

CCNPP3eRAIPEm Resource

From: Arora, Surinder
Sent: Friday, March 18, 2011 6:54 AM
To: 'Poche, Robert'; 'cc3project@constellation.com'
Cc: CCNPP3eRAIPEm Resource; Bower, Anthony; Williams, Kevin; Colaccino, Joseph; Steckel, James; Wilson, Anthony; Vrahoretis, Susan
Subject: Final RAI 299 NSIR EP 5497
Attachments: FINAL RAI 299 NSIR EP 5497.doc

Rob,

Attached please find the subject request for additional information (RAI). The draft of this RAI was sent to you on March 2, 2011. No clarification phone call was requested by UniStar during the draft review period on this RAI.

The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a schedule date for submitting your technically correct and complete response will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the review schedule of the applicable FSAR Chapter.

Your response letter should also include a statement confirming that the response does or does not contain any sensitive or proprietary information.

Thanks.

SURINDER ARORA, PE
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3/18/2011

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 13.03 - Emergency Planning
Application Section: 13.03

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB) (EP)

13.03-43

Subject: Shift Staffing

Basis: 10 CFR 50.47(b)(2); NUREG-0654/FEMA-REP-1, Evaluation Criterion B.5

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criterion 1 and 2

The expectations for on-shift and augmented staffing within 30 and 60-minutes of a declared emergency are identified in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear power Plant Emergencies," of NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1. Revision 2 to Regulatory Guide 1.101, "Emergency Response Planning and Preparedness for Nuclear Power Reactors," endorsed NUREG-0654/FEMA-REP-1, Revision 1, as providing specific acceptance criteria for complying with the standards established in 10 CFR 50.47, including those standards related to staffing of the emergency response organization. Except in those cases in which the applicant proposes an acceptable alternative method for complying with the Commission's regulations, NUREG-0654/FEMA-REP-1, Revision 1, will be used to evaluate Calvert Cliffs' Emergency Plan.

In consideration of industry experience for operating reactors, including use of the S.M.A.R.T template developed in coordination between NEI and the NRC (ADAMS Accession No. ML 042530011), and the applicant's technical justification in support for the elimination of 30-minute ERO responders, the applicant should consider additional on-shift compensation to perform the functions and major tasks identified in Table B-1 of NUREG-0654/FEMA-REP-1. The NRC staff requests the applicant to either provide additional compensation on-shift, or provide additional justification in support for the elimination of 30-minute responders to aid in the staff's reasonable assurance determination. Specifically:

Radiological Accident Assessment (Offsite Dose Assessment)

In response to Supplemental RAI 13.03-42(A), the applicant states, in part, that dose assessment is performed by on-shift personnel as a collateral duty and the use of computerized dose assessment applications allow shift personnel to rapidly perform basic dose assessment calculations. In addition, shift personnel qualified to perform dose assessment would be required to maintain this function within the 30 minute gap prior to the arrival of the 60 minute response position qualified to perform dose assessment.

Discuss in the CCNPP Unit 3 Emergency Plan which on-shift emergency responders identified in Table B-1a, “Shift Emergency Response Organization,” of the CCNP Emergency Plan will be qualified to perform the major task of dose assessment should the need arise prior to staff augmentation at 60 minutes. Also, include in the response a listing of, and supporting discussion on, any collateral duties or potentially competing priorities that may impact the individual’s ability to perform their primary emergency response functions.

Radiological Accident Assessment (Offsite and Onsite Surveys)

The applicant’s response to Supplemental RAI 13.03-42(A) states that a 30-minute responder is not needed for the major tasks of offsite and onsite surveys in support of Radiological Accident Assessment because it is extremely unlikely that a release of radioactivity would occur within the first 60 minutes of a declared event. However, the guidance provided in NUREG-0654/FEMA-REP-1, Revision 1, Table 2, “Guidance on Initiation and Duration of Release,” states that the span of time from the initiating conditions of an event to the beginning of an atmospheric release can vary from one-half hour to one day.

Discuss which on-shift emergency responders identified in Table B-1a, “Shift Emergency Response Organization,” will perform the major tasks of “offsite and onsite surveys” should the need arise prior to staff augmentation at 60 minutes. Include in the response a listing of, and supporting discussion on, any collateral duties or competing priorities that may impact the individual’s ability to perform their primary emergency response functions, and the training provided or qualifications necessary to perform this function. If on-shift responders do not exist to perform this function, revise the CCNP Emergency Plan to include 30-minute responders to perform the major tasks of offsite and onsite surveys.

