee has chosen to insert "200°F", in lieu of NEI 99-01 guidance statement of "Technical Specification cold shutdown limit." Per guidance established by licensee, this difference should be listed and justified as equivalent to the Technical Specification cold shutdown limit in Attachment 4. Identify difference, and provide justification as equivalent to the Technical Specification cold shutdown limit per NEI 99-01 guidance.

16. **CU5** (corresponds to NEI 99-01, CU5-EAL 1) /
SU4 (corresponds to NEI 99-01, SU4-EAL 1)
Licensee states that "ANO uses the letdown radiation monitor (if available) as a qualitative measure of potential fuel clad degradation", but does not provide monitor per NEI 99-01, CU5 - EAL 1. Provide the alarm setpoint(s) for the letdown radiation monitor in ANO-1 and ANO-2, and describe how the setpoint(s) correlate to Technical Specification allowable limits. If alarm setpoint does correspond to Technical Specification allowable limits, provide further technical justification for deviation from NEI 99-01 guidance.

17. **CU6, Table C2** (corresponds to NEI 99-01, CU6-EAL 2) /
SU6, Table M2 (corresponds to NEI 99-01, SU6-EAL 2)
Licensee includes the Station Radio System under offsite communications capability. Clarify whether implementing procedures address the use of the Station Radio System as a means of offsite notification purpose for consideration under these EALs.

18. **CU6, Tables C1 & C2** (corresponds to NEI 99-01, CU6-EALs 1 & 2) /
SU6, Tables M1 & M2 (corresponds to NEI 99-01, SU6-EALs 1 & 2)
Licensee includes portable cellular telephones under onsite and offsite communications capability. Clarify whether implementing procedures address the use of cellular phones as a means of onsite communications and offsite notification for consideration under these EALs, and that cellular phone will function effectively within or in close proximity to plant structures.

19. CA1 (corresponds to NEI 99-01, CA1-EAL 1) /
CA2 (corresponds to NEI 99-01, CA2-EAL 1) /
CS1 (corresponds to NEI 99-01, CS1-EAL 1) /
CS2 (corresponds to NEI 99-01, CS2-EAL 1)
Licensee states that NEI 99-01 criterion: "Loss of RCS inventory as indicated by RPV level less than the bottom ID of the RCS loop", was not considered since RVLMS will not monitor level below the bottom ID of the RCS loop. However, CA1 and CA2 Basis discussions state that RCS level indication ***may be lost*** below the bottom ID of the RCS loop, rather than is not available. If instrument design may allow for RPV level indication under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance.

20. CA1 (corresponds to NEI 99-01, CA1-Basis)
Licensee incorrectly included discussion regarding refueling mode from CA2 Basis in CA1 Basis (3rd paragraph), rather than discussion on cold shutdown provided in NEI 99-01 CA1 Basis. Licensee Basis also incorrectly references CA2 and CS2 due to this error, and in 1st paragraph states "a loss of heat removal" versus NEI 99-01 discussion of "a loss of ability to adequately cool the core." Provide changes to Basis to address cold shutdown guidance in NEI 99-01 CA1 Basis, or justification for differences.

21. CA3 (corresponds to NEI 99-01, CA3) /
SS1 (corresponds to NEI 99-01, SS1)
ICs for NEI 99-01 for CA3 and SS1 states, "Loss of All Offsite Power and Loss of All Onsite Power to Essential Busses." Licensee defines "essential busses" as "required 4.16 KV busses" under CA3 IC and "vital 4.16 busses" under SS1 IC. Licensee also uses term "emergency busses" in CA1 EAL criterion, which is consistent with NEI 99-01 guidance, but uses the term "vital busses" in SS1 EAL criterion. In addition, NEI 99-01 example EAL criterion for CA3 and SS1 are identical, with the exception of mode applicability, but licensee criteria under CA3 and SS1 are not consistent. Licensee criterion under SS1 would not allow credit for the restoration of offsite power to an essential bus, but only from an emergency diesel generator. Provide justification for deviation in term definition and interpretation of EAL criterion between licensee CA3 and SS1, and the apparent failure to address a restoration of offsite power to an essential bus within 15 minutes under SS1.

