



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV

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November 17, 1999

Ms Beverly A. Cook, Manager
Idaho Operations Office
U. S. Department of Energy
850 Energy Drive
Idaho Falls, ID 83401-1563

SUBJECT: NRC INSPECTION REPORT 72-09/99-01

Dear Ms. Cook:

On September 27-30, 1999, an NRC team inspection was conducted at your Fort St. Vrain Independent Spent Fuel Storage Installation (ISFSI). The enclosed report presents the scope and results of that inspection. On November 16, 1999, a followup telephonic exit was held between the NRC Inspection Team Leader and your staff. During this discussion, additional information was provided by the NRC concerning the non-cited violation identified in this report.

The inspection included a review of activities associated with the environmental monitoring program, safety evaluations completed for the facility, condition of the facility, compliance with technical specifications, radiological conditions, personnel training, emergency planning and quality assurance program implementation.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

A handwritten signature in cursive script that reads "Dwight D. Chamberlain".

Dwight D. Chamberlain, Director
Division of Nuclear Materials Safety

Docket Nos.: 72-09
License Nos.: SNM-2504

Enclosure:
NRC Inspection Report
72-09/99-01

Portions of this document have been redacted in accordance with Regulatory Issue Summary 2005-31 requirements (SUNSI)

cc w/enclosure:

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 72-09

License No.: SNM-2504

Report No.: 72-09/99-01

Licensee: U. S. Department of Energy

Facility: Fort St. Vrain Independent Spent Fuel Storage Installation (ISFSI)

Location: 16805 Weld County Road 19-1/2
Platteville, Colorado 80651

Dates: September 27-30, 1999

Inspectors: J. Vincent Everett, Sr. Health Physicist
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Division of Nuclear Material Safety

EXECUTIVE SUMMARY

Fort St. Vrain ISFSI NRC Inspection Report 72-09/99-01

The Fort St. Vrain Independent Spent Fuel Storage Installation (ISFSI) has been in operation since December 1991. The facility had been maintained and operated by Public Service Company of Colorado until June 4, 1999, at which time the NRC license was transferred to the U. S. Department of Energy (DOE). The Idaho Operations Office of the DOE was assigned responsibility for the Fort St. Vrain facility. This inspection was the first annual inspection since DOE assumed responsibility for the facility. The primary onsite staff at the ISFSI had transferred from Public Service Company of Colorado to the management and operations contractor for DOE and remained onsite at the Fort St. Vrain ISFSI. This provided for the historical knowledge and operational experience of the facility to be carried over to DOE. The annual inspection of the ISFSI found the transfer of the license to DOE to have been completed with very few problems. Most of the problems had involved DOE's quality assurance program. An extensive NRC evaluation of the quality assurance program was completed as part of the DOE license request for the TMI-2 ISFSI, located at the Idaho National Engineering and Environmental Laboratory. DOE's corrective actions for the problems related to the TMI-2 ISFSI quality assurance program were also implemented for the Fort St. Vrain program. Overall, the NRC inspectors observed no reduction in the effectiveness of the programs being implemented at the ISFSI and noted that the resources available within DOE strengthened the overall capabilities for response to problems or emergency conditions at the facility.

Operation of an ISFSI - Annual Inspection

- The Fort St. Vrain ISFSI and equipment were being maintained in good physical condition. Work on the new security center was nearing completion (Section 1a).
- Environmental dosimetry data for 1998 was reviewed. Radiation exposure rates around the ISFSI were found to be near background levels. No releases of radioactive effluents had occurred (Section 1b).
- Numerous quality assurance audits and surveillances were conducted in 1998 and 1999. The audits were comprehensive and covered a number of technical and administrative areas. Issues identified were being tracked and adequately closed by the licensee. Surveillances were being completed within required time frames identified in the technical specifications. One Non-Cited Violation (NCV) was identified related to qualifications of quality assurance engineers. (Section 1c and 1d).
- Radiological surveys were being performed as required. Survey instrumentation was found to be calibrated. Survey results confirmed radiation levels consistent with historical levels and supported the results of the environmental dosimetry data. The neutron source was properly stored and posted (Section 1e).