Repair and Corrective Actions

In response to 13.03-42(A), the applicant states, in part, that 30 minute responders are not needed for the Electrical Maintenance or I&C Technician positions since on-shift auxiliary operators typically perform these functions as a collateral duty. The auxiliary operators are cross-trained to perform equipment repair tasks. In addition, the applicant states that Electrical and I&C repair activities are not necessary for up to several hours depending on the event and the 30-minute gap in augmentation of this function within the first hour of an event is not considered significant or necessary.

- 1. Discuss the collateral duties (e.g., fire brigade and shift communicator) of the on-shift auxiliary operators, if any, and how performing these collateral duties will not challenge the performance of their primary emergency response function of plant operations and assessment.**
- 2. Provide additional justification to support the conclusion that Electrical and I&C repair activities are not necessary for up to several hours depending on the event.**

13.03-44

Subject: Letters of Certification

Basis: 10 CFR 52.79(a)(22)(i)

SRP ACCEPTANCE CRITERIA: Requirement E; Acceptance Criterion 18

Part 11H “State and Local Emergency Plans” of the CCNPP COL application includes State and county letters of certification with: The State of Maryland, The Commonwealth of Virginia, The State of Delaware, St. Mary’s County, Maryland, Dorchester County, Maryland, Calvert County, Maryland, and The District of Columbia. Regulation 10 CFR.52.79(a)(22)(i) specifically states that all emergency plan certifications that have been obtained from State and local government agencies with emergency planning responsibilities must state that: the proposed emergency plans are practicable; the agencies are committed to participating in any further development of the plans, including any required field demonstrations; and the agencies are committed to execute their responsibilities under the plans in the event of an emergency. The staff was unable to locate where the Letters of Certification stated that “the proposed emergency plans are practicable.”

Discuss whether the Letters of Certification obtained from the State of Delaware, the District of Columbia, and local counties of St. Mary’s, Dorchester, and Calvert, include the language referenced in the citation of the regulation as stated above. If they do not, provide revised Letters of Certification for each State and local government authority, which states that: (1) the proposed emergency plans are practicable; (2) these agencies are committed to participating in any further development of the plans, including any required field demonstrations; and (3) these agencies are committed to executing their responsibilities under the plans in the event of an emergency.

13.03-45

Subject: Emergency Action Levels

Basis: 10 CFR 50.47(b)(4); NUREG-0654/FEMA-REP-1, Evaluation Criterion D.1. and D.2.; Appendix E, Section IV.B and C

SRP ACCEPTANCE CRITERIA: Requirement A and B; Acceptance Criterion 3

In response to RAIs 13.03-04 and 13.03-10, the applicant withdrew its prior submittal of a partial set of EALs contained in enclosures (A-C) to the emergency plan, and provided a revised overview of its emergency action level scheme including definitions of four emergency classifications (e.g., Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency), with a general list of licensee actions at each emergency classification level. In addition, the applicant proposed a license condition to create a fully developed set of EALs in accordance with NEI 99-05, Revision 5, and submit to the NRC for confirmation at least 180 days prior to fuel load, which will include the following deviations:

- NEI 99-01 Revision 5 EALs (SU3, SA4 and SS6), loss of safety system annunciation/indication are not applicable to the U.S. EPR plant design and are therefore deleted.
- New loss of digital I&C EALs have been developed by AREVA for the U.S. EPR consistent with the proposed NEI 07-01 Revision 0 digital I&C EALs for passive reactor designs.
- NEI 99-01 Revision 5 PWR containment potential loss fission product barrier 2.C is not applicable to the U.S. EPR plant design and is therefore deleted.

The EALs will reside in a technical basis document by which the applicant has committed to control consistent with the Emergency Plan pursuant to 10 CFR 50.54(q).

In response to Supplemental RAI 13.03-40(A), the applicant provided a brief explanation of the deviations proposed in the COL application. The applicant stated, in part, that the second bullet (described above) was not intended to depict a deviation, but rather describe how the U.S.EPR will replace the loss of annunciator EALs with digital I&C EALs based on NEI 07-01, Revision 0. Bullet one describes the design based deviation from NEI 99-01, Revision 5, EALs SU3, SA4, and SS6, while bullet three describes the deviation from the NEI 99-01, Revision 5, PWR containment potential loss fission product barrier 2.C.

