

NRR-PMDAPEm Resource

From: Gratton, Christopher
Sent: Thursday, April 10, 2014 3:51 PM
To: Westcott, Daniel (Daniel.Westcott@duke-energy.com)
Subject: MF3415/MF2981 RAI on EP Exemptions, EAL Scheme Change and E Plan Amendment
Attachments: MF3415 DRAFT RAI. docx.docx

Mr. Westcott,

By letter dated September 16, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13274A584), Duke Energy Florida, Inc. (DEF, or the licensee) submitted a license amendment request regarding Crystal River Nuclear Plant Unit 3 (CR-3) Facility Operating License. The proposed license amendment request (LAR) would authorize a revised Emergency Plan and Emergency Action Level scheme. The LAR included exemptions that support the proposed amendment request.

The Nuclear Regulatory Commission (NRC) staff has performed a preliminary review of the request and found that some further information is needed to complete the staff's review. The staff's draft information request is attached to this email. The NRC considers that timely responses to request for additional information (RAIs) help ensure sufficient time is available for the NRC staff review and contribute toward the NRC's goal of efficient and effective use of staff resources.

Please provide your response by May 9, 2014.

You may request a conference call to discuss the contents of this draft RAI with the NRC staff, including any change to the proposed schedule. Please send me an email if you do not need a conference call to clarify the draft RAI. If you do not require a call to clarify the draft RAI, the information request will be considered final.

Respectfully,

Christopher Gratton
Sr. Project Manager
PM Crystal River Nuclear Generating Plant
NRR/DORL/LPL 4-2 and Decommissioning Transition Branch
301-415-1055
Mail Stop O-8G9a
Christopher.Gratton@nrc.gov

Hearing Identifier: NRR_PMDA
Email Number: 1238

Mail Envelope Properties (Christopher.Gratton@nrc.gov20140410155000)

Subject: MF3415/MF2981 RAI on EP Exemptions, EAL Scheme Change and E Plan Amendment
Sent Date: 4/10/2014 3:50:51 PM
Received Date: 4/10/2014 3:50:00 PM
From: Gratton, Christopher

Created By: Christopher.Gratton@nrc.gov

Recipients:
"Westcott, Daniel (Daniel.Westcott@duke-energy.com)" <Daniel.Westcott@duke-energy.com>
Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	1657	4/10/2014 3:50:00 PM
MF3415 DRAFT RAI. docx.docx		35760

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

DRAFT REQUEST FOR ADDITIONAL INFORMATION
 CRYSTAL RIVER UNIT 3
 PERMANENTLY DEFUELED EMERGENCY PLAN AND EMERGENCY ACTION LEVEL
 SCHEME, AND REQUEST FOR EXEMPTION TO CERTAIN RADIOLOGICAL EMERGENCY
 RESPONSE PLAN (TAC NOS. MF3415, MF2981)

By letter dated September 26, 2013, (Agency-Wide Documents Access and Management System (ADAMS) Accession Number ML13274A584), Duke Energy Florida, Inc. (DEF) requested a license amendment to the Radiological Emergency Response Plan for the Crystal River Nuclear Plant, Unit 3 (CR3 RERP). DEF requests review and approval of a revision to the CR3 RERP to revise the emergency action level scheme and emergency plan to support the permanently defueled condition of CR3 as stated in the letter dated March 13, 2013 (ADAMS Accession Number ML13058A380).

RAIs related to the E Plan Amendment and EAL Scheme Change

The NRC staff reviewed the LAR using the guidance contained in 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," as revised to support an emergency plan for a decommissioning nuclear facility.