- General employee training was current for personnel assigned to the Fort St. Vrain ISFSI. Thirty individuals were qualified for unescorted access and had been trained. Certified fuel handler training was being completed in accordance with the biennial requirement of the safety analysis report (Section 1f).
- Changes to the site emergency plan were reviewed and found to be acceptable. A new hospital had been identified as the primary care center. The hospital provided better capabilities for medical care than the previously identified hospital (Section 1g).
- Safety reviews performed by the licensee for 1998 were reviewed. Safety screenings and evaluations were found to be adequate. Safety evaluations performed were related to new activities associated with natural gas wells and pipelines within ½ mile of the ISFSI (Section 1h).
- Eight inspection followup items were reviewed during this inspection. Six were closed. The two issues remaining open involved the quality assurance records associated with the Transnuclear-Fort St. Vrain shipping cask and corrective actions associated with issues under review by the safety review council (Section 2).

Report Details

Summary of Facility Status

The Fort St. Vrain Independent Spent Fuel Storage Installation (ISFSI) is a modular vault dry storage design developed by the Foster Wheeler Energy Corporation. The facility provides storage for the spent fuel from the Fort St. Vrain high temperature gas cooled reactor, which was decommissioned. There were 1458 spent fuel elements and 6 source elements in storage at the Fort St. Vrain ISFSI.

The Fort St. Vrain ISFSI had been managed by Public Service of Colorado until June 1999. The NRC approved the transfer of the Fort St. Vrain license to the U. S. Department of Energy (DOE) on June 4, 1999. DOE's Idaho Operations Office was assigned responsibility for the Fort St. Vrain facility. Lockheed Martin Idaho Technologies Company, as the assigned management and operations contractor, was responsible for the day-to-day activities at the ISFSI.

On June 9, 1999, DOE informed the NRC that a new management and operations contractor had been selected for the Idaho National Engineering and Environmental Laboratory. The new management and operations contractor would be Bechtel B&W Idaho replacing Lockheed Martin Idaho Technologies Company effective October 1, 1999. Bechtel B&W Idaho would be responsible for the activities associated with the Fort St. Vrain ISFSI. Notification of the NRC concerning the new management and operations contractor complied with License Condition 14 of the DOE license for the Fort St. Vrain ISFSI. No significant changes to the staffing for the Fort St. Vrain ISFSI was expected.

1 Operations of an ISFSI (60855)

1.1 Inspection Scope

This routine annual inspection of the Fort St. Vrain ISFSI included a review of the facility condition and staffing, environmental monitoring program, quality assurance program, selected technical specifications, radiological conditions, training, emergency planning and safety evaluations completed for the facility.

1.2 Observation and Findings

a. Facility Condition and Staffing

A tour of the ISFSI was conducted. The facility was in good physical condition. Housekeeping was excellent. Security seals on the fuel were in place. The new security building was under construction. The security building was attached to the ISFSI and will replace the current security facility that is located in the Fort St. Vrain reactor facility. Testing of the security facility is planned to begin before the end of 1999.

The morning staff meeting was attended by the NRC inspection team. A status of the work activities related to the security building were reviewed. No significant construction problems were occurring. Plans for testing and acceptance of the security facility and systems were discussed during the meeting. Scheduled surveillances for the upcoming week were assigned.

b. Environmental Monitoring Program

The Fort St. Vrain ISFSI annual environmental report for 1998, which covered the period from January 1 through December 31, 1998, was reviewed. Environmental monitoring at the Fort St. Vrain ISFSI was conducted by Colorado State University for the period January 1 through June 30, 1998, and by URS Greiner Woodward Clyde for the period July 1 through December 31, 1998. The new contractor's sample analysis capability was equivalent to the previous contractor's. A vendor audit of the new contractor was conducted by the licensee on June 29, 1998. The vendor was determined to be fully qualified.