- 1. Provide site-specific EALs (applicable operational modes) representative of the EPR design, consistent with the format of NEI 99-01, Revision 5, for loss of digital I&C.**
- 2. Provide additional justification to support the decision to delete the fission product barrier EAL initiating condition 2.C.**
- 3. Revise the proposed license condition to remove the below language since deviations from NEI 99-01, Revision 5, are being proposed, and include language to facilitate State and local government review, or provide justification of why it is not needed:**
“The submitted EALs will be written with no deviations other than those attributable to specific U.S. EPR reactor design considerations.”

13.03-46

Subject: Security-Based Considerations

Basis: 10 CFR 50.47; Appendix E to 10 CFR 50; Regulatory Guide 1.206, Section C.1.13.3.1

SRP ACCEPTANCE CRITERIA: Requirements A, B, and G: Acceptance Criterion 1, 2, 5, 25 and 30

1. In response to RAI 13.03-37, the applicant stated that the information contained in Section E.2.b.2 of the CCNPP Unit 3 Emergency Plan regarding notification to the NRC for a classified emergency (including security conditions or hostile actions) is consistent with the existing regulation and compatible with the language of NRC Bulletin 2005-02.

Section E.2.b.2 states, in part:

“an event will be reported to the NRC Operations Center immediately after notification of the appropriate State and local agencies, but not later than one hour after the time of initial classification...”

NRC Bulletin 2005-02 requests an accelerated call to the NRC, immediately after notification of local law enforcement agencies, or within about 15 minutes of the recognition of a security-based threat. This notification enables the NRC to quickly warn, or advise, other licensees and Federal agencies of the impending threat, pursuant to the National Response Framework.

Clarify in the CCNPP Unit 3 Emergency Plan whether notifications to the NRC are made immediately after notification of local law enforcement agencies, or within about 15 minutes of the recognition of a security-based threat, consistent with the guidance in NRC Bulletin 2005-02, or provide reference to where this information is contained (e.g., Security Contingency Plan or EIPs). If no clarification is deemed necessary to the Emergency Plan, provide justification for why this information is not needed.

2. Section J.4, "Evacuation," of the CCNPP Unit 3 Emergency Plan states that evacuation is the primary protective action anticipated for onsite personnel who do not have emergency assignments. Evacuation shall commence in accordance with site procedures as directed by the Emergency Plant Manager (EPM) or designee unless a security threat is in progress, which would have an adverse impact on the personnel while leaving the site.

In response to RAI 13.03-6, the applicant stated, in part, that the onsite staffing, facilities, and procedures will be adequate to accomplish actions necessary in response to a security event, and the CCNPP Unit 3 Emergency Plan and/or procedures reflect the specific site needs. In addition, the applicant stated that the EPM can utilize judgment to direct other protective measures if personnel assembly, accountability, and evacuation result in undue hazards to site personnel.

The applicant's subsequent response to Supplemental RAI 13.03-38(B) stated, in part, that further specific detail with regards to the below bullets are appropriate for EIPs, which have not yet been developed for CCNPP Unit 3. However, EP ITAAC contained in Part 10, Table 2.3-1 of the COL application include criteria to confirm that each of the implementing procedures for the CCNPP Unit 3 Emergency Plan are submitted to the NRC no less than 180 days prior to fuel load.

Bullets in RAI response:

- evacuation of personnel from areas and buildings perceived as high-value targets;
- site evacuation by opening, while continuing to defend, security gates;
- dispersal of key personnel;
- on-site sheltering;
- staging of emergency response organization personnel in alternate locations pending restoration of safe conditions;
- implementation of accountability measures following restoration of safe conditions.

Clarify in the CCNPP Unit 3 Emergency Plan the title of the EPIP that contains a range of protective measures, other than evacuation, that can be utilized by the EPM during a security-based event consistent with NRC Bulletin 2005-02.

3. In response to RAI 13.03-35, the applicant stated that offsite assembly areas are positioned North and South of the station to protect arriving personnel from hostile action at the site. The applicant references the alternate mustering facility as described above and states that LOAs have been obtained (included in Appendix 3) consistent with CCNPP Units 1 and 2, to establish St. Leonard Volunteer Fire Department and Rescue Squad, and Solomon's Island Fire and Rescue, as alternate mustering locations for ERO responders. In addition, the applicant stated that if the decision is made to establish an OSC and/or a TSC away from the site, then the ERO at the assembly areas will be directed to the EOF to conduct response activities from that location. The EOF meets the attributes for the alternate facility described in NRC Bulletin 2005-02 as stated above.

