UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

June 26, 2018

Mr. John P. Zimmerman
Deputy Manager, Idaho Cleanup Project
U.S. Department of Energy
1955 Fremont Avenue, MS 1222
Idaho Falls, ID 83415

SUBJECT: THREE MILE ISLAND UNIT-2 INDEPENDENT SPENT FUEL STORAGE INSTALLATION INSPECTION REPORT 07200020/2018-001

Dear Mr. Zimmerman:

This letter refers to a routine U.S Nuclear Regulatory Commission's (NRC) inspection conducted from May 29-31, 2018, of the dry cask storage activities associated with your Independent Spent Fuel Storage Installation (ISFSI). At the conclusion of the inspection, a final exit was conducted on May 31, 2018, with Mr. Steven Ahrendts, Supervisor, Spent Fuel Team, and other members of your staff. The enclosed inspection report documents the details of the inspection.

This inspection was an examination of the Department of Energy-Idaho Operation's activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspection reviewed compliance with the requirements specified in your site specific Materials License No. SNM-2508, the associated Technical Specifications, the Three Mile Island Unit-2 ISFSI Safety Analysis Report, and the regulations in Title 10 of the Code of Federal Regulations Part 72 and Part 20. Within these areas, the inspection included radiation safety, quality assurance, corrective action program, safety evaluations, and cask maintenance. The inspection consisted of selected examination of procedures, representative records, observations of activities, and interviews with personnel. No violations of NRC regulations were identified, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal, privacy or proprietary information so that it can be made available to the public without redaction.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 200-1191 or Mr. Lee Brookhart at (817) 200-1549.

Sincerely,

/RA by RJEvans Acting for/

Ray L. Kellar, P.E., Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Docket: 07200020
License: SNM-2508

Enclosure:
Inspection Report 07200020/2018-001

w/Attachment:
Supplemental Information

cc:
S. Ahrendts, DOE, Idaho Operations Office
S. Ferrara, DOE, Idaho Operations Office
D. Bland, Spectra Tech Inc.
R. Milazzo, Spectra Tech Inc.
D. Faulk, EPA, Hanford/INL Project Office
B. Edmo, Fort Hall Business Council, Shoshone-Bannock Tribes
T. Martin, Tribal DOE Program, Shoshone-Bannock Tribes
B. Brailsford, Snake River Alliance
S. Burke, DEQ State Office
J. Tanner, Coalition 21
C. Broscious, Environmental Defense Institute
H. Bohrer, North Wind Group
J. Davies, North Wind Group
NRC Liaison, State of Idaho INL Oversite Office
Chairman, Idaho Falls Chamber of Commerce

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	07200020
License:	SNM-2508
Report Number:	07200020/2018-001
Licensee:	United States Department of Energy
Facility:	Three Mile Island Unit 2 Independent Spent Fuel Storage Installation
Location:	Idaho Operations Office 1955 Fremont Avenue Idaho Falls, ID 83401
Dates:	May 29-31, 2018
Inspector:	Lee Brookhart, Senior Inspector Fuel Cycle and Decommissioning Branch
Approved By:	Ray L. Kellar, P.E., Chief Fuel Cycle and Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Three Mile Island Unit 2 Independent Spent Fuel Storage Installation
NRC Inspection Report 07200020/2018001

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection of the licensee's programs and activities for safe handling and storage of spent fuel at the Three Mile Island, Unit 2 (TMI-2) Independent Spent Fuel Storage Installation (ISFSI) on May 29-31, 2018. The U.S. Department of Energy-Idaho Operations was licensed by the NRC to operate the TMI-2 ISFSI at the Idaho National Laboratory site. The inspection evaluated the current condition of the ISFSI loaded with spent fuel and reviewed a number of topics to verify compliance with the applicable NRC regulations and the provisions of the site specific license. The NRC routine inspection reviewed documentation relevant to ISFSI activities and operations that have occurred at TMI-2 since the last inspection that was performed in April of 2016. The program areas reviewed included quality assurance, radiological conditions, corrective actions, compliance with Technical Specifications, Safety Analysis Report requirements, and industry ISFSI issues that affected the site. The ISFSI was being maintained in good physical condition. Radiological dose rates around the ISFSI were low. A review of the environmental monitoring program demonstrated that radiological exposures to offsite locations from the ISFSI were low and within NRC requirements. The quality assurance and corrective action programs were being effectively implemented to capture and correct issues related to the spent fuel storage program. In summary, the licensee was conducting ISFSI activities in compliance with regulatory and license requirements.