Environmental radiation monitoring around the ISFSI facility was performed using 20 thermoluminescent dosimeters (TLD). Six additional dosimeters were located inside the ISFSI building. The average gamma exposure rate for the dosimeters located both inside the ISFSI building and around the outside of the facility was 0.40 mR/day. This was consistent with the exposure rates measured over the last several years. Review of the environmental data provided in the 1998 environmental report indicated there were no releases of radioactive effluents from the ISFSI and direct radiation exposure rates were negligible compared to background levels.

At the time of this inspection, the direct radiation monitoring locations were being monitored by both the management and operations contractor for the Operations Office and by URS Greiner Woodward Clyde. Future plans were to transition the environmental monitoring program to the management and operations contractor.

The TLD processing time for 1998 and 1999 was reviewed. The period between the annealing of the TLD prior to use and the time when the TLD is processed is called the wear time. For the Fort St. Vrain TLDs, the wear time in 1998 had been 188 days. For 1999, wear time had increased to 240 days. Data fading issues can result from long wear times. The data reviewed for 1998 found a slight discrepancy for the fourth quarter 1998 data which could be due to fading. Though the discrepancy was not significant and the TLD values recorded were within the error bands for the expected environmental radiation levels, the poor practice and potential problems of allowing high wear times for environmental TLDs was discussed with the licensee. The licensee stated that this issue should be resolved when the TLD program responsibilities are assumed by DOE Idaho's management and operations contractor.

c. Quality Assurance/Surveillances/Problem Reports/Non-Conformance Reports

On May 24-27, 1999, DOE's quality assurance organization conducted an evaluation of the quality assurance program being implemented at the Fort St. Vrain site for the construction of the security alarm station. Surveillance No. 99-NSNF-S-053 was issued

June 7, 1999. The work underway at the time of this surveillance included the pouring of the concrete foundation for the alarm station and excavation of the camera pad location. Several concerns were identified related to acceptance criteria, codes and flow down of requirements to suppliers. One corrective action request was identified related to the lack of an organizational description for the alarm station project. This corrective action request was closed on June 28, 1999, with the issuance of a letter delineating responsibilities. On September 15, 1999, a followup memo was issued which related to the other concerns identified in the quality assurance audit. Each concern that was addressed related to actions completed and actions remaining. The licensee was tracking completion of the issues.

On May 17, 1999, a quality assurance audit of Fort St. Vrain was conducted by DOE focusing on the corrective action requests in DOE Audit Report 98-NSNF-AU-034, published on November 19, 1998, and the inspection followup items identified in NRC Inspection Report 72-009/98-201. The audit team determined that the corrective actions for the NRC followup items had been satisfactorily implemented. The audit team found that the corrective action requests identified in the DOE audit report were either satisfactorily completed or were being processed in a way that should result in satisfactory completion. Each of the corrective action request items were discussed in the audit team report. The audit team completed a thorough evaluation of the issues.

An independent oversight assessment of the Fort St. Vrain ISFSI and the Three Mile Island ISFSI was performed during a period of July 19 through August 19, 1999, by Lockheed Martin Idaho Technologies Company. This assessment, issued as Report No. 99-MDA-016, covered the NRC licensed activities at the two ISFSIs including requirements specified in each facility's safety analysis report. Topics reviewed included emergency planning, security, training, operations, radiation protections, and safety reviews. A number of findings were issued as part of this assessment including problems noted in the areas of training for 10 CFR Part 21 reportability, lack of specific written procedures for the Fort St. Vrain natural gas and oil monitoring program, lack of training for the safety review committee members on the Fort St. Vrain technical specifications, and hand written corrections on quality assurance records that were not initialed and dated. The assessment also found that personnel assigned as Fort St. Vrain quality assurance engineers did not meet the requirements in the safety analysis report, Section 9.1.3.1 "Minimum Qualification Requirements." The safety analysis report required the Fort St. Vrain quality assurance engineers to be certified as lead auditors. The assigned Fort St. Vrain quality assurance engineers were not certified as lead auditors. This was in noncompliance with Technical Specification 5.3.1 of the Fort St. Vrain license which required each member of the facility staff to meet the minimum qualifications specified in the safety analysis report. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.h of the Enforcement Policy (NCV 72-09/9901-01). The final assessment report was issued on September 15, 1999. The licensee initiated process deficiency report No. 8910 on October 6, 1999, to track resolution of the qualifications issue. On October 14, 1999, DOE issued Licensee Event Report No. 99-02-00 to the NRC reporting this technical specification noncompliance in accordance with the 30-day reporting requirement in Technical Specification 5.6.2.

