



May 1, 2013  
E-35416

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852

Subject: Supplement to Submittal of Biennial Report of 72.48 Evaluations Performed for the Standardized NUHOMS<sup>®</sup> System, Certificate of Compliance (CoC) 1004, for the Period 07/24/10 to 07/23/12, Docket 72-1004

Reference: Letter from Donis Shaw (TN) to Document Control Desk, "Submittal of Biennial Report of 10 CFR 72.48 Evaluations Performed for the Standardized NUHOMS<sup>®</sup> System, CoC 1004, for the Period 07/24/10 to 07/23/12, Docket 72-1004," July 23, 2012

Pursuant to the requirements of 10 CFR 72.48(d)(2), the submittal referenced above provided 72.48 evaluations performed for the CoC 1004 Standardized NUHOMS<sup>®</sup> System, for the period 07/24/10 to 07/23/12. Enclosure 1 provides an additional 72.48 evaluation summary, for LR 721004-922, Revision 0, approved on 5/27/11. The summary includes indication as to whether the evaluation had associated Updated Final Safety Analysis Report (UFSAR) changes that were incorporated into the UFSAR for the Standardized NUHOMS<sup>®</sup> Horizontal Modular Storage System for Irradiated Fuel, NUH003.0103, Revision 12, submitted on February 1, 2012. This situation has been entered into TN's corrective action program and actions are in progress to prevent recurrence.

Should you or your staff require additional information, please do not hesitate to contact me at 410-910-6878 or Clark Vanderniet at 410-910-6933.

Sincerely,

Donis Shaw  
Licensing Manager

cc: B. Jennifer Davis (NRC SFST), provided in a separate mailing

Enclosures:

1. Evaluation Summary for LR 721004-922 Revision 0

NUM5526

## **Evaluation Summary for LR 721004-922 Revision 0**

### **LR 721004-922 Revision 0 – (no associated UFSAR change)**

#### **Change Description**

The change involved a nonconformance due to placement of stainless steel shims under one horizontal storage module (HSM) end wall, which resulted in a change in the safety factors against sliding of the HSM due to seismic, flood, and tornado generated loads, as evaluated in the UFSAR.

#### **Evaluation**

The HSM end wall provides structural protection to the HSM units and the dry shielded canisters (DSC) stored inside the HSMs. The end wall also contributes to providing stability to the HSM array during accident conditions. The associated analysis assumes a 0.6 coefficient of friction for the concrete-to-concrete contact between the HSM end wall and the independent spent fuel storage installation (ISFSI) base-mat. The following evaluations were performed.

##### **HSM sliding due to seismic load:**

Safety factor against sliding in original analysis = 1.34

Actual Safety factor against sliding with shims = 1.15, which is greater than the allowable safety factor of 1.1.

##### **HSM sliding due to flood load:**

Safety factor against sliding in original analysis = 1.13

Actual safety factor against sliding with shims = 1.16, which is actually greater than the original design, and greater than the allowable safety factor of 1.1.

##### **HSM sliding due to tornado generated wind load:**

Safety factor against sliding in original analysis = 1.66

Actual safety factor against sliding with shims = 1.64, which is greater than the allowable safety factor of 1.1.

##### **HSM sliding due to tornado generated missile load:**

Total distance one module slides in original analysis = 0.61 inches

Actual distance one module slides with end wall and shims placed = 0.68 inches

However, this sliding distance will be significantly reduced due to the presence of more than one module next to one another, with channel spacers between modules. Therefore, the sliding displacement of the modules due to a massive missile impact is insignificant and will not cause any structural damage.

These results demonstrate that all safety factors are acceptable.

The eight 72.48 evaluation criteria were met.