Away-From-Reactor ISFSI Inspection Guidance (60858)

- The licensee was conducting quality assurance audits and surveillances of the ISFSI program. A review of the audit reports and surveillances performed since the last inspection determined that the quality assurance groups were reviewing risk significant areas within a broad range of topics. Any issues that were identified in the reports were entered into the corrective action program for resolution. (Section 1.2.a)

- The ISFSI facility was being maintained in good physical condition. Radiation data reviewed from the 2016 and 2017 environmental monitoring reports determined that offsite radiation levels were in compliance with 10 CFR 72.104 requirements. The licensee remained in compliance with all environmental monitoring regulatory requirements related to ISFSI operations (Section 1.2.b)

- Documents were reviewed that demonstrated the licensee had complied with Technical Specifications and Safety Analysis Report requirements for periodic Horizontal Storage Module monitoring, Dry Shielded Canister sampling, filter housing leak tests, and hydrogen monitoring. No abnormal occurrences were found regarding the surveillance requirements. (Section 1.2.c)

- Revisions to the Safety Analysis Report and changes to other major programs since the last inspection were reviewed. No changes were made to the Radiological Environmental Monitoring Program, training program, or the quality assurance program. Revision 8 to the Safety Analysis Report was reviewed and the changes made were found to meet the requirements of the 10 CFR Part 72.48 change process. (Section 1.2.d)

- Selected deficiency reports were reviewed for the period April 2016 through May 2018. A wide range of issues had been identified and resolved. Resolutions of the deficiency reports were appropriate for the safety significance of the issue. No adverse trends were identified during the review. (Section 1.2.e)

- The Safety Review Committee had met on an annual basis and reviewed issues consistent with requirements specified in the Safety Analysis Report and Technical Specifications. The ISFSI organization changes since the last inspection were reviewed for compliance with Safety Analysis Report requirements for staffing qualifications of new personnel. All individuals were well qualified and met the requirements of the Safety Analysis Report. (Section 1.2.f)

- The licensee's emergency plan was being properly maintained; one revision to the plan was reviewed during the inspection and verified not to reduce the effectiveness of the plan. Required drills and exercises were performed in accordance with requirements specified in the emergency plan. Offsite support agencies were offered an opportunity to participate in the licensee's exercise. (Section 1.2.g)

- The site had implemented an aging management program for the ISFSI. The program established preventive maintenance inspections and actions to mitigate or prevent applicable aging effects. All previous repairs made to the Horizontal Storage Modules in 2011 had remained in place throughout subsequent winters. At the time of the inspection, the ISFSI pad and Horizontal Storage Modules were in good condition and the licensee had performed all of the required inspections and repairs to the ISFSI as required. (Section 1.2.h)

Review of 10 CFR 72.48 Evaluations (60857)

- All required safety screenings had been performed in accordance with the licensee's procedures and 10 CFR 72.48 requirements. All screenings reviewed were determined to be adequately evaluated. (Section 2)

Report Details

Summary of Facility Status

The Three Mile Island, Unit 2 (TMI-2) ISFSI is located within the security perimeter of the Idaho Nuclear Technology and Engineering Center at the Idaho National Laboratory (INL) site. The storage system used at the TMI-2 ISFSI is the NUHOMS® - 12T cask system. A license was issued to the Department of Energy-Idaho Operations Office (DOE-ID) by the U. S. Nuclear Regulatory Commission (NRC) on March 19, 1999. On March 31, 1999, the first Dry Shielded Canister (DSC) containing TMI-2 core debris was moved from the test area north facility to the ISFSI. Each DSC contained 12 TMI-2 fuel canisters. The TMI-2 fuel canisters contained the rubble from the TMI-2 reactor core. The 29th, and final DSC, was loaded into the ISFSI on April 20, 2001. This completed the loading of the TMI-2 ISFSI.

