

## **Enclosure 4 to E-45191**

### **List of Additional Changes Not Associated with the RAIs**

## Minor Changes to NUHOMS® EOS Application

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AREVA TN is requesting minor changes to the Technical Specifications (TS), Certificate of Compliance (CoC), and Safety Analysis Report (SAR) that are unrelated to the RAI questions. The proposed changes will not affect the design functions of any component. These changes are primarily editorial in order to provide clarification or consistency. The requested changes are discussed in the following sections of this enclosure.

### 1. Changes to the TS and COC

#### 1.1 Additional Clarification Added to TS LCO 3.1.3 - Time Limit for Completion of DSC Transfer

The text of LCO 3.1.3 was revised in the submittal of the responses to the 2<sup>nd</sup> round of RAIs on April 7, 2016 (E-44592) to clarify that the air circulation system shall be assembled and be verified to be operable within 7 days before commencing TRANSFER OPERATIONS of the loaded DSC. Additional conforming changes are required in the associated REQUIRED ACTION A.2 since the blowers are not directly installed on the transfer skid. Instead, the blowers and their driving generators are installed on a removable rack, which is connected to the skid and carried by the trailer. The blowers and the generators remain operable on the removable rack even when the removable rack is separated from the skid. The revised ACTION A.2 text is listed below with the changed text indicated using track changes:

A.2 If the TC is in a horizontal orientation on *the* transfer skid, initiate air circulation in the TC/DSC annulus by starting one of the *redundant* blowers ~~provided on the transfer skid~~.

#### 1.2 Correction to Concrete Testing Temperature in TS 5.3

The “500 °F” in proposed TS 5.3 has been changed to “350 °F” and now reads:

“Tests shall be performed at or above the calculated peak temperature and for a period no less than the 40 hour duration of HSM blocked vent transient for components exceeding ~~500~~ 350 °F.”

TS 5.3 is based on the following SAR Section 8.2.1.3 passage:

“Per E.4.2 of ACI 349-06 [8-8], the accident conditions or short-term period (i.e., blocked vent accident transient) concrete temperatures are limited to 350 °F. Higher temperatures are allowed per E.4.3 if tests are provided to evaluate the reduction in strength and this reduction is applied to design allowables. HSM concrete compressive tests are performed on specimens heated to or above that maximum accident temperature for no less than 40 hours. HSM concrete temperature testing is performed whenever there is a significant change in the cement, aggregate, or water-cement ratio of the concrete mix design. See Section 5.3 of the TS.”

The intent of the TS is to require testing for components which will exceed 350 °F under accident conditions, as required by ACI-349.

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The original proposed wording in TS 5.3 inadvertently used the “500 °F” from SAR Table 4-17 Note (6). Since no components will exceed 500 °F under accident conditions, as formerly written, the TS would not require any testing, which is clearly not the intent.

### 1.3 Change to TS 1.1 Definitions for STORAGE OPERATIONS and TRANSFER OPERATIONS for completeness

The definitions for STORAGE OPERATIONS and TRANSFER OPERATIONS include “DSC containing fuel assemblies is located in an HSM on the storage pad.” For completeness, the phrase is changed to “DSC containing fuel assemblies is located in an HSM, with the HSM door installed, on the storage pad.”

### 1.4 Change to TS 1.1 Definitions for TRANSFER CASK (TC) for completeness

The definition for TRANSFER CASK (TC) includes “movement of a DSC to the HSM.” For completeness, the phrase is changed to “movement of a DSC to and from the HSM.”

### 1.5 Change to TS LCO 3.1.1 for consistent terminology

LCO 3.1.1 requires that “vacuum drying pressure” be sustained at or below a certain level, but ACTION A and SURVEILLANCE SR 3.1.1 use the term “vacuum pressure.” For consistency, the ACTION and the SURVEILLANCE are changed to match the LCO.

### 1.6 Change to TS LCO 3.2.1 for consistent terminology

LCO 3.2.1 requires that the subject boron concentration be “at least the boron concentration ... ” but ACTION A.2.1 requires verifying that the boron concentration be “greater than that required.” For consistency, the ACTION is changed to match the LCO.

### 1.7 Change to TS 5.1.3(b)(iv) for clarity

The sequence of actions in TS 5.1.3 (b)(iv) has been revised to indicate that an analysis and/or tests of the concrete will be performed if there is evidence that the HSM concrete temperatures have exceeded the concrete accident criteria of 500 °F. In addition, if tests are performed, they are done in accordance with TS 5.3.

### 1.8 Change to CoC description of the HSMS, for consistency with the TS Definition for HORIZONTAL STORAGE MODULE

The TS Definition for HORIZONTAL STORAGE MODULE includes the phrase “a split base (EOS-HSMS),” which does not indicate a particular number of split sections. For consistency, the HSMS description in the middle of CoC Page 2 of 4 is changed to remove mention of a particular number of split sections.

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### **2. Changes to the SAR**

#### **2.1 Clarification in SAR Section 4.5.4 associated with Changes to TS LCO 3.1.3**

The reference to the entire circulation system being “installed on the transfer skid” has been deleted. Instead, changes were made to match the wording used in TS LCO 3.1.3 that the circulation system is “assembled”.

#### **2.2 Clarification to Concrete Testing Temperature in Section 10.1.1.2**

In conjunction with the change identified for the TS in Item 1.2 above, the compressive testing of the EOS-HSM concrete specimens has been clarified to state that the testing is done after heating the specimens to a temperature of 500 °F, as specified in SAR Table 4-17.

#### **2.3 Additional Step Added to SAR Section 9.1.4 for completeness**

An additional step has been added to the Operating Procedures for “DSC Sealing Operations” in SAR Section 9.1.4 in order to confirm the surface temperature of the TC prior to transfer operations of the loaded TC/DSC in compliance with Tech Spec 5.2.1.