[REDACTED]

[REDACTED]

[REDACTED]

d. Technical Specification

Technical Specification 5.4.1 established requirements for written procedures, including procedures for health physics, design control, facility changes, spent fuel management, emergency response, quality assurance, radiological environmental monitoring, training, procedure and program changes, natural gas and oil monitoring and radiological effluent control. A review was conducted of the licensee's procedures and programs. Adequate procedures had been developed and were being implemented for all the areas listed in Technical Specification 5.4.1.

The natural gas and oil monitoring program was reviewed. This program maintained a database of the locations for all the oil and gas wells and pipelines, within a ½ mile radius of the Fort St. Vrain ISFSI. The program was being maintained current by the licensee.

Surveillance and maintenance activities were reviewed for the period 1998 through September 1999. Technical Specification 3.3.1 "Seal Leak Rate," required the licensee to leak test one fuel storage container vault every 5 years. The next leak test was not due until 2001 based on the last test being completed in 1996.

Technical Specification 3.2 "Container Handling Machine" required the container handling machine to be tested when the handling machine was in use or 31 days prior to lifting. A visual inspection was required for the crane hoist dead stop device every 12 months. The 12-month required inspection was a new requirement added when the license was transferred from Public Service of Colorado to DOE. Based on the license transfer date of June 4, 1999, this inspection activity was not due.

The modular vault dry storage cooling system was required to be visually inspected on a weekly basis per Technical Specification 3.1. The weekly surveillances were being conducted in accordance with Procedure TPR-5593, Revision 5, "Visual inspection of Fort St. Vrain ISFSI cooling inlets and outlets/tornado clamp verification." Surveillance documentation was reviewed for the period June 9 through September 29, 1999. The surveillance conducted on September 29, 1999, under work order Number 17747, was observed by the NRC inspector. Fort St. Vrain received the work order package from Idaho National Engineering and Environmental Laboratory, approximately 1- week prior to the required surveillance date. The work order package contained the required surveillance, supporting documentation, forms and dispositioning forms. A pre-job briefing was conducted prior to initiating the surveillance. The briefing and surveillance of the cooling inlets/outlets was conducted satisfactorily.

Procedure TPR-5593 required verification of the position of the tornado clamps on the crane. This portion of the surveillance was performed by observing the orange and red light illumination on the crane control pendant. The red lamp indicated the tornado restraint bridge clamps were set for the crane on both the east and west rails. The red light was out during the surveillance conducted on August 4, 1999. The light was replaced and determined operational. The red light was observed as being out again on September 7, 1999. A purchase order was in the process of being initiated in order to resolve the lamp problem through the vendor. The licensee had discussed the situation with the vendor, who suggested to turn the crane on. One clamp, however, would still not release. This condition would prevent the crane from being operated because it could not be released from the restraint. The crane was in a secure and safe position with the clamp engaged. This was verified by the NRC inspector, who visually inspected the hydraulic gauge which indicated pressure was applied to the clamp.

e. Radiological Conditions

Radiological surveys for the Fort St. Vrain ISFSI were performed in accordance with Technical Procedure TPR-5613, Revision 4, "FSV ISFSI Radiation Survey and Vault Drain System Sample Collection and Analysis." The procedure required radiological surveys to be conducted on a quarterly basis. The last survey was completed on July 15, 1999. Surveys conducted prior to the license transfer to DOE on June 4, 1999, were in the records transmittal storage vault and were not reviewed. The survey data indicated background levels and supported the data in the annual radiological environmental report.

