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NRC Staff Questions for Discussions.

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From: Bhalchandra Vaidya
To: mguynn@entergy.com
Date: 4/6/04 1:31PM
Subject: Grand Gulf, MC1630, Amendment Application for EAL Conversions, NRC Staff Questions for Discussions.

Attached are NRC Staff questions on the application for the above mentioned amendment.

We would like to discuss these in a phone conference in the week of April 26, 2004, preferably, April 27 or 28. The discussions would determine the nature of RAIs.

Please acknowledge the receipt of this e-mail.

Thanks.

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Grand Gulf EAL Related Questions:

By letter dated December 16, 2003, Entergy(s Grand Gulf Nuclear Station requested NRC review and prior approval to proposed revisions of Grand Gulf(s emergency action levels (EALs) using NRI 99-01, Revision 4 methodology. EPPO staff review determined that the revision package was acceptable for evaluation January 15, 2004. Based on a detailed review of the proposed changes, and in comparison to the NRC endorsed guidance in NEI 99-01 and RG 1.101, Revision 4, a list of preliminary questions have been generated in advance for formal Request for Additional Information (RAI).

NRR/EPPO has the following comments and questions related to this submittal:

General Comments:

- 1) Referenced changes to the Grand Gulf Emergency Plan, included in the proposed change package, do not include an evaluation and justification for the appropriateness for the proposed changes. It is expected that all changes included in the package contain appropriate detailed evaluations and justifications for changes.
- 2) Referenced changes to the Grand Gulf FSAR, included in the proposed change package, do not include an evaluation and justification for the appropriateness for the proposed changes. As specific examples, old sections of the FSAR are deleted for a replaced section with NEI 99-01 methodology, but no documentation for the review and justification for the change is included. Similarly, Table 4-2 of the FSAR contains minor changes, but documentation of the review of the design bases accidents and corresponding classification levels is not included.
- 3) Specific definitions for (difference(and (deviation do not appear to be consistently applied. Numerous examples, identified below, indicate that areas labeled (differences(appear to be (deviations(. It is intended that NEI 99-01 is consistently used by licensees with a high degree of similarity in order to provide an industry-wide similarity in classifications of emergencies. Additionally, the endorsement by NRC in RG 1.101 of NEI 99-01 and the application of the methodology by the industry was intended (by NRC) to be at a high level of similarity. Differences for site-specific applications were identified within NEI 99-01. Any alteration of the initiating conditions, EALs, or basis was permitted, but expected to be identified as a deviation, with detailed evaluation of the alteration and justification to sufficiently support a (stand alone(determination for the change. This was discussed with Entergy and other EAL change packages (for other Entergy plants) were included (but not Grand Gulf, the first Entergy submittal). It is recommended that (differences(and (deviations(be specifically defined within the change package (as was done for the ANO EAL submittal) and followed.

Specific Comments:

1) FSAR Table 4-2

There appear to be changes to the DBA listing of accidents and associated classifications under the proposed EAL scheme. Provide a description of the review of these accidents to ensure that the classifications are correct as listed.

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2) AA1

Deviation, appears acceptable. Compare to other Entergy EAL submittals.

3) AA2, EAL #2

Provide more detailed justification that 80 R/hr is procedurally referenced in 05-S-01-EP-4 as the dose rate limit for unrestricted (normal occupational limits) dose controls. Typically, the limit in this EAL is the dose rate where additional dose authorization is necessary to permit entry into a high radiation area.

4) AA3, Deviation/Difference document

Typo under difference explanation

Look for comparison with other Entergy plants for reference to a site specific level for cavity. Typically, a method is available in refuelling outages where level can be monitored, even with alarm capability.

5) AS1, Deviation/Difference document

Provide additional discussion on the deviation (correctly listed) for not listing default monitor set points for NEI 99-01 AS1. Other Entergy plants have included (ex. River Bend) monitor readings. Additional discussion to justify the provision for prompt dose assessment in the control room (in less than 15 minutes) and the procedural/commitment related hooks in place to prevent this capability from being removed in the future are not discussed.

Specifically discuss the locations where dose asmt. Computers are located, which have back up battery power or EDG backup power.

In AS1 EALs #1 and #2, explain the deviation from the NEI 99-01 AS1 IC reference to Afor more than 1 hour@.

6) AG1, Deviation/Difference document

Under NEI 99-01, example typo (100 mR/hr),.