22. CS1-EAL 2 (corresponds to NEI 99-01, CS1-EAL 2.a) /
CS2-EAL 2 (corresponds to NEI 99-01, CS2-EAL 2.a) /
CG1-EAL 2 (corresponds to NEI 99-01, CG1-EAL 2.a)
Licensee does not address NEI 99-01 criterion: "(RPV inventory as indicated by) RPV level less than TOAF *[top of active fuel]*', based on justification that RVLMS will not monitor level below the bottom of ID of the RCS loop. Provide further technical justification, based on both ANO-1 and ANO-2 instrumentation capabilities, for omission of NEI 99-01 criterion consistent with response to Specific Comment #20. If instrument design may allow for RPV level indication at TOAF under certain conditions, then provide specific justification why criterion was not addressed, or proposed changes to comply with NEI 99-01 guidance.

23. CS2-EAL 1 (corresponds to NEI 99-01, CS2-EAL 2.b)
Licensee EAL 1.a criteria is not consistent with NEI 99-01 guidance, but rather duplicates that in Example EALs 2.b (with the exception of SRM and CTE indication). In addition, the criterion "Reactor vessel level cannot be monitored for greater than 30 minutes", was inserted under licensee **CS2 - EAL 1.b and 2.b**; however, this criterion is not provided under NEI 99-01 CS2 example EALs or basis, nor are deviations adequately justified by licensee. Provide further technical justification for deviations, or proposed change to comply with NEI 99-01 guidance.

24. CS2-EAL 2 (corresponds to NEI 99-01, CS2-EAL 1.a & 2.b) /
CG1-EAL 2 (corresponds to NEI 99-01, CG1-EAL 2.a)
NEI 99-01 guidance establishes "Containment High Range Radiation Monitor reading > [site-specific] setpoint" as a criterion as evidence that RPV level cannot be monitored with indication of core uncovery. Licensee does not consider this criterion because ANO's monitors have not been analyzed for this setpoint. However, the intent of this "site-specific" criterion is for the licensee to perform calculation which should be performed at TOAF for both Containment Closure established and not established configurations. In addition, criterion "RPV level cannot be monitored with indication of core uncovery" is not reflected in licensee criteria. Provide site-specific Containment High Range Radiation Monitor setpoints (readings) or further justification why setpoint (reading) cannot be calculated per NEI 99-01 guidance. Also, address NEI 99-01 statement "RPV level cannot be monitored with indication of core uncovery", or provide further justification why statement was not considered.

25. E-HU1 (corresponds to NEI 99-01, E-HU1) /
E-HU2 (corresponds to NEI 99-01, E-HU2)
Mode applicability is considered "not applicable" per NEI 99-01 guidance, since classification based on a ISFSI / dry storage-related event is not tied to plant operating mode. Licensee chose to list all operating modes, including Defueling. Provide justification for deviation from NEI 99-01 guidance.

26. E-HU1-EALs 1 & 2 (corresponds to NEI 99-01, E-HU1-EALs 1 & 2)
Thresholds for natural phenomena and accident conditions established by the licensee appear to provide insufficient detail. EAL user is required to use Basis to determine magnitude or consequence of event for classification purposes (e.g., high winds *resulting in a loss of shielding due to missile impact*, tornado resulting in a long-term loss of heat transfer due to blockage of air inlets, case drop *greater than X ft.*, etc. In addition, EALs do not address a tipped-over cask or a seismic event as listed in NEI 99-01 E-HU1 Basis and licensee Basis. Provide specific thresholds for identified natural phenomena and accident conditions listed, based on description in licensee Basis. In addition, provide a listing of natural phenomena and accident conditions considered in the results of the ISFSI Safety Analysis Report (SAR) per NUREG-1536 or SAR referenced in the cask's Certification of Compliance and related NRC Safety Evaluation Report.

27. RCB4 (corresponds to NEI 99-01, Table 5-F-4:RCS Barrier Example EAL #4)
Indications for an RCS Barrier LOSS, based on Containment Radiation Monitoring, were omitted from EAL Matrix in Attachment 2. Revise EAL Matrix to reflect RCB4 indications as outlined in EAL Basis (Attachment 3).

28. RCB4 (corresponds to NEI 99-01, Table 5-F-4: RCS Barrier Example EAL #4)
Provide basis for 60 uCi/gm dose equivalent I-131, consistent with NEI 99-01 guidance.

29. CNB1 - 2nd LOSS (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #2)
Licensee states "Containment pressure not consistent with event response". This is inconsistent with NEI 99-01 criterion, which states "Containment pressure or sump level not consistent with LOCA conditions". Change was not identified by licensee as a deviation or difference under Attachment 4. Identify as a deviation or difference and provide technical justification, or provide proposed change to comply with NEI 99-01 guidance.

