

SAFETY EVALUATION REPORT  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION  
RENEWED MATERIALS LICENSE NO. SNM-2504  
AMENDMENT NO. 10

## **1.0 SUMMARY**

This Safety Evaluation Report documents the review and evaluation of an amendment request to Special Nuclear Materials License No. SNM-2504 (renewed in 2011) for the Fort St. Vrain (FSV) Independent Spent Fuel Storage Installation (ISFSI). By application dated February 17, 2015 Agencywide Document Access Management System (ADAMS) Accession number ML15068A009), as supplemented March 9, and March 18, 2015 (ADAMS Accession numbers ML15069A007 and ML15082A098 respectively), the Department of Energy (DOE) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) in accordance with Title 10 of the Code of Federal Regulations (10 CFR) 72.56, "Application for amendment of license." DOE requested a license amendment to revise response times associated with corrective actions for a leak test in the FSV ISFSI Technical Specification (TS) 3.3.1. The DOE also requested that a section title to the TS Table of Contents be included that had been inadvertently omitted when the renewed license was issued in July, 2011. In reviewing the amendment request, NRC staff also identified further TS errors of an administrative nature as discussed briefly below in Section 4.

The NRC staff (staff) has reviewed the application, including the justifications for the proposed changes. As discussed below, based on the statements and representations in the application, the staff finds that the proposed changes will not have an adverse effect on public health and safety, or the environment, and finds that the proposed changes are acceptable.

## **2.0 REVIEW CRITERIA**

Staff's evaluation of the requested changes is based on ensuring the FSV ISFSI continues to meet the applicable requirements of 10 CFR Part 72 for independent storage of spent fuel and of 10 CFR Part 20 for radiation protection. Staff followed the guidelines provided in NUREG-1567 "Standard Review Plan for Spent Fuel Dry Storage Facilities" in conducting the evaluation. Staff's evaluation focused only on changes to SNM-2504 requested in the licensee's amendment request and did not reassess previously approved portions of the license, TS, the final safety analysis report (FSAR) or those areas of the FSAR modified by DOE per 10 CFR 72.48 which are not impacted by this amendment request. The objectives for the following review disciplines are as described below for the requested change.

### **3.0 CONFINEMENT EVALUATION**

The licensee identified in the application that Fuel Storage Containers (FSCs) in which the fuel is stored are sealed using double metal O-ring seals between the FSC body and lid. The licensee stated that: (1) failure of the lid seal leak test does not indicate the radioactive material is being released to the environment because, even if one seal fails, the other seal will most likely remain intact, and (2) increasing the corrective action completion time does not increase the probability of releasing radioactive material. In Section 8.2.15 of Chapter 8 of the staff approved FSV ISFSI FSAR (ADAMS Accession number ML103640382), the maximum credible accident is the radiological consequences at the site boundary due to the gross leak of one FSC in a vault module. For this accident, the release analysis in the FSAR assumed (a) a gross leak of a FSC, caused by failure of the redundant seals, into the storage vault module over a 10-minute period, and (b) the gaseous and particulate matter from the gross leak are released from the FSC to the atmosphere with no filtration. The results are shown in Appendix A8-9 of the staff approved FSV ISFSI FSAR. On the basis of the findings discussed below, the staff has verified that the maximum credible accident analyzed in the previously-approved FSAR remains below the 10 CFR 72.106 regulatory limits.

The staff reviewed the licensee's analytical results and its March 2015 supplemental information. Subsequently, staff determined that: (a) if both seals fail, and the radioactive material leaks past the redundant seals, the radiological consequences at the controlled area boundary are within the requirements of 10 CFR 72.106, and (b) the release from a FSC caused by failure of the redundant seals is bounded by the maximum credible accident. The staff also reviewed the licensee's FSC configuration description and finds that (1) the probability of both seals failing is low based on the redundant sealing features, (2) failure of the lid seal leak test does not necessarily indicate that the radioactive material is being released to the environment, (3) the release of radioactive material and its radiological consequences at the controlled area boundary are below the limits, as specified in 10 CFR 72.106, even in the event of a failure of both seals. Therefore, based on the findings above, the staff determines that the proposed changes to TS 3.3.1 are acceptable and are in compliance with 10 CFR Part 72.

### **4.0 TECHNICAL SPECIFICATIONS**

The licensee proposed to increase the response times for corrective actions associated with TS 3.3.1, and this was found to be acceptable for the reasons discussed above. The staff is also approving the licensee's proposed non-substantive change updating the Table of Contents to identify Section 5.5.5, "Aging Management Program" which was inadvertently omitted when the license was renewed in July, 2011. In reviewing the amendment request, NRC staff also identified further TS errors of an administrative nature, as discussed with the licensee in a series of e-mails (ADAMS Accession No. ML15219A562). Specifically, in Section 5.5.2 of the TS, item No. 2 contained a duplicative phrase that for purposes of clarity is being deleted. Item No. 2 also incorrectly cited 10 CFR 72.70(b) instead of 72.70(c)(6). Corrected item No. 2 will state as follows: "Changes to the essential programs implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 72.70(c)(6)."

## **5.0 REQUIREMENTS FOR NOTICING PROPOSED ACTION**

In accordance with 10 CFR 72.46(a), a Notice of Proposed Action and a Notice of Opportunity for Hearing was published in the *Federal Register* on April 20, 2015 (80 FR 21772). No requests for a hearing or leave to intervene were submitted. Accordingly, pursuant to 10 CFR 72.46(d), the action proposed by DOE in its license amendment request can be taken.

## **6.0 ENVIRONMENTAL REVIEW**

The NRC staff also considered in the review of this license amendment request whether there would be any significant environmental impacts associated with amending the license as requested. Pursuant to 10 CFR 51.30, the NRC staff prepared an Environmental Assessment and Finding of No Significant Impact for the proposed action, which is approval of the amendment request. The staff found in its Environmental Assessment that the administrative revisions (discussed in Section 4 above) met the categorical exclusion provision in 10 CFR 51.22(c)(11). On the basis of the Environmental Assessment, the staff concluded that the proposed action will not significantly affect the quality of the human environment.

The Environmental Assessment is located at ADAMS Accession No. ML16028A407. The staff also prepared a Finding of No Significant Impact, which was published in the *Federal Register* (81 FR 9002, February 23, 2016).

## **7.0 CONCLUSION**

The NRC staff concludes that the proposed changes to the FSV ISFSI TS as described above does not alter any prior staff conclusions and findings made with respect to this license, and that approving these changes will not impact the public health and safety. Based on the information provided in the application, the staff concludes that SNM-2504, as amended, meets the requirements of 10 CFR Part 72 applicable to specific ISFSI licenses.

Issued with Materials License No. SNM-2504.

Dated: March 17, 2016