The following matrix provides the applicable references used to review the applicable sections of the CR3 LAR:

CR3 RERP Section	Planning Standard (10 CFR 50.47)	Planning Requirement (Appendix E.IV)	NUREG-0654, Section II Evaluation Criteria (EC)
5.0	(b)(1)	A.1, 2, 4, 7	A
6.0	(b)(2)	A.1, 2, 4, 9; C.1	B
7.0	(b)(3)	A.6, 7	C
8.0 (and EAL scheme)	(b)(4)	B.1, 2; C.1, 2	D (and NEI 99-01 R6)
9.0	(b)(5)	A.6, 7; C.1, 2; D.1, 3; E	E
10.0	(b)(6)	C.1; D.1, 3; E	F
11.0	(b)(7)	A.7; D.2	G
12.0	(b)(8)	E; G	H
13.0	(b)(9)	A.4; B.1; C.2; E	I
14.0	(b)(10)	C.1; E; I	J
15.0	(b)(11)	E	K
16.0	(b)(12)	A.6, 7; E	L
17.0	(b)(13)	H	M
18.0	(b)(14)	E9; F	N
19.0	(b)(15)	F	O
20.0	(b)(16)	G	P

Based on the staff's initial review of the submittal, the requests for additional information (RAIs) listed below are necessary to facilitate the staff's technical review. Supplemental RAIs may be required based on the staff's concurrent technical review of DEF's requested exemptions to radiological emergency plan requirements contained in Enclosure 2 to DEF's letter dated September 26, 2013.

CR3-RAI-01 [Section 5.0]:

- a. Please provide a block diagram illustrating the organizational and functional interrelationships between the various organizations and sub-organizations having a role in managing and responding to an event at CR3 (Ref.: EC A.1.c).
- b. Please provide further justification for extending the notification time requirement for emergency declarations to designated offsite response organizations for 15 minutes to 60 minutes, as stated in Section 5.5.2, and for removal of local counties from emergency declaration notification.

CR3-RAI-02 [Section 6.0]:

- a. Figure 6.1 (CR3 Emergency Response Organization) does not provide sufficient detail to allow for an appropriate regulatory review. Please provide additional detail explaining: (1) the on-shift staff-members who fulfill the stated positions; (2) whether they have multiple functions assigned, and (3) the augmentation timing expectations for each on-shift position.
- b. Please provide additional justification to support extending emergency response organization (ERO) staff augmentation time to 4 hours.
- c. The cross-functional responsibilities of the Emergency Mitigation Coordinator appear to be extensive. Please provide an outline of the training this position will receive to ensure competency to perform stated responsibilities.
- d. Please provide an outline of the training provided to Radiation Monitoring personnel (i.e., Are they American National Standards Institute (ANSI) qualified Health Physics technicians?).
- e. Please explain which staff members are considered to be qualified Medical Response personnel; are these members considered on-shift staff, and if these staff members have other responsibilities that may preclude timely performance of their medical duties.
- f. Please explain which staff members are considered to be part of the Fire Brigade, including the Fire Brigade Leader, and if these staff members have other responsibilities that preclude timely performance of their duties.

CR3-RAI-03 [Section 8.0]:

- a. Please justify why the applicable counties associated with CR3 are not mentioned in Section 8.2, with the State for Florida, when stating the requirement for annual review of emergency action levels (EALs).

CR-3-RAI-04 [Enclosure 5, "Permanently Defueled Emergency Action Level Bases Manual]

- a. Please annotate in Section 1 (Purpose) that this document will be maintained in accordance with 10 CFR 50.54(q).
- b. Please explain why the definition for an "Alert" classification is not as stated in the endorsed guidance, or revise accordingly.
- c. Please explain why the definition for "Emergency Classification Level," with the exception of the Site Area Emergency and General Emergency references, is not as stated in the endorsed guidance, or revise accordingly.
- d. Please explain why the definition for "Hostile Force" is not as stated in the endorsed guidance, or revise accordingly.
- e. Please explain why the definition for "Imminent" is not as stated in the endorsed guidance, or revise accordingly.
- f. For EAL PD-AU1, please explain if RM-A2 indication, and/or alarm, is available in the Control Room and if the setpoint is within the calibrated range and resolution of the instrument.
- g. For EAL PD-AU1, please explain how EAL #2 is declared in a timely fashion and whether the capability to perform this evaluation is maintained on-site on a 24-hour per day, seven days per week (24/7) basis.
- h. For EAL PD-AA1, please explain why the note (4th bullet) from the endorsed guidance, related to only using the pre-calculated effluent monitor values presented in EAL #1 until the results from a dose assessment using actual meteorology are available, is not included, or revise accordingly.
- i. For EAL PD-AA1, the term "exclusion" is apparently consistently misspelled as "exclusion." Please revise or provide a definition of "exclusion."
- j. For EAL PD-AA1, please provide justification that EAL #3 and EAL #4 can be declared in a timely manner and that the capability for these evaluations is maintained on-shift (24/7 basis).
- k. For EAL PD-AA2, please explain why the basis language from the endorsed guidance for EAL AA3 was not incorporated into the basis language for CR3 PD-AA2.
- l. For Attachment 2, please provide all the applicable notes to the EALs on the Emergency Classification Tables.