The licensee conducted weekly source checks of the radiation instrumentation. Weekly source checks were required by Procedure MCP-93, Revision 1, "Health Physics Instrumentation," Appendix A. When instruments were being used, source checks were

required to be conducted on a daily basis. The NRC inspector observed the licensee correctly performing source checks on an RM-14 beta-gamma detector, microRem meter, RO-20 beta-gamma detector, and an ESP neutron detector, under RWP 99-03, "Source Check Radiation Instruments." Calibrations were performed for the Fort St. Vrain facility by DOE's Instrumentation Laboratory in Idaho Falls. An AM-Be source consisting of 840 mCi Am-241 was stored onsite and used as a source check for the neutron instrument. The source was stored in a locked fire-proof safe and posted as a radiation area. Dose rates from the Am-Be source were 22 mrem/hr contact and 4.5 mrem/hr at 12 inches. The weekly surveys of the source locker were reviewed from the period June 7 through September 7, 1999.

f. Training

Training records for general employee training and certified fuel handler training were reviewed. There were 30 individuals currently qualified for unescorted access to the ISFSI. The training records for an individual selected by the NRC inspector were reviewed against the requirements in Procedure MCP-2965, "Training Procedure," Revision 1. The individual's general employee training record was current.

The training requirements for the certified fuel handlers were specified in MCP-2968, "Training of Certified Fuel Handlers," Revision 5. The certified fuel handler training program included general employee training, radworker II, equipment and component design description, accident analysis, regulations and procedures, and operation of the different handling devices, crane and container handling machine. Certified fuel handler training was required biennially. The licensee was conducting training on an annual basis in order to complete all required course work within the 2-year period. The ISFSI Manager and the Facility Safety Officer training records were reviewed. Training for the two individuals was found to be complete and in accordance with Procedure MCP-2968 requirements.

The ISFSI protected area authorization list was updated by the facility safety officer each month and provided to the security supervisor. The authorization list was verified when security logged an individual into the ISFSI protected area. The ISFSI manager and the facility safety officer were the instructors who provided general employee training. In the event an individual on the authorization list did not pass their general employee training, the facility safety officer would delete the individual's name from the authorization list for the protected area.

g. Emergency Planning

On January 11, 1999, the licensee sent a letter to the NRC describing two changes to the site emergency plan and procedures. The first change involved the hospital that would be used for emergency patient care. A new hospital, North Colorado Medical Center, was identified as the primary care center for contaminated and injured persons. This medical facility provided better capabilities than the previous medical center and was approximately the same distance from the facility.

The second change made to the emergency planning program involved the radiological environmental monitoring program. A new vendor had been designated to provide this service when the prior vendor decided to discontinue offering the service. Both changes were determined to be acceptable and to not reduce the effectiveness of the licensee's ability to respond to an emergency condition.

h. Safety Evaluation

A letter was sent to the NRC on December 17, 1998, providing the list of annual changes to the safety analysis report. The Safety Analysis Report, Revision 10, was updated in accordance with the annual update requirements specified in 10 CFR 72.70. No modifications during 1998 were made to the Fort St. Vrain ISFSI. No changes to codes, standards, regulations, or regulatory guides committed to by the licensee were identified during 1998. Changes made to the safety analysis report included clarification concerning the storage of the neutron source onsite, addition of information concerning new natural gas wells and a 24-inch natural gas supply pipeline in the vicinity of the ISFSI, addition of a 12°F low temperature operating limit for spent fuel handling movement to prevent brittle fracture of the fuel storage containers, and the addition of information concerning the atmospheric tritium monitoring program.