The facility was being maintained by Spectra Tech Inc. (STI) as the management and operations contractor for the DOE-ID. The ISFSI was being maintained under site specific license SNM-2508, Amendment 5, and Safety Analysis Report (SAR) Revision 8. The licensee had recently requested from the NRC a licensee renewal on March 6, 2017 (ADAMS Accession No. ML17075A199). The license renewal request was to extend the ISFSI license an additional 20 years to expire on March 19, 2039. This application is currently under review with NRC's Division of Spent Fuel Management. A tour of the ISFSI area and review of site records found the facility to be in good physical condition and in compliance with regulatory and license requirements

1 Away-From-Reactor ISFSI Inspection Guidance (60858)

1.1 Inspection Scope

An inspection of the status of the loaded casks at TMI-2 was completed to verify compliance with requirements of the SNM-2508 license, ISFSI's SAR, and Federal Regulations. The inspection reviewed a broad range of topics including quality assurance audits conducted by the licensee, condition reports related to the ISFSI, aspects of the emergency response program, environmental radiological data collected around the ISFSI for the past several years, annual maintenance records, safety evaluations, and industry issues that affected the site's ISFSI program. A tour of the ISFSI was performed during which observed the condition of the ISFSI perimeter, ISFSI pad, and Horizontal Storage Modules (HSMs).

1.2 Observations and Findings

a. Quality Assurance Audits and Surveillances

As the NRC license holder, DOE-ID maintains the ISFSI Quality Assurance (QA) and oversight program for the TMI-2 ISFSI. The DOE-ID contractor, STI, is responsible for the day-to-day management and operations of the ISFSI. Additionally, STI implements a supplemental QA program for ISFSI site operations.

The DOE-ID and STI had performed numerous QA audits and surveillances of the operations at the TMI-2 ISFSI since the last NRC inspection in April 2016. A total of two DOE-ID audit reports, one STI audit report, two DOE-ID QA program annual trending reports, five DOE-ID surveillance reports, and 12 STI surveillance reports were reviewed

by the inspector. Many of the QA reviews were performed for ISFSI operations associated with Fort Saint Vrain, the Idaho Spent Fuel Facility, and the TMI-2 ISFSI operations. The NRC inspector focused on the QA audits, surveillances, and trending reports related to the TMI-2 ISFSI operations.

The QA audit reports included reviews of the requirements of the ISFSI SAR, ISFSI organization, the QA program, design control, implementing documents, document control, corrective action program, inspections, test control program, and various additional areas. Audit observations and issues were categorized based on their significance and were placed into the corrective action program for resolution.

The DOE-ID QA surveillances reviewed STI's operational programs such as design control measures, control of special processes, implementation of STI QA inspections and audit program, and records management. The STI QA surveillances included, radiation program, organization, training, document control, procurement, corrective action, etc. If the surveillance identified an issue, it was placed into either the DOE-ID or STI corrective action program for resolution.

The NRC inspector reviewed all observations, Deficiency Reports (DRs), and Corrective Action Requests (CARs) resulting from the QA audits, surveillances, and trending reports to evaluate the findings and corrective actions. The DRs and CARs related to TMI-2 ISFSI operations were evaluated to ensure that the identified problems were properly categorized based on their safety significance and properly resolved. All identified deficiencies had been entered into the licensee's CAP and were adequately resolved by the licensee. The licensee's QA audits were found to be quite extensive and the licensee maintained a low threshold for making audit recommendations. No NRC findings were identified regarding the licensee's QA program audits and surveillances.

b. Radiological Conditions Related to Stored Casks

A walk-down of the TMI-2 ISFSI was performed during the NRC inspection. The Facility Director and ISFSI Manager accompanied the NRC inspector during the ISFSI tour.

