NRR-PMDAPEm Resource

From: Miller, Ed
Sent: Friday, October 09, 2015 1:59 PM
To: 'Richards, Brian H (Brian.Richards@duke-energy.com)'
Subject: One-Time RHR AOT LAR
Attachments: MF6666_7 Draft RAI_SBPB.docx

Brian,
The NRC staff's draft RAI for the subject amendment is attached to this e-mail. The draft RAI is not an official NRC staff request and is being provided to you to facilitate a subsequent conference call to determine: 1) If the questions clearly convey the NRC staff information needs; 2) Whether the regulatory basis for the questions is understood; 3) Whether the information is already available in existing, docketed, correspondence; and 4) To determine an appropriate response time-frame. After you've had a chance to review the draft information request, please contact me to schedule the conference call.

Ed Miller
(301) 415-2481

Hearing Identifier: NRR_PMDA
Email Number: 2443

Mail Envelope Properties (5f89adc1214949d8bcfdc457e19a8d99)

Subject: One-Time RHR AOT LAR
Sent Date: 10/9/2015 1:59:14 PM
Received Date: 10/9/2015 1:59:00 PM
From: Miller, Ed

Created By: Ed.Miller@nrc.gov

Recipients:
"'Richards, Brian H (Brian.Richards@duke-energy.com)'" <Brian.Richards@duke-energy.com>
Tracking Status: None

Post Office: HQPWMSMRS03.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	655	10/9/2015 1:59:00 PM
MF6666_7 Draft RAI_SBPB.docx	37626	

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

REQUEST FOR ADDITIONAL INFORMATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO A LICENSE AMENDMENT REQUEST REGARDING A

TEMPORARY EXTENSION TO RESIDUAL HEAT REMOVAL ALLOWED OUTAGE TIME

DUKE ENERGY CAROLINAS, LLC

MCGUIRE NUCLEAR STATION, UNIT 1

DOCKET NO. 50-369

By letter dated August 28, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15244B179), Duke Energy Carolinas, LLC (Duke Energy) submitted a license amendment request (LAR) to temporarily change McGuire Nuclear Station (MNS), Unit 1, Technical Specifications (TSs) for correction of a degraded condition affecting the 1A Residual Heat Removal pump motor air handling unit.

Based on the NRC staff's review of this amendment request, the NRC staff has determined the following additional information is necessary to support completion of its technical review:

RAI 1

Background:

Duke Energy stated in the amendment that defense-in-depth measures will be installed for the duration of the repairs to the 1A residual heat removal (RHR) air handling unit (AHU).

Issue:

Engineering change (EC) process was used to provide reasonable assurance that the defense-in-depth measures would support continued availability of the 1A RHR system train ECCS function and that the measure would not adversely impact the safety function of other systems, structures, and components that are not part of the 1A RHR train system train.

Request:

Describe in detail the engineering change that supports this reasonable assurance. This should include (but not limited too):

1. Expected RHR 1A room heat load calculations and one hour heat up (for no cooling or fan needed)
2. Available heat removal capacity with the temporary chiller/fan/cooling water supply
3. Required fire protection flow rate and water temperature requirements to support the heat removal capacity
4. Internal missile analysis for this temporary equipment

5. Loss of refrigeration evaluation for this temporary AHU
6. Failure modes and affect analysis of this temporary AHU related to safety-related equipment in the area
7. Available clearance between the temporary AHU (chiller/fan/cooling water supply) and work that will be performed on the RHR 1A fan (provide drawings if available)

RAI 2

Background:

Duke Energy stated in the amendment that the requested allowed outage time (AOT) required is 240 hours.

Issue:

Of the 240 hours requested for the AOT, sixth-five (65) hours are allocated during the repairs for unanticipated repairs; for example, fan wheel cracking, significant shaft damage.

Request:

1. Describe all the spare parts the will be on site related to the unanticipated repairs so that if needed, repairs will be performed within the new proposed AOT of 240 hours.

2. Describe if new cooling coils are part of this contingent, in case of damage during disassemble or reassembly.

3. For item 2, describe the addition testing that would be required for these new parts, if replaced, and has this time added to the time line to be completed in this new AOT of 240 hours.

RAI 3

Background:

Duke Energy stated in the amendment that compensatory measures and commitments will be in place for the requested AOT time required of 240 hours.

Issue:

Several commitments are performed ‘prior to exceeding’ the 72 hour AOT. That is:

1. Testing of the chiller and AHU
2. Sump pump availability
3. Protected equipment
4. Monitor the National Weather Service
5. Contact Transmission Control Center
6. Establish roving fire watches in 6 areas
7. Procedure will have been developed to start alternate cooling

Request:

Justify why the above noted commitments are not performed before exceeding the normal 72 hours AOT. Based on the proposed time line, after AHU inspections (i.e., at the end of 53 hours), if the AHU bearing needs to be replaced, it would seem that the commitments should have been established before entering the initial work.

Describe why performing these 7 commitments at this point of the work has a benefit for defense-in depth function.

Describe why training is not part of these commitments as it relates to procedures for operating the temporary AHU equipment.

Additionally, please justify why a regulatory commitment verses an obligation is the appropriate level of control for these activities.

RAI 4

Background:

Duke Energy stated in the amendment that the potential break in the two inch cooling water supply hose could cause fire protection (RF) to start flooding on elevations 716' or 695' of the Auxiliary Building. Existing flooding analysis calculations have already reviewed the impact of a failure of six inch and eight inch RE piping, so failure of a two inch hose is bounded. Due to the low volume in the closed loop, a break in the 1.5 inch chilled water loop is not a flooding concern.

Issue:

The amendment lacks justification of the 2 inch rubber hose capability to withstand RF pressure. Negative effects to the RHR room and RHR pump/motors have not been evaluated for water spray in the event of RF hose breakage.

Request:

Describe if water spray into the RHR 1A room has been evaluated for negative effects in the event of hose breakage.

RAI 5

Background:

Duke Energy stated in the amendment that the proposed license amendment request (LAR) involves a one-time extension to TS 3.5.2 to facilitate repairs to the 1A RHR AHU. During the AHU repair evolution, important equipment (opposite train) will be protected and compensatory measures will be in place. These activities are controlled by Duke Energy's normal risk management program.

Issue:

TS 3.5.2 Mode of applicability is Modes 1, 2, or 3. The repair work is assumed to have started with Unit 1 in Modes 1, 2 and 3. While in Mode 1, in the event of a Unit 1 reactor trip with the 1A RHR AHU ongoing maintenance, it is not clear the course of action during an unexpected shutdown. That is, the LAR does not specifically address, for example, TS 3.0.3 is entered during the extended repairs for Unit 1 RHR 1A AHU.

Request:

If Unit 1 must comply with Technical Specification and enters Mode 4 and Mode 5 with only one Operable RHR (since the AHU is being repaired), describe the necessary steps that would take place and include any additional compensatory measures and commitments that have not been previously addressed (while in Mode 1, 2 or 3). Specifically, address Mode 4 and Mode 5 actions with only one RHR pump Operable.