30. CNB1 - 1st POTENTIAL LOSS (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #2)
EAL criteria statement in Attachment 4 is worded, "Design pressure and increasing hydrogen concentration > 4%". This is inconsistent with NEI 99-01 guidance, which states "(Site-specific) PSIG and increasing **OR** Explosive mixture exists". Revise POTENTIAL LOSS criteria in Attachment 4 to reflect consistency with NEI 99-01 guidance.

31. CNB1 - 2nd POTENTIAL LOSS (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #2)
CG1 - EAL 3 (corresponds to NEI 99-01, CG1-EAL 3)
NEI 99-01 guidance establishes criterion, "Explosive mixture exists", which per the NEI 99-01 Basis means a hydrogen and oxygen concentration of at least the lower deflagration limit curve exists. The licensee's criterion only states "Containment Hydrogen Concentration greater than 4%", and does not address oxygen component. Provide hydrogen and oxygen concentrations reflective of the lower deflagration limit for ANO1 and ANO 2 containment structures, or provide further justification why oxygen concentration is not applicable to ANO1 and 2. In addition, revise criteria identified for an "explosive mixture inside containment" under CG1 - EAL 3 to ensure consistency with threshold in CNB1.

32. CNB2 - POTENTIAL LOSS (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #3)
NEI 99-01 guidance defines a POTENTIAL LOSS as "core exist thermocouples in excess of 1200 degrees and restoration procedures not effective within 15 minutes." Licensee has revised NEI 99-01 statement for ANO-1 to state, "Significant ICC exists as evidenced by CETs indicating superheated conditions...", but does identify change as a deviation or difference. Identify as deviation or difference and provide justification, as applicable to ANO-1, for or provide proposed change to comply with NEI 99-01 guidance.

33. **CNB2 - POTENTIAL LOSS** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #3)
NEI 99-01 guidance also defines a POTENTIAL LOSS as "core exit thermocouples in excess of 700 degrees with reactor vessel level below top of active fuel and restoration procedures not effective within 15 minutes." Licensee states that this criterion is not considered since RVLMS is used as an indication of potential core uncovery only if core exit thermocouple (CET) indication is unavailable. Provide further technical justification for deviation consistent with response to Specific Comment #23.

34. **CNB3 - LOSS** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #4, 1st criterion)
Licensee considers NEI 99-01 criterion, "RUPTURED S/G is also faulted outside of containment", as redundant, and therefore, does not address or provide further justification. NEI 99-01 Basis (3rd paragraph) acknowledges that "[u]sers should realize that the two "loss" EALs described above could be considered redundant." Per NEI 99-01 Section 5.4, this criteria is defines as preliminary-to-secondary leakage of sufficient leakage to require or cause a scram and safety injection (RUPTURED) AND results in uncontrolled S/G pressure or S/G being drained completely. This differs from Containment Barrier Example EAL 4 (2nd criterion) which reflects a non-isolable (prolonged) release path to the environment from the affected S/G. Provide further technical justification for deviation or proposed change to comply with NEI 99-01 guidance.

35. **CNB4 - LOSS** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #5) Licensee criterion states, Unisolable breach of containment with a direct release path to the environment following containment isolation actuation." This is inconsistent with NEI guidance, which states "Valve(s) not closed AND downstream pathway to the environment exists." In addition, licensee chose not to incorporate NEI 99-01 Basis discussion into CNB4 Basis. Identify changes as deviation or difference, and provide justification for change in EAL wording. Also, provide rational for the failure to address NEI 99-01 Basis guidance.

36. **CNB5 - POTENTIAL LOSS** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #6) Clarify in licensee Basis that Containment high range radiation monitor reading of 4,000 R/hr corresponds to 20% fuel clad damage, or other site-specific analysis value, per the guidance in NEI 99-01 Basis.

37. **CNB6** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #7)
NEI 99-01 Basis states this EAL should cover other site-specific indications, including: area or ventilation monitors in containment annulus or other contiguous buildings that may unambiguously indicate a loss or potential loss of the containment barrier, or venting of containment per site emergency operating procedures. Provide rational in licensee Basis why these criteria are not considered applicable to ANO-1 and/or ANO-2 Containment structures, or proposed wording to comply with NEI 99-01 Basis guidance.