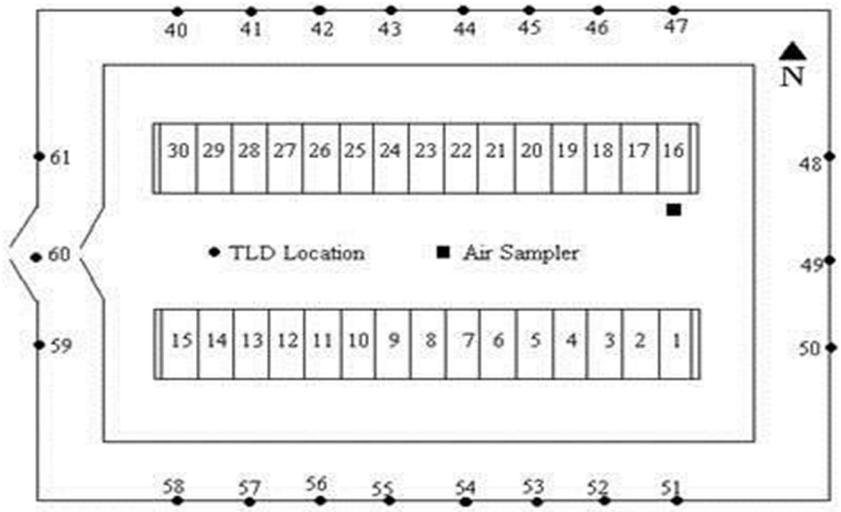

Figure 1 TMI-2 ISFSI

Thirty HSMs were situated on the TMI-2 ISFSI pad. Twenty-nine were loaded with spent fuel debris from the TMI-2 reactor. One additional HSM was placed on the pad with an oversized overpack installed to serve as a backup in case one of the DSCs developed a leak and needed confinement. The 30 HSMs were arranged in two rows of 15 with door openings facing inward, numbering 1–15 on the south row and 16–30 on the north row, going east to west (see Figure 1, above).

The walk-down of the ISFSI pad found the concrete to be in good condition. There was no overt vegetative growth in or around the pad. No flammable or combustible materials were observed on the ISFSI pad. There was a low volume air sampler situated on the ISFSI pad in close proximity to HSM #16 that was used as part of the periodic airborne radioactivity sampling process to assess airborne radiological environmental impacts due to TMI-2 ISFSI operations. The material condition of the 30 HSMs was observed to be acceptable. Signs of repairs made to the concrete were evident on many of the storage modules. The repairs were intact and appeared to be free from further degradation. All of the inspected hardware, doors, latches, and ports installed in the TMI-2 HSMs were in good condition.

Site monitoring data from the 2016 and 2017 Annual Radiological Environmental Monitoring Reports for the TMI-2 ISFSI were reviewed. The licensee was required by Technical Specification 5.5.3(c) to submit an annual report to the NRC within 60 days after January 1st of each year. The 2016 report, dated February 2017 (ADAMS Accession No. ML17062A300) and the 2017 report, dated February 2018 (ADAMS Accession No. ML18065A184) had been submitted to the NRC in accordance with license requirements. The data was reviewed to confirm that radiological conditions at the site had remained stable and within regulatory requirements since the last inspection.

The TMI-2 Radiological Environmental Monitoring Program (REMP) was designed to monitor the two predominant radiation exposure pathways inherent with the ISFSI: potential airborne radioactivity releases and direct radiation exposure. The airborne radioactivity release pathway is monitored using a combination of loose surface radioactive contamination surveys and periodic airborne radioactivity sampling. The direct radiation exposure pathway was monitored using 22 thermoluminescent dosimeters (TLDs) (#40-61) placed along the outer perimeter fence of the ISFSI (see Figure 1). The dosimeters are exchanged and processed quarterly. Control TLD stations are located outside of the INL boundary.

Low-volume air particulate sampling was performed once each month over a seven-day period to assess airborne radiological environmental impacts due to TMI-2 ISFSI operations. These air samples were used in conjunction with loose surface radioactive contamination surveys performed at the vent and purge ports of each DSC and the drain port of each loaded HSM to assess potential radioactive releases from the ISFSI. The loose surface contamination surveys were performed annually. Both air and loose surface contamination sample media were analyzed for gross beta radioactivity. If a certain gross beta threshold was exceeded for the air sample, then gamma isotopic analyses were performed. An annual composite of the loose contamination samples was measured by gamma isotopic analysis to detect fission products, which are associated with spent nuclear fuel.