Same as AS1 EALs #1 and #2, explain the deviation from the NEI 99-01 AS1 IC reference to Afor more than 1 hour@.

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7) EAL SU4, Deviation/Difference document

Deviation appears justified, however, NEI 99-01 still lists the 10 gpm limit in the EAL, which

could be observed in some situations using remotely installed equipment (as in refueling outages). Recommend that the 10 gpm be left in, and the inclusion of level also included. Additional justification is necessary for the omission of the 10 gpm. Identification of A0" A is missing from the discussion. Is 0" at the reactor head flange?

Compare to other Entergy plant EALs.

8) SU1, Deviation/Difference document

Justify the deviation (not difference) between the mode applicability between GG EALs and NEI 99-01 EALs.

Typo under difference.

9) SU10

Justify the deviation (not difference) for including modes 1, 2, and 3 in this IC. Note NEI 99-01 wording, in that fuel clad degradation is not considered a precursor because of the mode 4 or 5 condition, and if the mode were 1, 2, 3, different considerations would be present.

10) SU 9, Deviation/Difference document

Justify the deviation (not difference) for including modes 1, 2, and 3 in this IC. Note NEI 99-01 wording, in that fuel clad degradation is not considered a precursor because of the mode 4 or 5 condition, and if the mode were 1, 2, 3, different considerations would be present.

11) CU8

Justify the deviation (not difference) for including mode 3 in this IC. Note NEI 99-01 wording, in that fuel clad degradation is not considered a precursor because of the mode 4 or 5 condition, and if in mode 3, different considerations would be present.

12) CA4, Deviation/Difference document

Provide better justification why no reference to RCS reduced inventory. It was included for River Bend (BWR).

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13) SS4, Deviation/Difference document

Additional justification for RVP levels and their representations, to compare with NEI 99-01 levels.

Is A not established@ a typo in SS4 EAL #2, as NEI 99-01 CS4, EAL #2 is A established@.
No EAL for sump/tank levels or for source range monitor increases. Justify deviation for not including in EAL.

14) RCS Barrier #2

Is the use of A-192 in @ a typo in the difference explanation? Provide more detailed discussion on the use of either level indication justification (as referenced in 99-01, TOAF or 2/3 coverage of active fuel) and identify which value is used for this EAL.

15) NEI 99-01 EAL #2 (potential loss outside drywell) is missing. Discuss the deviation and provide justification for omitting or include in EAL scheme.

16) RCS Barrier EAL #4

This EAL is omitted from the GG EALs. This is listed as a difference due to location of monitors. The explanation is not sufficient to justify the omission. Provide more justification why this EAL should be omitted or add NEI 99-01 EAL to the scheme.

17) FA1

Typo for font in IC Areactor pressure boundary @

18) Fuel Clad Parameters, Drywell Radiation Monitoring

Provide justification that compares the listed 5% clad failure with A300 uci/ml @ value in NEI 99-01.

To be consistent with 99-01, the EAL for clad failure should be 300 uci/ml.

19) Reactor Pressure Boundary Parameters, RPB Leak Rate

Justify the omission of Ainside the drywell @ for the potential loss for greater than 50gpm RPB leakage.

20) Primary CTMT Parameters, Hydrogen Concentration

NEI 99-01 also discusses O₂ levels, which are omitted in the GG EAL. Justify your omission of the oxygen concentration and comparison to the lower deflagation limit.

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21) Primary CTMT Parameters, Primary CTMT Iso. Failure or Bypass (also in Deviation/Differences document).

Define ASAPs @. Justify the deviation from declaring a loss from CTMT venting per EOPs, which is referenced in NEI 99-01. (This is incorrectly listed as a difference.)

22) Primary CTMT Parameters, Primary CTMT Rad Monitoring (also in Deviation/Differences document).

Justify the value (> 11,500 R/hr) in regard to being representative of 20% fuel clad damage.

23) HU3, EAL #2 (also in Deviation/Differences document).

Wind speed limits are not included in the EAL (as in NEI 99-01, HU1, #2). Justify the deviation

from listing wind speeds in the EAL. (This is incorrectly listed as a difference.) In the HU1 Deviation/Difference document, the justification is that hurricane force winds have never been recorded. Severe winds from very strong storms can occur (greater than minimal hurricane force) as can hurricanes. (There is ample evidence of hurricanes existing for several hundred miles inland.) Typically, wind loading analysis is included in FSARs. Recommend providing wind limit to EAL or providing detailed justification for this deviation.

