NRR-PMDAPEm Resource

From: Feintuch, Karl
Sent: Friday, June 15, 2012 12:49 PM
To: Browning, Tony
Cc: Mazumdar, Subinoy; Bucholtz, Kristy; Razzaque, Muhammad
Subject: ME8572 - Duane Arnold LAR Re: Core Spray - Request for Additional Information (RAI
Attachments: ME8572 DAEC Core Spray Logic RAI 2012-06-15.docx

REQUEST FOR ADDITIONAL INFORMATION (RAI)
REVISION TO ONE-TIME TS CHANGE REGARDING CS OPERABILITY DURING SHUTDOWN
DUANE ARNOLD ENERGY CENTER (DAEC)
TAC # ME8572

By application dated May 1, 2012, NextEra Energy Duane Arnold LLC, requested changes to the Technical Specifications (TS) for Duane Arnold Energy Center (DAEC). The proposed change would revise the DAEC TS on a one-time basis by adding a footnote to TS Table 3.3.5.1-1, Function 1.d, Modes 4 and 5, specifying that Function 1.d is not required to be met during Refueling Outage 23 in Modes 4 and 5.

The NRC staff has identified the need for additional information to complete its review of the LAR. There are 2 Request for Additional Information Items (RAII) contained in the attached RAI

Please contact me as needed to schedule a conference call with the Reviewers to clarify what is requested. The stated “request by” date is subject to mutual agreement and to expedite the aggressive schedule needed for this licensing action.

Karl Feintuch
Project Manager
USNRC
301-415-3079

Hearing Identifier: NRR_PMDA
Email Number: 393

Mail Envelope Properties (Karl.Feintuch@nrc.gov20120615124900)

Subject: ME8572 - Duane Arnold LAR Re: Core Spray - Request for Additional Information (RAI
Sent Date: 6/15/2012 12:49:13 PM
Received Date: 6/15/2012 12:49:00 PM
From: Feintuch, Karl

Created By: Karl.Feintuch@nrc.gov

Recipients:
"Mazumdar, Subinoy" <Subinoy.Mazumdar@nrc.gov>
Tracking Status: None
"Bucholtz, Kristy" <Kristy.Bucholtz@nrc.gov>
Tracking Status: None
"Razzaque, Muhammad" <Muhammad.Razzaque@nrc.gov>
Tracking Status: None
"Browning, Tony" <Tony.Browning@fpl.com>
Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	1098	6/15/2012 12:49:00 PM
ME8572 DAEC Core Spray Logic RAI 2012-06-15.docx	40380	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
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The NRC staff has identified the need for additional information to complete its review of the LAR. There are 2 Request for Additional Information Items (RAII) to which have been assigned tracking numbers to facilitate further discussion, if needed:

1. ME8572-RAII-STSB-Bucholz-001-2012-06-29 and
2. ME8572-RAII-SRXB-Razzaque-001-2012-06-29

These tracking numbers identify:
(1) the sources of RAII by Technical Branches (Technical Specifications (STSB) and Reactor Systems (SRXB) Branches;
(2) the specific Reviewers, Kristy Bucholtz and Muhammad Razzaque, who requested the information along with a sequential number (in this case 001 for both) for unique identification; and
(3) a “request by” date nominally set at June 29, 2012 (2012-06-29) subject to confirmation and based on the earlier decision to pursue an aggressive review schedule. Optional use of “Bucholz-001” or “Razzaque-001” in later correspondence or discussions would also uniquely identify items.

Common acronyms used in this RAI include (some acronyms are defined in close proximity to their use):

CFR = Code of Federal Regulations
CST = Condensate Storage Tank
ECCS = Emergency Core Cooling System
LCO = Limited Condition of Operation
RFO = Refueling Outage
STSB = Technical Specifications Branch
SRXB = Reactor Systems Branch
SR = Surveillance Requirement
TS = Technical Specifications

ME8572-RAII-STSB-Bucholz-001-2012-06-29

In letter dated May 1, 2012, NextEra Energy Duane Arnold, LLC, (the licensee) proposed changes to the Technical Specifications (TS) for Duane Arnold Energy Center (DAEC). The proposed changes would revise the DAEC TS on a one-time basis by adding a footnote to TS Table 3.3.5.1-1, Function 1.d, Modes 4 and 5, specifying that Function 1.d is not required to be met during Refueling Outage 23 in Modes 4 and 5. DAEC TS Table 3.3.5.1-1 function 1.d currently states:

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
d. Core Spray Pump Discharge Flow – Low (Bypass)	1, 2, 3 4[(a)], 5[(a)]	1 per pump	E	SR 3.3.5.1.3 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 256.6 gpm and ≤ 2382.1 gpm

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, ECCS-Shutdown.