The REMP contained actions that were required to be taken by the licensee when the airborne beta activity exceeded the action threshold of 0.04 pico-Curie per cubic meter (pCi/m^3). The action threshold was based on the maximum gross beta in air measurements that had been obtained during the preoperational monitoring for the TMI-2 ISFSI. If this action level was exceeded, a follow-up nuclide specific gamma spectroscopy analysis was required to be performed on the air filter sample. During the 2016 and 2017 monitoring periods, the airborne beta activity exceeded the REMP's established action threshold (0.04 pCi/m^3) on two occasions. Activity detected in November 2016 and December 2017 was 0.05 pCi/m^3. Gama spectroscopy results from the composite analysis of the combined samples for each year did not indicate the presence of fission or activation product activity.

The loose surface contaminations survey results for the purge, vent, and drain ports were less than Minimum Detectable Activity (MDA) for each year reviewed and the gamma isotopic results indicated no fission products. Additionally, the presence of cesium-137 was less than MDA and well below the licensee's action level of 5 nano-Curie per sample (nCi/sample) for the two years reviewed.

The licensee reported that airborne radioactivity releases and direct radiation exposure from the facility during 2016 and 2017 did not contribute to any increase in the estimate of maximum potential dose commitment to the general public. The commitment is described in the site's Environmental Impact Statement as 0.0027 mrem per year (mrem/yr) to the Maximum Exposed Individual. This is well below the 10 CFR 72.104 dose requirement which limits doses to less than 25 mrem/yr for the nearest individual of the public.

The ISFSI TLD results, airborne surveys, and loose surface contamination surveys for 2016 and 2017 did not show any increase in radioactivity near the TMI-2 ISFSI. The general trend was a decrease in measured radioactivity, which was expected. Radiation data reviewed from the 2016 through 2017 environmental operating reports determined that the licensee had adequately monitored effluents and radiation from the ISFSI. The DOE-ID remained in compliance with all environmental monitoring regulatory requirements related to ISFSI operations.

c. ISFSI Monitoring, Contamination Surveys, and Hydrogen Monitoring

The inspectors reviewed ISFSI quarterly survey records for the previous quarter, two annual surveys of periodic HSM monitoring required by Technical Specification 3.2.2, DSC sampling, and two prior years of hydrogen monitoring data measured for each of the TMI-2 DSCs per Technical Specification 3.2.3. For the periods reviewed, there were no instances in which radiation survey dose measurements approached TMI-2 ISFSI Technical Specification limits; no instances of removable contamination survey samples measuring above the MDA limits; and no measurements of hydrogen levels in the DSCs at or above the Technical Specification limit of 0.5 percent by volume (5,000 parts per million). The NRC did not review seal leak test data for the TMI-2 DCSs because those test are performed every five years. The last leak tests were performed in 2015 and are not scheduled to be tested again until 2020.

d. Biennial Update Reports and SAR Revisions

One biennial report was reviewed during the inspection period. The biennial report provided information related to changes made during the reporting period to the SAR and certain programs required by TMI-2's Technical Specifications. The March 2017, biennial report (for period of March 2015 through March 2017) included Revision 8 of the SAR. The only changes that were made in this revision were in Chapters 9 and 11 of the SAR. The licensee made the necessary changes in the SAR to reflect the organizational changes that were approved by the NRC in License Amendment 5. The 2017 biennial report continued to describe that no other changes were performed during the reporting period. This included no 72.48 evaluations, no changes to the Technical Specifications, and no changes to the REMP, training program, or QA program.

e. Corrective Action Program

A list of condition reports issued since the last NRC inspection was provided to the inspector by the licensee for ISFSI activities. Potential issues were processed in accordance with DOE-ID Procedure IQP-16.01 "Corrective Action," Revision 8 as either a DR or a CAR. If the issue had been identified by STI, the contractor would initiate a DR in accordance with its procedure STI-NLF-QA-016 "Corrective Action," Revision 6.

From the list of DOE-ID CARs/DRs, a total of 18 were selected by the inspector for additional review. From the list of STI DRs, a total of six were selected for additional review. The CARs and DRs selected were related to a variety of issues. All condition reports reviewed were well documented and were properly categorized based on the significance of the issue. The corrective actions taken were appropriate for the situations. Based on the level of detail of the reports, both DOE-ID and STI demonstrated a high attention to detail in regard to the maintenance and operation of its ISFSI program. No NRC safety concerns were identified related to the reports reviewed. The licensee's corrective action program met applicable regulatory, license, and SAR requirements.

f. Safety Review Committee and Personnel Qualifications

Technical Specification 5.2.1.4 required that a Safety Review Committee (SRC) meeting must include a minimum of three committee members including members representing the technical disciplines appropriate for matters under consideration and the Facility Director to establish a quorum. Further, the SRC was required to meet at least once every twelve months and at least once not more than three months prior to the start of defueling operations.

