Department of Energy
Idaho Operations Office
1955 Fremont Avenue
Idaho Falls, ID 83415

August 17, 2015

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Attn: William Allen
11555 Rockville Pike
Rockville, MD 20852

SUBJECT: Response to the Nuclear Regulatory Commission Supplemental for Information Request, for the Fort St Vrain License Amendment Request, Docket 72-009, License SNM-2504, (EM-FMDP-15-049)

Reference: License Amendment Request for the Fort Saint Vrain Independent Spent Fuel Storage Supplemental Information Needed (Docket No.72-009)

Dear Sir or Madam:

On June, 18, 2015 the Nuclear Regulatory Commission (NRC) issued a Supplemental Information Request for the Department of Energy, Idaho Operations Office Fort St Vrain License Amendment request. The information request is in support of the NRC's requirement to perform an environmental review of the amendment request.

Enclosed please find the response to the NRC supplemental information request. An electronic copy will be transmitted with enclosures. There are no new regulatory commitments contained in the response or enclosures.

Please contact me at (208) 526-4151 if you have questions or comments.

Sincerely,

Kenneth R. Whitham
License Manager

Enclosure:

cc: G. Hall, CWI

Environmental Information Associated with the License Amendment Request for the Fort St. Vrain Independent Spent Fuel Storage Installation, Materials License SNM-2504, Docket No. 72-9

Pursuant to 10 CFR 51, the U.S. Nuclear Regulatory Commission (NRC) has determined (Reference 1) supplemental environmental information is necessary to conduct an environmental review of the License Amendment Request (Reference 2). The supplemental environmental information is provided below.

Proposed Action

The only proposed action, as confirmed, is three fold:

a. An administrative change to add Section 5.5.5, "Aging Management Program" that was erroneously left off the Technical Specifications (TS) Table of Contents.

b. A change to TS 3.3.1 to lengthen the time allowed 1) to restore top seal integrity from 7 days to 21 days, 2) transfer the Fuel Storage Container (FSC) with a faulty (leaking) seal to a Standby Storage Well from 7 days to 21 days, and 3) verify integrity of storage well from 7 days to 21 days.

c. A change to TS 3.3.1 which lengthens the completion time allowed for the Required Action A.2, "Perform leak test on two additional FSCs from each vault," from 30 days to 45 days. (NOTE: The hand-written mark up on the proposed TS 3.3.1 change did not reflect this change.)

Purpose of Proposed Action

The purpose for adding Section 5.5.5, "Aging Management Program" to the TS Table of Contents is to reflect the change that was made to the TS when the license was extended in July 2011 (Reference 3). This proposed action is only an editorial change.

TS Surveillance Requirement (SR) 3.3.1.1 requires seal leak testing of one FSC from each vault of the FSV ISFSI on a five-year frequency (Reference 4). The basis for SR 3.3.1.1 is that performance of a seal leak test of at least six FSC closures (one FSC in each of six vaults) every five years provides reasonable assurance of continued confinement integrity. The purpose for lengthening the time allowed in TS 3.3.1 to either restore FSC top seal integrity or transfer the FSC with a faulty (leaking) seal to the Standby Storage Well (SSW) and verify the integrity of the SSW from 7 days to 21 days is to allow sufficient time to complete necessary facility reconfiguration activities to implement the required actions.

The purpose for lengthening the completion time allowed for the TS 3.3.1 Required Action A.2, "Perform leak test on two additional FSCs from each vault," from 30 days to 45 days is to allow sufficient time to complete necessary facility reconfiguration activities to support leak testing of 12 additional FSCs (two from each vault), as currently specified in the TS.

Description of Environment Affected

In 1970 Public Service Company of Colorado (PSCo) submitted an Environmental Report to the Atomic Energy Commission (AEC) in support of an operating license being issued for the FSV Nuclear Generating Station. The AEC issued a Final Environmental Statement allowing the

construction and operation of FSV Nuclear Generating Station. The FSV ISFSI was later constructed and located on PSCo owner controlled property and within the FSV Nuclear Generating Station exclusion area boundary.

In 1991 PSCo received a twenty-year renewable license (Materials License No. SNM-2504) to receive, posses, store, and transfer FSV spent fuel in the ISFSI. Loading of FSV spent fuel into the ISFSI was completed in 1992.

In 1995 the Department of Energy (DOE) notified the NRC of its intent to procure the FSV ISFSI from PSCo, take possession of the fuel stored in the FSV ISFSI, and transfer the license to DOE. The license was transferred to DOE in 1999. In 2011 the FSV ISFSI license was renewed for another 20 years.

The application for license renewal included an updated supplement to the FSV ISFSI Environmental Report which met the requirements of 10 CFR 72.34 and 10 CFR 51, Subpart A (Reference 5). The Environmental Report supplement addresses the ISFSI site and environmental interfaces including the geography and demography; local ecology; meteorology; hydrology; geology and seismology; regional historic, archeological, architectural, scenic, cultural and natural features; and noise.

The Environmental Report supplement reiterates the fact that the spent fuel radiological characteristics are the basis for the design of the ISFSI. The facility design precludes airborne releases during fuel transportation and storage. Tritium monitoring is performed within the ISFSI as a means of monitoring the effects of facility aging during the prolonged storage period. Tritium monitoring on the charge face is intended to detect gross failures related to the FSC O-ring seals. Tritium monitoring in each of the chimneys is intended to detect failures related to the FSCs themselves. Thermoluminescent dosimetry is located at various points around the controlled area boundary. The annual dose to an individual beyond the controlled area boundary has been less than 0.15 mrem since 1993 as routinely reported in accordance with 10 CFR 72.44. The nearest permanent resident resides 797 meters (2,600 feet) north from the facility.