On December 15, 1998, the licensee submitted a letter to the NRC summarizing the 10 CFR 72.48 changes that had been completed during 1998. No changes had been made to procedures described in the safety analysis report and no tests or experiments were conducted. During this inspection, seven screening forms were reviewed by the inspectors. Screening forms provided the basis for determining whether an issue required a safety evaluation. The issues screened by the licensee involved new procedures for the security alarm station and a change to a procedure to reference the new technical specifications. The screening forms that were reviewed by the inspectors correctly concluded that no safety evaluations were required.

Several safety evaluations had been performed by the licensee. These safety evaluations were related to nearby activities associated with the natural gas facilities in the local area. Technical Specification 5.5.3 "Natural Gas and Oil Monitoring Program," required the licensee to maintain a program to monitor activities associated with natural gas and oil facilities within ½ mile of the ISFSI. The safety evaluations determined that issues associated with the natural gas facilities were bounded by previously evaluated postulated accident consequences and were allowed based on the requirements established in 10 CFR 72.48.

1.3 Conclusions

The Fort St. Vrain ISFSI and equipment were being maintained in good physical condition. Work on the new security center was nearing completion.

Environmental dosimetry data for 1998 was reviewed. Radiation exposure rates around the ISFSI were found to be near background levels. No releases of radioactive effluents had occurred.

Numerous quality assurance audits and surveillances were conducted in 1998 and 1999. The audits were comprehensive and covered a number of technical and administrative areas. Issues identified were being tracked and adequately closed by the licensee. Surveillances were being completed within required time frames identified in the technical specifications. One Non-Cited Violation (NCV) was identified related to qualifications of quality assurance engineers.

Radiological surveys were being performed as required. Survey instrumentation was found to be calibrated. Survey results confirmed radiation levels consistent with historical levels and supported the results of the environmental dosimetry data. The neutron source was properly stored and posted.

General employee training was current for personnel assigned to the Fort St. Vrain ISFSI. Thirty individuals were qualified for unescorted access and had been trained. Certified fuel handler training was being completed in accordance with the biennial requirement of the safety analysis report.

Changes to the site emergency plan were reviewed and found to be acceptable. A new hospital had been identified as the primary care center. The hospital provided better capabilities for medical care than the previously identified hospital.

Safety reviews performed by the licensee for 1998 were reviewed. Safety screenings and evaluations were found to be adequate. Safety evaluations performed were related to new activities associated with natural gas wells and pipelines within ½ mile of the ISFSI.

2 Follow-up of Open Items (92701)

- 2.1 (Closed) IFI 72-09/98201-01 Safety Review Council Proceedings: The licensee's Procedure GDE-052 "Safety Review Committee Guide," required the safety review committee to establish a database to track those issues designated as "Immediate Safety Concerns" or as "Management Attention Items." This procedure required performance of root cause analysis and the development and implementation of corrective actions for the issues included in the database. An agenda for the upcoming October 18, 1999, safety review committee meeting was reviewed during this inspection. An attachment to the agenda provided a copy of a database of issues entitled "Assessment Issue Database for Immediate Safety Concerns and Management Attention Items." This database was controlled by the safety review committee chairman. A tracking number was assigned to each issue and a responsible person identified. Six items, all identified as management attention items, were listed in the database related to document configuration control, training, procedures and design control limits.
- 2.2 (Closed) IFI 72-09/98201-02 Maintenance of Decommissioning Records: In Section 9.4.2 of the safety analysis report, the licensee committed to maintain decommissioning records in accordance with the Fort St. Vrain ISFSI quality assurance plan. The safety analysis report required dual storage of records. The licensee was

storing duplicate sets of the required records at both the Fort St. Vrain ISFSI and at Test Area North and had implemented the required quality assurance program for the records. All records required by 10 CFR 72.30 had been reviewed by the licensee and found to be properly stored. Document PLN-237 "Management Plan for the Fort St. Vrain ISFSI," Revision 1, was reviewed and determined to contain a complete list of the required documents. The licensee tracked closure of this issue in Process Deficiency Report No. 5199.