The NRC inspector reviewed the minutes from last two SRC meetings that took place on February 7, 2017, and October 25, 2017. The meeting frequency met the 12 month TS requirement. A review of the attendance lists for the meetings showed that a quorum was established for each meeting. Additionally, as required by TS 5.2.1.4, the agenda topics for each meeting included performance indicators; evaluations performed pursuant to 10 CFR 72.44(e), 10 CFR 44(f), 10 CFR 72.48, etc.; proposed license amendments; selected activities of the As Low As Reasonably Achievable (ALARA) committee and staff level document review committee; routine operations and preparation for major operations for potential safety hazards; and special reviews at the direction of the TMI-2 Facility Director.

Organization changes at the TMI-2 ISFSI since NRC last inspection were reviewed to assess the staffs' qualifications in accordance with TMI-2 ISFSI SAR, Section 9.1.4.1, "Minimum Qualification Requirements," for the positions that were changed. One DOE-ID position and a number of STI position changes were reviewed. NRC inspector reviewed the qualifications of the individuals against the position qualifications specified in SAR. The NRC inspector determined that the individual's training and experience for each position change met all of the specified requirements in the SAR.

g. Emergency Plan

Revisions to the licensee's emergency planning program since the last NRC inspection were reviewed. The licensee's emergency plan, STI-NLF-EIP-015 "Three-Mile Island Unit 2 ISFSI Emergency Response Plan," Revision 0, had been revised from the previous contractor's plan (PLN-610) to be incorporated into STI's programs. The revised plan was submitted to the NRC on November 21, 2017 (ADAMS Accession No. ML17340A374). The changes to the emergency plan performed through the revision were found to not reduce the effectiveness of the plan. The changes that were made were editorial in nature.

Required emergency plan drills/exercises were discussed in Sections 13 and 14 of the emergency plan. Drills included radiological/health physics, medical, and fire that are required to be conducted annually. Biennial exercises were larger drills that tested the adequacy of the implementing procedures, emergency equipment, and communications networks, and ensured the emergency response personnel were familiar with their duties. Offsite response organizations were invited to participate in the biennial exercises. The licensee had successfully conducted the required exercises and drills since the last ISFSI inspection. Emergency plan drill packages for the radiological/health physics drill on February 16, 2016, a fire drill on April 26, 2017, the medical drill on November 1, 2017, and the biennial exercise on November 8, 2017 were selected by the inspector for additional review. The selected drills and exercises met the objectives of site Emergency Plan. The drill and exercise packages included a description of the drill that was conducted, responding personnel, a timeline, a synopsis, and an exercise critique. Drill and exercise deficiencies and areas for improvement were identified and placed into the licensee's corrective action program for resolution.

h. Aging Management Program

The DOE had established an aging management program to ensure that no aging effects would result in a loss of intended function of the Structures, Systems, and Components Important to Safety that were within the scope of license renewal. The DOE aging management plan was documented in PLN-4493, "Three Mile Island Unit 2 ISFSI Aging Management Program," Revision 1. The program established preventive maintenance inspections and actions to mitigate or prevent applicable aging effects.

In April 2011, an NRC inspection report (ADAMS Accession No. ML11097A028) documented significant concrete cracking that had occurred on the HSMs due to water intrusion and freeze-thaw crack propagation. These degradation issues were subsequently addressed by the DOE. In June 2012, the NRC conducted a follow up inspection (ADAMS Accession No. ML12193A104), which reviewed and evaluated the concrete repairs that were made to the HSMs. All repairs made to the HSMs had sufficiently held through the subsequent winters, and were observed by the inspector to

be intact. The licensee implemented a new aging management program to monitor and timely correct any new degradation or address previously made repairs to ensure the prolonged life of the ISFSI.

