

February 13, 2017

Mr. Jayant Bondre
Vice President and Chief Technical Officer
TN Americas LLC
7135 Minstrel Way, Suite 300
Columbia, MD 21045

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION IN-OFFICE REVIEW AND
NOTICE OF VIOLATION

Dear Mr. Bondre:

This refers to a U.S. Nuclear Regulatory Commission (NRC) in-office review conducted from April 2016 to December 19, 2016, concerning a change to the Updated Final Safety Analysis Report (UFSAR) for Certificate of Compliance (CoC) No. 72-1004, Amendment 13 that describes a modified Type 2 basket design within a 32PTH1 DSC, specifically, a 32PTH1 Type 2-W basket. The enclosed report presents the results of this inspection.

Based on the results of a review of records, telephone conversation on October 25, 2016, as well as your letters "Input Regarding TN Americas LLC 10 CFR 72.48 Evaluation Numbered 721004-1432 Revision 1" (ADAMS Accession Number ML16313A065) dated November 4, 2016, "Additional Input Regarding TN Americas LLC 10 CFR 72.48 Evaluation Numbered 721004-1432 Revision 1" (ADAMS Accession Number ML16340B096) dated December 2, 2016, and "10 CFR 72.48 Evaluation No. 1432, Revision Nos. 0 and 1" (ADAMS Accession Numbers ML16364A048 and ML16364A041 - Proprietary) dated September 25, 2015, and August 19, 2016, respectively, the NRC has determined that a violation of NRC requirements occurred. This violation involves a change TN made to a method of evaluation (MOE) described in the Standard NUHOMS® System FSAR for CoC 1004, in that the change to the MOE in question was a departure in which TN should have sought NRC approval via an amendment to CoC 1004.

The MOE change pertains to a design modification to the existing fuel basket of the 32PTH1 dry shielded canister (DSC) to incorporate the addition of a new 32PTH1 Type 2-W basket such that the fuel cell openings are increased to allow for the necessary clearance for fitting a certain sized fuel assembly into the basket. The staff noted that TN performed thermal evaluations of a loaded horizontal storage module of Type H with the 32PTH-1 Type 2 DSC using ANSYS finite element analysis (FEA) code but the evaluation for the new 32PTH1 Type 2-W was based on calculations using a computational fluid dynamics (CFD) model created in ANSYS FLUENT code. Further, the staff acknowledges that TN performed, as a basis for acceptance, a method comparison of the 32PTH1 DSC (CoC 1004) to the Advanced NUHOMS® 24PT4 DSC under a different cask system CoC (1029) using the ANSYS FLUENT code.

The staff noted that TN used Regulation 10 CFR 72.48, Regulatory Guide 3.72, Nuclear Energy Institute (NEI)-96-07 Revision 1 Appendix B, "Guidelines for 10 CFR 72.48 Implementation," March 2001, as the basis for evaluating compliance with 10 CFR 72.48 criteria. NEI 96-07 Revision 1, Appendix B, Section B3.4 defines a departure from method of evaluation

described in the FSAR (as updated) used in establishing the design bases or in the safety analyses as (i) changing any of the elements of the method described in the FSAR (as updated) unless the results of the analysis are conservative or essentially the same; or (ii) changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application. Based on the information you provided, NRC does not concur with your determination that the MOE change is not a departure, in that the method has been approved by the NRC for the intended application and TN's use is consistent with that approval and satisfies the applicable terms and conditions for its use. Instead, the NRC has concluded that TN's MOE is a departure because 1) the method is different from what the staff has previously approved in the NUHOMS® 32PTH-1 FSAR, and 2) the approval of the use of the MOE in question occurred under a different TN CoC (1029) and is not considered as a method for approval for the intended application. The NRC staff only reviews and 'accepts' a method of evaluation insofar as it is sufficient to demonstrate that the cask design of the relevant CoC/license meets the regulatory requirements. Thus, the 'intended application' of the MOE is confined only to the particular CoC/license (amendment) being reviewed and approved.

Based on the results of this review, the NRC considers the significance of this violation to be low and has determined that a Severity Level IV violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstance surrounding it is described in this report.

You are required to respond to this letter within 30 days and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will consider extending the response time if TN can demonstrate good cause for the NRC to do so. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Patricia Silva, Chief
Inspections and Operations Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1004

Enclosure:
Notice of Violation (Notice)

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION IN-OFFICE REVIEW AND NOTICE OF VIOLATION

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NOTICE OF VIOLATION

TN Americas LLC (TN)
Columbia, MD
1004

Docket No.: 72-1004
Certificate of Compliance No. 72-

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) in-office review conducted from April 2016 through December 19, 2016, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, dated August 1, 2016, the violation is listed below:

10 CFR 72.48, "Changes, test, and experiments," (c)(2) states, in part, that "a specific certificate holder shall obtain a CoC amendment pursuant to §72.244...prior to implementing a proposed change, test, or experiment if the change, test, or experiment would: (viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design basis or in the safety analyses."

Contrary to the above, TN failed to obtain a CoC amendment pursuant to §72.244, prior to implementing a proposed change that departed from the method of evaluation in the FSAR. Specifically, the addition of a new 32PTH1 Type 2-W basket through the 72.48 process resulted in a change from a method described in the FSAR to another method that has not been approved by the NRC for the intended application.

This is a Severity Level IV violation (Section 6.0).

Pursuant to the provisions of 10 CFR 2.201, TN is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to Patricia Silva, Chief, Inspections and Operations Branch, Division of Spent Fuel Management, Office of Nuclear Material Safety and Safeguards, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for the violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading_

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[rm/adams.html](#), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If

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personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21. If Classified Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR Part 95.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 13 day of February 2017.