Specifically, the proposed changes, as shown below, would add footnote * to Modes 4 and 5 in DAEC TS Table 3.3.5.1-1 for function 1.d.

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
d. Core Spray Pump Discharge Flow – Low (Bypass)	1, 2, 3 4[(a)*], 5[(a)*]	1 per pump	E	SR 3.3.5.1.3 SR 3.3.5.1.8 SR 3.3.5.1.9	≥ 256.6 gpm and ≤ 2382.1 gpm

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, ECCS-Shutdown.

* This requirement is not required to be met during Refueling Outage (RFO) 23.

Basis for the Request

The licensee stated in its application that the proposed TS change would revise the DAEC TS on a one-time basis by adding a note to TS Table 3.3.5.1-1, Function 1d, Modes 4 and 5, specifying that Function 1d is not required to be met during RFO 23 in Modes 4 and 5. Proposed footnote *, "This requirement is not required to be met during Refueling Outage (RFO) 23," is not clear which requirement is referenced.

Request for Additional Information #1

Provide a footnote that states which requirement is affected, how the requirement is affected, when it is applicable, and the duration and/or time frame.

For example, Footnote *, "The required channels per function for Function 1.d is 0 per pump during Refueling Outage 23 when in Modes 4 and 5."

Regulatory Analysis Basis

10 CFR 50.90, *Application for amendment of license, construction permit, or early site permit* states:

> "Whenever a holder of a license, including a construction permit and operating license under this part, and an early site permit, combined license, and manufacturing license under part 52 of this chapter, desires to amend the license or permit, application for an amendment must be filed with the Commission, as specified in §§ 50.4 or 52.3 of this chapter, as applicable, fully describing the changes desired, and following as far as applicable, the form prescribed for original applications."

========= End ME8572-RAII-STSB-Bucholz-001-2012-06-29 ==========

ME8572-RAII-SRXB-Razzaque-001-2012-06-29

In the Technical Specification (TS) for DAEC, Surveillance Requirement (SR) 3.5.2.2, (b) states [A box was added for this RAI to contain the entire quote]:

> ----------NOTE----------
> Only one required CS subsystem may take credit for this option during OPDRVs. [Operations with the Potential for Draining the Reactor Vessel]
> ----------
> Condensate storage tank water level in one CST is ≥ 11 ft or ≥ 7 ft in both CSTs."

The staff understands that the main reason for the above noted TS requirement to allow only one Core Spray (CS) subsystem (out of two required low pressure ECCS subsystems) to take credit for drawing water from condensate storage tank (CST) is a consequence of the limited amount of water in the CST. In order to assure adequate supply of water, the other required ECCS subsystem pump is aligned to the Suppression Pool (SP). SP can be assumed to be an unlimited source of water because in case of a reactor pressure vessel (RPV) draindown, the drained water can be recycled back to RPV via SP (SP is designed to reject the decay heat to the ultimate heat sink). Therefore, the NRC staff believes that if both the CS pumps are to be aligned to CST (when SP is unavailable) with fuels still in the RPV, then a RPV draindown cannot be mitigated that lasts long enough to provide time to use all of available CST water. Consequently, fuels in the RPV can become uncovered during such a postulated draindown scenario. In light of the above discussion, please provide the following additional information:

Justify how DAEC can prevent and mitigate such a draindown event during OPDRV, as postulated above, using two CS subsystems both of which are aligned to CST which has only limited amount of water and has no ultimate heat sink available. The justification should include reasonable assurance that DAEC is equipped to mitigate such a draindown event for the period when SP will be out of service for re-coating. Otherwise, the NRC staff believes that LCO 3.5.2 should be applicable in MODE 4 and MODE 5, except when the cavity level is ≥ 21 ft, 1 inch above the RPV flange, with the Spent Fuel Pool gates removed, as stated in the DAEC TS.

====== End ME8572-RAII-SRXB-Razzaque-001-2012-06-29 =======