38. **CNB6 - POTENTIAL LOSS** (corresponds to NEI 99-01, Table 5-F-4: Containment Barrier Example EAL #6 & 7) Licensee chose to include "at least 20% fuel damage failure as determined from core damage assessment" as a POTENTIAL LOSS of containment, based on basis for CNB5 (Significant Radioactive Inventory in Containment). In CNB6 Basis, licensee justifies EAL by stating that "[r]egardless of whether containment is challenged, this amount of activity in containment, if released, could have such severe consequences that it is prudent to treat this as a potential loss of containment." Describe why the licensee believes that this concern is not adequately address under CNB5, based on containment radiation monitor readings, since this is intent as outlined in NEI 99-01 Table 5-F-4, Containment Barrier Example EAL 6 Basis.

39. **HU1-EAL 2** (corresponds to NEI 99-01, HU4-EAL 2)
Licensee deleted the term "site-specific" from EAL wording and chose not to include the NEI Basis discussion, which states "Only the plant to which the specific threat is made need declare the Notification of an Unusual Event". Describe how EAL 2 would allow for the differentiation between a general (i.e., threat against company facilities / property) versus directed at station, since "site-specific" criteria was deleted from EAL wording and basis. In addition, identify changes as deviations or differences and provide justification for further consideration, or provide proposed change to comply with NEI 99-01 guidance.

40. **HU5-EAL 1** (corresponds to NEI 99-01, HU3-EAL 1)
NEI 99-01 qualifier "...enter the site boundary area..." was replaced with "...enter normally occupied areas of the site". This interpretation is not consistent with NEI 99-01 guidance, which considers the impact of any toxic or flammable gases that has or could enter the site area boundary, and not just occupied areas, on normal plant operations (as defined in Section 5.4 to NEI 99-01). Identify change as a deviation or difference and provide justification for further consideration, or provide proposed change to comply with NEI 99-01 guidance.

41. **HU6-EAL 2** (corresponds to NEI 99-01, HU1-EAL 2)
Please provide specific references to safety analysis report (SAR) for Units 1 and 2 high winds design basis under Reference Document listing in Attachment 3 (Basis).

42. **HU6-EAL 6** (corresponds to NEI 99-01, HU1-EAL 6)
Provide site-specific listing, as specified by NEI 99-01 guidance, of areas of the plant where uncontrolled flooding has the potential to affect safety-related equipment.

43. **HU6-EALs 7 & 8** (corresponds to NEI 99-01, HU1-EAL 7)
Describe technical basis for low and high lake water level and provide reference to basis under Reference Documents in Attachment 3 (Basis).

44. **HU6** (corresponds to NEI 99-01, HU1-EAL 7)
Describe whether the ANO site is subject to other site-specific phenomena, such as hurricanes, or subject to severe weather as defined in the NUMARC station blackout initiative (i.e., activation of severe weather mitigation procedures) per guidance in NEI 99-01 Basis. If applicable, include site-specific EALs.

45. HA3 (corresponds to NEI 99-01, HA5-EAL 1)
Provide justification for use of qualifier, "in progress", rather than "has been initiated" as stated in IC, or provide proposed change to comply with IC statement. In addition, clarify that a site-specific procedure does not exist governing control room evacuation.

46. HA4-EAL 1 (corresponds to NEI 99-01, HA2-EAL 1)
Licensee Basis does not include 1st paragraph from NEI 99-01 guidance providing basis for selection of site-specific areas. Describe basis for the selection of Table H1 areas based on NEI 99-01 guidance (i.e., safe shutdown analysis, etc.).

47. HA5-EAL 1 (corresponds to NEI 99-01, HA3-EAL 1)
Licensee inserted the following qualifier in Basis: "Areas that require only temporary access that can be supported by the use of respiratory protection should not be considered as exceeding this threshold. However, this qualifier is not addressed under NEI 99-01 guidance. In addition, licensee fails to identify the addition of this qualifying Basis statement under Deviations in Attachment 4. Identify change as a deviation or difference, as appropriate, and provide justification, or provide proposed change to comply with NEI 99-01 guidance.

48. HA6-EAL 1 (corresponds to NEI 99-01, HA1-EAL 1)
Provide description in EAL 1 Basis that supports the selection of 0.1g as indicative of an Operating Basis Earthquake (OBE), and reference to site-specific technical basis (i.e., SAR, etc.) under Reference Documents in Attachment 3.

49. HA6-EAL 2 (corresponds to NEI 99-01, HA1-EAL 2)
Licensee does not include the "Turbine Building", since it does not contain a vital area. Clarify whether damage to equipment in the turbine building due to high winds could cause, either directly or indirectly, damage to safety functions and systems required for the safe shutdown of the plant per NEI 99-01, HA1 Basis. If so, provide proposed change to comply with NEI 99-01 guidance to include the Turbine Building in Table H-2.