Clarify whether the size of the EOF, and its equipment, are sufficient to support response to an emergency as an alternate location for the OSC and/or TSC, as well as an EOF.

13.03-47

Subject: Emergency Facilities and Equipment

Basis: 10 CFR 50.47(b)(8); Supplement 1 to NUREG-0737; NUREG-0654/FEMA-REP-1, Evaluation Criterion H.2

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criterion 1, 2, 5, and 25

Section 3, "Multi-Unit Site Considerations," of Part 5, "CCNPP Unit 3 Impact to CCNPP Units 1 & 2 Emergency Preparedness Program Evaluation," states that the existing EOF for Units 1 and 2 will also be used for Unit 3. Commitments made by the applicant in this evaluation that address EOF Human Factors for the addition of Unit 3 are as follows:

- A human factors evaluation will be performed to ensure that the shared systems used for event assessment are appropriately designed to distinguish Unit 3 from Units 1 and 2.
- A task analysis will be performed to ensure communications, accommodations and administrative resources in the EOF are appropriately laid out to support Unit 3 response requirements and address any impacts to the existing Units.
- Facility layout and furnishings will be evaluated and modified to the extent necessary to allow for combined use if concurrent events are declared at Units 1, 2, and 3, and activation of both EROs is required.
- A drill requiring mobilization and response activities of both EROs will be conducted prior to operation of Unit 3 to demonstrate the ability of all utility emergency facilities to support a concurrent event. This drill will evaluate the adequacy of space, furnishing, communications, monitoring systems, and shared resources to ensure response functions for either unit are not degraded (in capability or timeliness) when responding to a concurrent event.

Propose a license condition, or EP ITAAC, to address each commitment above, or provide justification of why this is not needed.

13.03-48

Subject: Accident Assessment

Basis: 10 CFR 50.47(b)(9); Supplement 1 to NUREG-0737; NUREG-0654/FEMA-REP-1, Evaluation Criterion I.8

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criterion 1, 2, 5, and 30

Section I.8, "Monitoring Teams," of the CCNPP Unit 3 Emergency Plan states, in part, that the licensee monitoring teams are dispatched when radioactive material may be released from the plant. Monitoring teams are composed of two individuals that collect radiological survey and sample data, which is used to define affected area boundaries, assess magnitude, and verify or modify PARs. Data from teams are transmitted to the emergency facilities. This capability exists onsite 24 hours a day.

Clarify in the Emergency Plan how the capability to conduct offsite surveys and sampling exists 24 hours a day, when Table B-1a of the Emergency Plan does not specify any on-shift ERO responders as performing this activity, or provide justification for why this information is not needed.

13.03-49

Subject: Offsite Medical Services

Basis: 10 CFR 50.47(b)(11); Appendix E.IV.E.7 to 10 CFR Part 50, NUREG-0654/FEMA-REP-1, Evaluation Criterion L.1

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criterion 1, 2, and 18

Section L.3, "Medical Service Facilities," of the CCNPP Unit 3 Emergency Plan states that the licensee maintains an agreement with local hospitals and physicians trained in radiological emergency response. A team of physicians, nurses, health physicists, and necessary support personnel are on-call to provide assistance at the Calvert Memorial Hospital (CMH), or at the accident site.

Clarify in the CCNPP Unit 3 Emergency Plan, whether letters of agreement have been established with local hospitals and medical transportation services for backup transportation and treatment of potentially contaminated injured personnel, or provide justification for why this information is not needed. Provide Letters of Agreement, as appropriate, for these services.

13.03-50

Subject: Emergency Preparedness Drills and ITAAC

Basis: 10 CFR 50.47(b)(14); NUREG-0654/FEMA-REP-1, Evaluation Criterion N.1.b; 10 CFR 52.80(a)

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criterion 23 and 24

The applicant proposed EP ITAAC 10.2 to ensure an off-hours/unannounced drill will be conducted prior to full power operation to test mobilization of the onsite ERO. However, EP ITAAC are scheduled to be completed prior to fuel load.

Revise EP ITAAC 10.2 to eliminate the phrase, "prior to full power operation," or provide justification for why this is not necessary.