Per the aging management program, the licensee conducted an annual visual inspection of the TMI-2 ISFSI concrete modules and the concrete end shield walls. Inspectors reviewed the two past years of inspections. The 2016 visual inspections were conducted in September 2016 and documented in STI-NLF-34, "Visual Inspection of the TMI-2 ISFSI HSMs and End Shield Walls Report." The 2017 visual inspections were conducted in November 2017 and documented in STI-NLF-057, "Visual Inspection of the TMI-2 ISFSI HSMs and End Shield Walls Report." All surfaces inspected exhibited no cracking in excess of the American Concrete Institute (ACI) 349.3R first-tier criteria (0.015 inch width). Additionally, all repairs made using the epoxy injection process into the previously propagated water intrusion cracks were found to be in good condition. The licensee's aging management program was sufficiently monitoring the condition of their ISFSI. No NRC concerns or findings were identified in review of the on-going maintenance of their facility.

1.3 Conclusions

The licensee was conducting QA audits and surveillances of the ISFSI program. A review of the audit reports and surveillances performed since the last inspection determined that the QA groups were reviewing risk significant areas within a broad range of topics. Any issues that were identified in the reports were entered into the corrective action program for resolution.

The ISFSI facility was being maintained in good physical condition. Radiation data reviewed from the 2016 and 2017 environmental monitoring reports determined that offsite radiation levels were in compliance with 10 CFR 72.104 requirements. The DOE-ID remained in compliance with all environmental monitoring regulatory requirements related to their ISFSI operations.

Documents were reviewed that demonstrated the licensee had complied with Technical Specifications and SAR requirements for periodic HSM monitoring, DSC sampling, filter housing leak tests, and hydrogen monitoring. No abnormal occurrences were found regarding the surveillance requirements.

Revisions to the SAR and changes to other major programs since the last inspection were reviewed. No changes were made to the REMP, the training program, or the QA program. Revision 8 to the SAR was reviewed, and the changes made were found to meet the requirements of the 10 CFR Part 72.48 change process.

Selected deficiency reports were reviewed for the period April 2016 through May 2018. A wide range of issues had been identified and resolved. Resolutions of the deficiency reports were appropriate for the safety significance of the issue. No adverse trends were identified during the review.

The SRC had met on an annual basis and reviewed issues consistent with requirements specified in the SAR and Technical Specifications. The ISFSI organization changes since the last inspection were reviewed for compliance with SAR requirements for

staffing qualifications of the new personnel. All individuals were well qualified and met the requirements of the SAR.

The TMI-2 emergency plan was being properly maintained; one revision to the plan was reviewed during the inspection and verified not to reduce the effectiveness of the plan. Required drills and exercises were performed in accordance with requirements specified in the emergency plan. Offsite support agencies were offered opportunities to participate in licensee exercises.

The site had implemented an aging management program for the TMI-2 ISFSI. The program established preventive maintenance inspections and actions to mitigate or prevent applicable aging effects. All previous repairs made to the HSMs in 2011 had remained in place throughout subsequent winters. At the time of the inspection, the ISFSI pad and HSMs were in good condition and the licensee had performed all of the required inspections and repairs to the ISFSI as required.

2 Review of 10 CFR 72.48 Evaluations (60857)

2.1 Inspection Scope

The licensee's 10 CFR 72.48 screenings and evaluations since the April 2016 routine ISFSI inspection were reviewed to determine compliance with regulatory requirements.

2.2 Observations and Findings

A list of modifications to the ISFSI program including procedure revisions was provided by the licensee. Thirteen 10 CFR 72.48 screenings were selected for further review. No full 72.48 Safety Evaluations were completed since the last NRC inspection. The licensee utilized procedure STI-NLF-PM-018, "10 CFR 72.48 Screen/Evaluation," Revision 0, and Procedure STI-NLF-PM-027, "NRC Applicability Determination," Revision 1, to perform the required review of changes made to the ISFSI or operational procedures. Most of screenings or applicability determinations were all associated with changes made to the ISFSI operations procedures. One 72.48 screens was completed to update the site's SAR. No other modifications to the ISFSI equipment, components, or the facility had been performed since the last inspection. No issues were identified in the review of the 72.48 screens.

2.3 Conclusions

All required safety screenings had been performed in accordance with the licensee's procedures and 10 CFR 72.48 requirements. All screenings reviewed were determined to be adequately evaluated.