50. HA6-EAL 3 (corresponds to NEI 99-01, HA1-EAL 3)
Licensee Basis contains statement, "If the crash is confirmed to affect a plant vital area, escalation to ALERT is appropriate"; however, this statement is applicable to licensee HU6 Basis rather than HA6 Basis per NEI 99-01 guidance. Provide justification for including statement in HA6 Basis.

51. HA6-EAL 4 (corresponds to NEI 99-01, HA1-EAL 4)
License references Table H-2 areas rather than developing a site-specific listings of areas, containing safety functions and systems required for the safe shutdown of the plant, that could realistically be impacted by turbine failure-generated missiles. Provide justification for referencing Table H-2, rather that developing site-specific areas based on NEI 99-01 guidance.

52. HA6-EAL 5 (corresponds to NEI 99-01, HA1-EAL 5)
Provide justification for the failure to identify site-specific areas, per NEI 99-01 guidance, which include areas that contain systems required for safe shutdown of the plant, that are not designed to be wetted or submerged.

"QUESTIONS / COMMENTS FOR DISCUSSION BASED ON INITIAL STAFF REVIEW"

53. HA6-EAL 6 (corresponds to NEI 99-01, HA1-EAL 6)
Provide reference to technical basis (i.e., SAR, etc.) for ALERT classification based on low lake level, and include reference to technical basis(es) under Reference Documents in Attachment 3.

54. HS3-EAL 1.b (corresponds to NEI 99-01, HS2-EAL 1)
Provide justification, based on site-specific analysis or assessments per NEI 99-01 guidance, as to how quickly control must be re-established to ensure that core uncovering and/or core damage will not occur with the 15 minute time threshold established. In addition, please identify as deviation or difference, as appropriate, and provide justification regarding the failure to include site-specific procedure reference for the transfer of plant control during a control room evacuation.

55. HG2-EAL 1 (corresponding to NEI 99-01, HG2-EAL 1)
Identify as a deviation or difference, as appropriate, and provide justification for change in EAL wording referring to exceeding EPA Protective Action Guideline exposure levels "beyond the exclusion area", rather than NEI 99-01 guidance, and that defined for a General Emergency by licensee under Section 4.10.4, of "offsite for more than immediate site area".

56. SU1-EAL 1 (corresponds to NEI 99-01, SU1-EAL 1)
Under the Basis, the licensee has chosen to include a discussion, which states that "...failure of the offsite power sources results in a loss of RCPs..." Intent of NEI 99-01 guidance is to reflect a prolonged loss of offsite power, and is not intended to consider the loss of specific station loads. Provide further clarification whether Basis statement, included by licensee, would preclude classification of event based on the loss of offsite power if specific station loads were not lost. If so, provide further justification for deviation or proposed change to comply with NEI 99-01 guidance.

57. SU3-EAL 1 (corresponds to NEI 99-01, SU3-EAL 1)
Provide description in Basis, and technical justification as a deviation to NEI 99-01 guidance, for the use of "50% of Control Room annunciators" for Unit 1, versus the definition of "most" as 75% per NEI 99-01 SU3 Basis.

58. SU3-EAL 1 (corresponds to NEI 99-01, SU3-EAL 1)
Provide a description of the number of Control Room annunciator panels in Unit 2 (ANO-2) and what systems / functions (in general terms) are provided on each panel. In addition, describe how the loss of 9 panels in Units 2 (ANO-2) constitutes a loss of most (75%) of annunciators.

59. SU3-EAL 1 (corresponds to NEI 99-01, SU3-EAL 1)
Licensee has chosen to insert the qualifier "Loss of AC and DC" as reason for annunciator loss. Describe what percentage of annunciators are powered by either an AC or DC power source, or combination of both. In addition, describe any credible scenarios, other the loss of AC and DC power, that would resulting a significant loss of Control Room annunciators.

60. SU8-EAL 1 (corresponds to NEI 99-01, SU8-EAL 2) /
CU8-EAL 1 (corresponds to NEI 99-01, CU8-EAL 2)
Describe in Basis the rational for Unit 1 (ANO-1) and Unit 2 (ANO-2) EAL thresholds established by licensee, and justification for inclusion of site-specific thresholds for inadvertent criticality in SU8 (Modes 3 / 4), but not under CU8 (Modes 5 / 6).