The maximum credible accident discussed in the FSV ISFSI SAR represents the worst case postulated scenario. The accident results from the leak of one FSC in a vault module. The release is through the Modular Vault Dry Store (MVDS) stack. The accident could be caused by two postulated failures; failure of the redundant metal O-ring seals or failure of the FSC due to corrosion. The accident results in a calculated maximum exposure of 1 mrem whole body at the controlled area boundary. The calculated exposure is within the 10 CFR 72.106 requirements.

The proposed action will not result in changes to routine operations or construction activities. Past and present actions outside or near the FSV ISFSI include minor construction activities, facility modifications to the neighboring FSV Generating Station, and oil and gas well drilling in the vicinity of the facility. The proposed action will not change any cumulative impacts from these outdoor and neighboring actions. There are no reasonably foreseeable future actions inside and outside the FSV ISFSI that will result in cumulative impacts from this proposed action.

There is no potential impact of the proposed action on the environment. Lengthening the required action completion times is not a factor in the design or failure modes of the FSCs, hence the radiological consequences of a FSC failure. There is no adverse environmental effect which cannot be avoided should the proposal be implemented.

Alternative Considered

The alternative to the proposed action is to implement the required actions within the specified completion times. In the current facility configuration, a seal leak test can be performed on six FSC closures (one FSC in each of six vaults). If in the course of implementing SR 3.3.1.1 the Limiting Condition of Operation (LCO) 3.3.1 is exceeded, then the required actions in TS 3.3.1 Condition A cannot be implemented without some reasonable allowance for time to complete necessary facility reconfiguration activities to support 1) restoration of FSC top seal integrity or transfer of the FSC with a faulty seal to the Standby Storage Well, 2) verify SSW seal integrity, and 3) support leak testing of 12 additional FSCs (two from each vault). There is no potential impact of the alternative to the proposed action on the environment other than the risk of not completing the required actions within the required completion times.

Analysis

There is no potential impact of the proposed action on the environment. There is no potential impact of the alternative to the proposed action on the environment. Both the proposed action and the alternative would occur after a FSC with a leaking seal is identified. There is no alternative available for reducing or avoiding the adverse environmental effect from a FSC with a leaking seal.

The Environmental Report supplement that accompanied the license renewal application for the FSV ISFSI stated that facility operation had no significant economic or social effect on the community due to the relatively small work force and the small number of local residents employed for the project. The proposed action or its alternative will not require an increase in the size of the work force; therefore will have no significant economic or social effect on the community. The Environmental Report supplement also considered environmental justice impacts of facility operation. Such impacts were not expected to be disproportionally high and adverse on minority and low-income populations. The impact of the proposed action or its alternative is not expected to be disproportionally high and adverse on minority and low-income populations.

The Environmental Report supplement makes reference to the fact that a summary cost-benefit analysis was presented with the initial FSV ISFSI license application, and was incorporated by reference in accordance with 10 CFR 51.60(a) in the Environmental Report supplement. There has been no significant environmental change resulting from operation of the facility. Neither the proposed action nor its alternative is expected to result in a significant environmental change.

The Environmental Report supplement (Reference 5) addresses the relationship between local short-term use of the environment and the maintenance and enhancements of long-term productivity. The FSV ISFSI was designed as an interim storage facility. Once the ISFSI is decommissioned, the facility could be removed and the land could be used for another purpose. The proposed action will not change this relationship.

If the proposed action is implemented, there will be no irreversible and irretrievable commitment of resources. The resources that are currently available to implement the Technical Specification requirement include facility staff in Colorado and support staff in Idaho.

Status of Compliance

The FSV ISFSI is licensed in accordance with 10 CFR 72 to receive, posses, store, and transfer FSV spent fuel through November 2031. The license amendment request discussed above is submitted in accordance with 10 CFR 72.56. This environmental information is submitted in accordance with 10 CFR 51.30. The licensee continues to demonstrate compliance with the federal license requirements. There are no permits required from the State of Colorado. A Certificate of Occupancy was issued by Weld County after the administration building was constructed in 1999. There are no additional permits, licenses, approvals or other entitlements that must be obtained by the licensee in connection with the proposed action. The proposed action, as well as the alternative, will be in compliance with the applicable environmental quality standards and requirements in the federal regulations, the facility license, license basis documents, and the county certificate.

Adverse Information

There is no adverse information to be included with this environmental information. The only purpose of the license amendment request is to lengthen the Required Action completion times to allow sufficient time to complete necessary facility reconfiguration activities to support the required actions.

References

1. USNRC letter dated June 18, 2015, "License Amendment Request for the Fort Saint Vrain Independent Spent Fuel Storage – Supplemental Information Needed (Docket No.: 72-00009)"

2. DOE-ID letter dated February 17, 2015, "License Amendment Request for the Fort St. Vrain Independent Spent Fuel Storage Installation (Docket 72-9)(SNM-2504)", (EM-FMDP-15-007)

3. USNRC letter dated July 18, 2011, "Materials License SNM-2504 for the Fort Saint Vrain Independent Spent Fuel Storage Installation (Docket No.: 72-9)"

4. Fort St. Vrain Independent Spent Fuel Storage Installation license (SNM-2504), Appendix B, Technical Specification 3.3.1, Seal Leak Rate

5. Fort St. Vrain Independent Spent Fuel Storage Installation Application for Renewed ISFSI Site-Specific License, Appendix E, Environmental Report Supplement, November 6, 2009