

ClinchRiverESPHFNPEm Resource

From: Sutton, Mallecia
Sent: Tuesday, September 19, 2017 5:10 PM
To: Schiele, Raymond Joseph
Cc: ClinchRiverESPSafRAIPEm Resource; Fetter, Allen; pshastings@tva.gov; Colaccino, Joseph; Diec, David; Rivera, Alison
Subject: Issuance of RAI pertaining to Section: 13.06.03 - Physical Security
Attachments: CRNS ESP Final RAI PH-02 8735.pdf

Good Afternoon,

This email is a formal issuance of an RAI pertaining to Section: 13.06.03 - Physical Security of your application, (RAI Number-02, eRAI-8735), for the Clinch River Nuclear Site ESP application review. The draft version of the RAI was provided to TVA on 9/15/2017, and a clarification call on the draft RAI was requested by TVA. The clarification call took place on 9/19/2017, and TVA gained a better understanding of the level of detail needed by NRC staff in order to help ensure that an effective RAI response is provided.

The schedule we have established for the review of the application assumes technically correct and complete responses within 30 calendar days of receipt of RAIs. For any RAIs that cannot be responded to within 30 calendar days, it is expected that a date for receipt of this information will be provided to the staff within the 30-day period so that the staff can assess how this information might impact the published schedule.

Please contact me if you have any questions.

Thanks,

Mallecia Sutton
U.S. Nuclear Regulatory Commission
Office of New Reactors
Division of New Reactor Licensing
Licensing Branch 3
Washington, D.C.
301-415-0673

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Request for Additional Information 2, eRAI-8735

Issue Date: 09/19/2017

Application Title: Clinch River Nuclear Site, ESP

Operating Company: Tennessee Valley Authority

Docket No. 52-047

Review Section: 13.06.03 - Physical Security - Early Site Permit

Application Section: 1, 2, 3, 13.6

QUESTIONS

13.06.03-1

1. In Part 2, Chapter 2 of the application, the applicant provided CRN site coordinates and indicated that a set of bounding plant parameter envelop (PPE) was identified based upon an evaluation of a number of small reactor designs technology to support the ESP application and that no specific reactor technology had been selected. As a result, the applicant stated that the power block area is only proposed as location of the reactor modules on the site. The applicant also identified a 28-acre land mass (Fig. 3.1-1) for the power block area within a 94-acre allocated for the plant area. The applicant stated that CRN land mass is sufficiently large to allow for the establishment of the security boundaries of the OCA, protected area (PA), vital area (VA), and protected area perimeter isolation zones, with sufficient distance between these security boundaries and vital areas, for the implementation of a physical protection program consistent with the requirements of 10 CFR 73.55 (*See also* 10 CFR 52.17). The staff considers the power block area specific coordinate important to demonstrate that the selected design is bounded by the PPE. Confirm that selection of any specific reactor designs technology discussed in Section 2 of the application will not invalidate the proposed location of the power block area.

13.06.03-2

1. 10 CFR 52.17(a)(1)(x) requires that the applicant provide information demonstrating that site characteristics are such that adequate security plan and measures can be developed. 10 CFR 73.55 and Part 73, Appendix C.II.B.3.b, require an applicant to discuss site characteristics (e.g., physical layout) that could impact the development of the security plan.

In Part 2, Chapter 2, Section 2.2.3.1.1.3, the applicant discussed the effects from explosion of the two natural gas transmission pipelines within the vicinity of the CRN site. It is not clear to the staff that the applicant-conducted pipeline assessment considered any physical protection implications, specifically the failure of East Tennessee Natural Gas Pipeline 1, with regard to the heat effect of thermal radiation from a sustained jet fire and from explosions. The applicant is requested to discuss how such an event, specifically the pressure induced by such an explosion and the heat

flux induced by a jet fire, was considered in the future development of the security plan.

In Table 2.2.4, there appears to be missing information with regard to distances between isolation valves of both the East Tennessee Natural Gas Pipelines 1 and 2. Identify locations and distances of these valves as part of site specific characteristics.

Note: The information addressing specific details related to site impediments and security features may be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to this request for information (RAI) as appropriate to identify SGI that reveals the specific details of security impediments. The RAI responses supplementing the Part 2 document must be publicly available.

13.06.03-3

1. In Part 2, Section 2.2.2.2.2, the applicant stated that the transportation route I-40 corridor is the most significant and closest highway to the CRN site, which is just over 1 mile from the site power block area. The applicant also indicated that transportation route was evaluated for potential impact to ORNL. 10 CFR 73.55 and Part 73, Appendix C.II.B.3.b, require a licensee to discuss site characteristics which could impact the development of the security plan. Confirm that the impact assessment of transportation routes for ORNL is also bounded for CRN site and will not impact the ability to develop CRN specific security plan.

Note: The information addressing specific details related to site impediments and security features may be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to this request for information (RAI) as appropriate to identify SGI that reveals the specific details of security impediments. The RAI responses supplementing the Part 2 document must be publicly available.

13.06.03-4

1. In Part 2, Section 13.6, the applicant stated that the characteristics of the new plant footprint are such that the applicable requirements of the following are met: 10 CFR 100.21(f) and 73.55. Confirm that selection of any specific reactor designs technology discussed in Section 2 of the application and will not impact the development of the security plan (e.g. site specific security, engineering designed features and monitoring equipment, and security methods for screening station operating personnel) as required per NRC Regulatory Guide 4.7, General Site Suitability Criteria for Nuclear Stations; NEI 03-12, Template for Security Plan and Training and Qualification Plan; EA-03-086,

Revised Design Basis Threat Order, in addition to the requirements of 10 CFR 100, §100.21(f) and 10 CFR 73, §73.55.