Justify the omission of EALs # 6 and #7 in HU3, as compared to 99-01 HU1.

24) HU4, compared to 99-01 HU2

IC is different in GG HU4, (protected area boundary versus power block). Further, in the basis, NEI 99-01 describes a more detailed generalization of areas in actual contact or immediately adjacent to plant vital areas, which are referenced but not defined in GG EALs. Justify the deviation from the IC and describe the areas in the plant that you intend to apply to this EAL.

25) HU5, compared to 99-01 HU3

EAL #2 is missing from the GG EALs. Justify your deviation from NEI 99-01 by omitting EAL #2.

In the Deviation/Difference document, NEI 99-01 HU3 is omitted, with a difference listed that no industries are in the Grand Gulf area affecting evacuation or sheltering. This fails to consider river barges, tanker accidents (rail or roadway) or other possible toxic gas, smoke, etc. scenarios. Recommend adding EAL or providing detailed justification for the deviation to not include this EAL.

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26) NEI 99-01 HU1 reference in Deviation/Difference document

More justification is necessary to justify omission of this EAL. Considerations for more than river flooding should be discussed, such as storm drain overflow, water main piping flooding, etc. This is incorrectly listed as a difference, instead of a deviation. Consider adding EAL to scheme, or provide detailed justification for this deviation.

27) HA4, compared to 99-01 HA 1 and HA2

Wind speed limits are missing from the GG EAL, #2. Deviation/Difference document discusses highest recorded wind speed as 69 mph, but does not review FSAR wind loading analysis or a comparison of historical events in the southeast to determine if there are other examples of hurricane force winds extending several hundred miles inland. Reexamine UFSAR to ensure that wind loading is not included (not just hurricane).

EAL #4 uses vital area instead of specific areas containing functions and systems necessary for safe shutdown (though may be the same).

HA4 #4 references Acausing damage@ as opposed to Aaffecting operability of@ as in NEI 99-01, HA2. Change to match 99-01 EAL or provide detailed justification for this deviation.

28) 99-01 HA1 EALs # 5 and #6 missing.

Provide justification for the deviations from 99-01. Correct in Deviation/Differences document to record as a deviation, with detailed justification why appropriate to eliminate. In justification, include analysis of other than Ariver flooding@, as discussed previously.

29) HS1, compared to 99-01 HS1 (also in Deviation/Differences document).

GG EAL considers only an armed attack against the plant, versus the other considerations in 99-01 (insider destruction of equipment, sabotage, hostage/extortion). Justify the deviation from the 99-01 other considerations. Justify the omission of EAL #2 from GG EALs.

NEI 99-01 HS1, EAL #2 is missing from GG EALs. This is noted as a Adifference@, and appears to be a deviation. Provide more detailed justification why it is appropriate to omit this EAL.

30) HG1 (also in Deviation/Differences document).

SFP loss of control is not addressed in the EALs, as discussed in NEI 99-01 EAL basis. Justify the deviation from referencing SFP conditions in the EAL.

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31) SU3, EAL #2 (also in Deviation/Differences document).

NEI 99-01 lists 25gpm as the EAL for identified leakage. In the GG basis, 35 gpm is discussed as the minimum limit for detection for unidentified leakage, but is the identified leak rate limit in the EAL. 10 gpm is the unidentified limit. Correct the references in the basis, and justify the deviation for using 35 gpm as the identified leak rate, versus 25 gpm in 99-01. This is listed as a difference instead of a deviation.

32) SA3 (also in Deviation/Differences document).

In the basis, the allowance for ARI as one of the successful means for a manual scram is referenced. Discuss the ability (in terms of time and operator actions (ie. Manual actions or control room actions) to use ARI as a means to Arapidly@ manually shut down the reactor.

33) SS3 (also in Deviation/Differences document).

In NEI 99-01 Basis discussion of SS3, there is a specific reference to operator actions away from the reactor control console which define a NOT SUCCESSFUL manual shutdown. That specific caution is missing from the GG Basis. Justify the omission of the caution, or correct the Basis to specifically include the caution.

As in item 32, justify the use of ARI as Arapid@ insertion of rods.

34) SS6, EAL #1

Use of word Aunplanned@ appears to indicate that if planned, this would be acceptable.
Provide detailed justification why this deviation is acceptable, as written.

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35) SG2 (also in Deviation/Differences document).

As in item 32, justify the use of ARI as Arapid@ insertion of rods.
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