3 Exit Meeting

The inspector reviewed the scope and findings of the inspection during a telephonic exit that was conducted with Mr. Steven Ahrendts, Supervisor DOE-ID Spent Fuel Team, and other members of the TMI-2 ISFSI staff, on May 31, 2018.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

S. Ahrendts, Supervisor Spent Fuel Team, DOE-ID
D. Bland, Program Manager for NRC Licensed Facilities, STI
S. Ferrara, FSV/TMI-2 Facility Director, DOE-ID
J. Long, TMI-2 ISFSI Manager/Safety Officer, STI
B. Stutzman, QA Manager, STI

INSPECTION PROCEDURES USED

IP 60858	Away-From-Reactor ISFSI Inspection Guidance
IP 60857	Review of 10 CFR 72.48 Evaluations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Discussed

None

Closed

None

Attachment

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	As Low As Reasonably Achievable
CAR	Condition Action Request
CFR	Code of Federal Regulations
DOE-ID	Department of Energy Idaho Operations
DNMS	Division of Nuclear Material Safety
DR	Deficiency Report
DSC	Dry Shielded Canister
HSM	Horizontal Storage Module
INL	Idaho National Laboratory
ISFSI	Independent Spent Fuel Storage Installation
MDA	Minimum Detectable Activity
mrem/yr	milli-Roentgen equivalent man per year
NRC	U.S. Nuclear Regulatory Commission
pCi/m^3	pico-Curie per meter cubed
QA	Quality Assurance
REMP	Radiological Environmental Monitoring Program
SAR	Safety Analysis Report
SRC	Safety Review Committee
STI	Spectra Tech Inc.
TMI-2	Three Mile Island, Unit 2
TLD	thermoluminescent dosimeter

IR 07200020/2018-001; TMI-2 ISFSI INSPECTION – DATED JUNE 26, 2018

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External Distribution

Mr. Steven Ahrendts
Supervisor, DOE-ID Spent Fuel Team
U.S. Department of Energy
Idaho Operations Office
1955 Fremont Ave., MS-1222
Idaho Falls, ID 83415

Mr. Dennis Faulk
U.S. EPA Region 10
Hanford/INL Project Office
825 Jadwin Ave., Suite 210
Richland, WA 99352

Mr. Scott Ferrara
FSV/TMI-2 Facility Director
U.S. Department of Energy
Idaho Operations Office
1955 Fremont Ave., MS-1222
Idaho Falls, ID 83415

The Honorable Blaine Edmo
Chairman, Fort Hall Business Council
Shoshone-Bannock Tribes
P. O. Box 306
Fort Hall, ID 83203

Mr. David Bland
Program Manager for NRC Licensed Facilities
Spectra Tech Inc.
1955 Fremont Ave.
Idaho Falls, ID 83401

Ms. Talia Martin
Director, Tribal DOE Program
Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall, ID 83203

Mr. Robert Milazzo
Business Manager for NRC Licensed Facilities
Spectra Tech Inc.
1955 Fremont Ave.
Idaho Falls, ID 83401

Snake River Alliance
Beatrice Brailsford
Nuclear Program Director
PO Box 1731
Boise, ID 83701

Ms. Susan Burke
INL Oversight Coordinator
DEQ State Office
1410 N. Hilton
Boise, ID 83706

Mr. Chuck Broscious
Environmental Defense Institute
P.O. Box 220
Troy, ID 83871-0220

Mr. John Tanner
Coalition 21
2175 Tasman Ave
Idaho Falls, ID 83404

NRC Liaison
State of Idaho INL Oversight Program
900 N. Skyline Drive, Suite C
Idaho Falls, ID 83402

Chairman
INL Committee
Idaho Falls Chamber of Commerce
425 N. Capital Ave.
Idaho Falls, ID 83402

Mr. Herb Bohrer
Chair, Citizens Advisory Board
C/O Ms. Jordan Davies
North Wind Group
1425 Higham Street
Idaho Falls, ID 83402

ADAMS ACCESSION NUMBER: ML18171A380

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OFFICE	RIV/DNMS/FCDB		RIV/DNMS/FCDB/BC
NAME	LBrookhart		RKellar
SIGNATURE	/RA/		/RA by RJEvans Acting for/
DATE	6/21/18		6/26/18

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