CR3-RAI-05 [Section 10.0]:

- a. The State Hot Ringdown phone is stated as the primary means of communication among the CR3 Control Room and the State Watch Office-Tallahassee (SWOT). Please explain why it is not tested monthly as stated in 10 CFR 50, Appendix E (Section IV.E.9.a)
- b. Please provide additional detail on the ERO call-out process, particularly: (1) Who is responsible; (2) Whether process is automated (normally), and (3) How long it takes on average to complete. (Ref.: EC F.1)

CR3-RAI-06 [Section 11.0]:

- a. Please explain how the following criteria for public education and information will be addressed:
 - Designate a spokesperson having access to all necessary information. (EC G.4.a)
 - Arrangements for timely exchange of information among designated spokespersons. (EC G.4.b)
 - Coordinated arrangements for dealing with rumors. (EC G.4.c)

CR3-RAI-07 [Section 12.0]:

- a. Please provide further detail as to the physical location of the Control Complex and the level of radiological protection provided based on applicable accidents analyzed.
- b. Section 12.2.1 is of insufficient detail to adequately review. Please provide more detail in regards to: (1) proposed changes to the Radiation Monitoring System as currently described in the FSAR and their impact on emergency plan requirements, and (2) field monitoring capabilities.
- c. Please confirm that all the annunciators and computer alarms referenced in Section 12.2.4 will continue to be available in the Control Room to support emergency plan requirements.
- d. Please explain the periodicity of inventory and operational checks for emergency equipment, as well as additional detail as to what is considered emergency equipment. (Ref.: EC H.10 & H.11).

CR3-RAI-08 [Section 13.0]:

- a. Please provide additional detail related to: (1) how assessments are performed on-shift, and (2) how all the EALs escalating to an Alert are classified, prior to the ERO being on-site and available to assist.

- b. Please provide additional detail on how onsite capability and resources to provide initial values and continuing assessment throughout the course of an accident, as applicable, would continue to be met. (Ref.: EC I.2)

CR3-RAI-09 [Section 14.0]:

- a. Sections 14.1.2 and 14.2 refer to implementing procedures for information related to exposure control, protective actions, personnel accountability, and evacuations. Please provide these procedures, along with documentation that they will be controlled in accordance with 10 CFR 50.54(q), or revise this section of the CR3 RERP accordingly. (Ref.: EC J.1, J.2, & J.3)
- b. As currently described, the need for accountability subjective and not well-defined, particularly in relation to the time it is expected to take and how accountability is maintained after it has been initially completed. (Ref.: EC J.5 & J.6).

CR3-RAI-10 [Section 18.0]:

- a. Please explain why Health Physics drills are not identified to be performed semi-annually (Ref.: EC N.2.e(1))

CR3-RAI-11 [Section 19.0]:

- a. Please provide more detail about the training program, specifically:
 - Where it is maintained;
 - Who is responsible for it;
 - Specific content for all refresher training (not ad-hoc);
- b. Explain why no training exists to align with the concepts of, or reference, the National Incident Management System (NIMS) and the Incident Command System (ICS) philosophies to ensure the continued effective coordination of offsite emergency organizations (i.e., fire, medical, law enforcement) responding onsite.