61. SA2-EAL 1 (corresponds to NEI 99-01, SA2-EAL 1)
Licensee has revised EAL wording in EAL Basis (Attachment 3) to include qualifier "...and a successful manual trip ***or DSS trip*** occurred." This change is not consistent with NEI 99-01 guidance, nor the wording contained in EAL Matrix (Attachment 2). Resolve inconsistency between EAL Matrix and Basis, and if retained, identify change as a deviation and provide justification to support revision to NEI 99-01 guidance.

62. SA2-EAL 1 (corresponds to NEI 99-01, SA2-EAL 1)
Under examples of what constitutes a "manual trip", licensee inserted example: "de-energizing rod drive mechanism". Clarify that, based on NEI 99-01 guidance, the rod drive mechanism can be de-energized from main control rod panels, and does not require action in other adjacent Control Room auxiliary (side or back) panels (i.e., pulling fuses) or actions outside of control room, which are not to be considered under a manual scram.

63. SA4-EAL 1 (corresponds to NEI 99-01, SA4-EAL 1)
Define what constitutes a loss of most or all indicators, consistent with licensee's SU3-EAL 2, or identify as a deviation and provide justification from NEI 99-01 guidance.

64. SA4-EAL 1 (corresponds to NEI 99-01, SA4-EAL 1)
Licensee uses term "Plant Transient", which is defined differently than a "Significant Transient" per Sections 4.34 and 4.39, and NEI 99-01, Section 5.4. Please identify as deviation or difference, as appropriate, and provide technical justification supporting change from NEI 99-01 guidance regarding a "Significant Transient", or provide proposed change to comply with NEI 99-01 guidance.

65. SS3-EAL 1 (corresponds to NEI 99-01, SS3-EAL 1) /
CU7-EAL 1 (corresponds to NEI 99-01, CU7-EAL 1)
Describe rational for listing of unit-specific busses in SS3 (Modes 1_4), but not in CU7 (Modes 5 / 6). In addition, confirm that nomenclature for Unit 1 (ANO-1) DC busses is D01 and D02, versus use of unit designator 1D01 and 2D02.

66. SS4-EAL 1 (corresponds to NEI 99-01, SS4-EAL 1)
While not required per NEI 99-01 guidance, licensee has chosen to insert specific system availability to provide core cooling and heat sink. Describe in Basis rational for the selection of Criteria 1.a, 1.b and 1.c.

67. SS6 (corresponds to NEI 99-01, SS6)
Licensee uses term "Transient" in IC and EAL 1.d, which is not consistent with the use of "Plant Transient" by licensee in SA4 or the use of term "Significant Transient" under NEI 99-01 guidance. Identify as deviation or difference, as appropriate, and provide technical justification supporting change from NEI 99-01 guidance and inconsistency with SA4, or provide proposed change to comply with NEI 99-01 guidance.

68. **SS6-EAL 1.c** (corresponds to NEI 99-01, SS6-EAL 1.c)
NEI 99-01 criterion states, "Indications needed to monitor (site-specific) safety functions are unavailable". However, licensee has established a threshold of a "loss of 75% of indicators associated with safety systems." This is not consistent with NEI 99-01 guidance, which is intended to reflect that indication is not available to monitor a listing of site-specific safety functions. Identify as a deviation or difference, as appropriate, and provide justification supporting changes and listing of site-specific safety functions, or provide proposed changes to comply with NEI 99-01 guidance.

69. **SG1-EAL 1.b** (corresponds to NEI 99-01, SG1-EAL 1.b)
NEI 99-01 guidance states, "Site-specific) indication of continuing degradation of core cooling based on Fission Product Barrier monitoring." Licensee has designated criterion, "FA1 entry conditions met." Designate Fuel Clad Barrier criteria from Fission Product Barrier Matrix, contained in Attachment 2, which specifically indicate a continuing degradation of core cooling.

70. **SG2-EAL 1.a** (corresponds to NEI 99-01, SG2-EAL 1.a)
Describe the correlation and technical basis between the unit-specific thresholds indicating core cooling is extremely challenged (EAL 1.a), with the NEI 99-01 Basis guidance of "core exit temperatures are at or approaching 1200 degrees or that the reactor vessel water level is below the top of active fuel."

71. **SG2-EAL 1.b** (corresponds to NEI 99-01, SG2-EAL 1.b)
Describe the correlation and technical basis between the thresholds indicating heat removal is extremely challenged (EAL 1.b), with the NEI 99-01 Basis guidance of "emergency feedwater flow is insufficient to remove the amount of heat required by design from at least one steam generator ."