CR3-RAI-12 [Section 20.0]:

- a. While Section 20.3 states that revisions to the Permanently Defueled Emergency Plan will be reviewed in accordance with the requirements of 10 CFR 50.54(q), it does not describe the review of changes to the implementing procedures listed in Appendix A. Please explain whether procedure these procedures will be maintained in accordance with 10 CFR 50.54(q), or provide justification why not.
- b. Section 20.4 states that an audit of the Permanently Defueled Emergency Plan, applicable implementing procedures, and training and drill will be conducted in accordance with standard approved audit practices and instructions. Please explain who

performs the audit and how independence is maintained, since no generally accepted standard is referenced. (Ref.: EC P.9)

- c. Please explain how personnel responsible for planning effort (maintaining the RERP and RERP program) are trained to ensure proficiency (Ref.: EC P.1)

CR3-RAI-13:

Mitigative strategies for spent fuel pool cooling have been documented and addressed in several documents, as well as in this LAR (for example, Enclosure 1, Section 3.0, Enclosure 2, Exemption 36, and Enclosure 6, Sections 5.0, 6.0 & 7.0). In particular, the Safety Evaluation dated August 23, 2007, (ADAMS Accession Number ML072260008) documented several mitigative strategies related to the spent fuel pool. Please provide evidence that these strategies will: (1) continue to be available and controlled in respective CR3 procedures, and (2) maintained in accordance with the requirements of 10 CFR 50.54(q). Note that the details related to spent fuel pool strategies are contained in Appendix B to the Safety Evaluation referenced above, and that this Appendix is considered to be Security-Related information and is to be withheld from public disclosure.

RAIs Related to the EP Exemptions

CR3-RAI-14

In section 2.1 of Enclosure 6 of the September 26, 2013, submittal (Agencywide Documents Access and Management System Accession No. ML13274A584), the licensee states: "The methods employed in this calculation involve use of NRC software programs ARCON96 and PAVAN, each of which uses CR-3 specific meteorological data, in addition to certain site specific parameters, to generate χ/Qs ."

Please provide the site specific meteorological data used in the calculation of the χ/Qs , including the 5 year dataset used for input into ARCON96, the joint frequency distribution used for input into PAVAN, and the 5 year dataset prepared in the format suggested by Reg. Guide 1.23.

CR3-RAI-15

In section 2.1 of Enclosure 6 of the submittal, the licensee states: "Atmospheric dispersion factors (χ/Qs) were calculated for potential receptor locations for airborne releases of radioactive material from possible accidents and events that may occur during the decommissioning of CR-3. The χ/Qs were determined for a number of onsite and offsite receptor locations and for a number of onsite release points."

Please provide the list of possible accidents, the corresponding release to receptor pairs, the release and receptor heights, distances, and directions. Please provide the calculated χ/Q values for each accident as determined for each averaging period starting from 0-2 hours up to 30 days. Confirm that the most conservative value was chosen for the dose analysis.

CR3-RAI-16

In section 2.2 of Enclosure 6 of the submittal, the licensee states: "Design inputs for the ARCON96 and PAVAN computer runs are based on plant site physical and meteorological characteristics. In some cases, alternate design input values were used to assess sensitivity of the results to changes in parameters and to derive more conservative results."

- a. Please provide all of the inputs and assumptions used for the ARCON96 and PAVAN calculations, such as release and receptor heights, distance and direction from release to 2 receptors, building area, EAB and LPZ distance, etc. Please include the true values based on the physical layout of the plant as well as the alternate input values that may have been used in place of the true values.
- b. Please provide the χ/Q values calculated from the true plant site values as well as the alternate values and confirm that when alternate input values were used they resulted in more conservative χ/Q s.
- c. Please provide one or more scaled figures with all postulated sources and receptors highlighted from which distance and direction inputs can be approximated. Please explain whether the release to receptor distance inputs into the ARCON96 calculations were directly as straight line horizontal distances, please explain how they were determined.