- 2.3 (Closed) IFI 72-09/98201-03 Vendor Approval Process: The licensee had performed an audit of its vendor approval process and had identified a number of shortcomings that were documented in DOE-Idaho Operations Audit Report No. 98-NSNF-AU-034. As a result of the audit, the licensee decided to perform a major upgrade of the procurement system to clarify evaluation and acceptance criteria. The licensee restructured the procurement system organization in its entirety. Procedure MCP-591, Revision 5, established facility-wide requirements for qualification of suppliers before a purchase order or subcontract could be awarded. Additional changes made to the procurement program included: centralization of the site-wide responsibility for supplier qualification; re-engineering of the supplier evaluation process such that site-wide roles and responsibilities were more clearly defined; consolidation of supplier evaluations into a single site-wide process; clearer definition of the authorized evaluation methods and criteria to be used; increased controls implemented for the qualified supplier listing change control process, and consolidation of the qualified supplier list. Following the organizational restructuring, the licensee provided training to its staff regarding the new procurement quality assurance process.
- 2.4 (Closed) IFI 72-09/98201-04 Conflicts between Quality Management Plan and Safety Analysis Report: Program Quality Management Plan, DOE/SNF/QMP-01, Revision 1, described the DOE-Idaho quality assurance responsibilities for all DOE spent fuel activities. The quality management plan provided for the national spent nuclear fuel quality assurance overview of the various DOE-Idaho sites and served as an implementing document for quality assurance requirements at NRC licensed facilities. However, the quality assurance plan contradicted a number of the commitments in the Fort St. Vrain safety analysis report. For example, safety analysis report Sections 11.3 "Design Control," 11.7 "Control of Purchased Items and Services," and 11.14 "Inspection Test and Operating Status," all described various provisions for meeting NRC requirements, but, the quality assurance plan stated in each of these sections that the national spent nuclear fuel program did not apply to oversight of NRC licensed ISFSIs. The licensee revised the quality assurance plan such that all sections now contain the following statement "The NRC-licensed ISFSI's quality assurance programs will also comply with and implement the quality assurance plan as applicable. The DOE national spent nuclear fuel program will perform quality assurance oversight, such as reviews, audits, surveillances, and assessments of procurement document control at the ISFSIs to ensure that the ISFSI safety analysis report and the DOE Office of Civilian Radioactive Waste Management 'Quality Assurance Requirements and Description' document requirements are implemented."

- 2.5 (Closed) IFI 72-09/98201-05 Fort St. Vrain Quality Assurance Program: DOE-Idaho performed a spent fuel program audit, documented in Report No. 98-NSNF-AU-034, that identified numerous shortcomings in DOE-Idaho's implementation of the quality assurance commitments found in the Fort St. Vrain safety analysis report. As a result of this audit, the licensee made a commitment to develop a quality program plan that would be specific to the Fort St. Vrain ISFSI and to clarify the quality assurance requirements of DOE's national spent nuclear fuel program as they relate to Fort St. Vrain licensed activities. The licensee developed and submitted the quality program plan, PNL-458, Revision 0, to the NRC on January 4, 1999. The quality program plan adequately clarified how DOE-Idaho would implement the applicable requirements of the national spent nuclear fuel program at Fort St. Vrain and the DOE-Idaho operations that supported the Fort St. Vrain ISFSI. The quality program plan was revised to include an appendix which translated the requirements down to the implementing procedures.
- 2.6 (Closed) IFI 72-09/97207-07 Radiation Protection: The licensee had issued Procedure MCP-2951 "Fort St. Vrain ISFSI Radiation Protection and Fuel Management Programs," which included guidance for the unrestricted release of material from radiologically controlled areas. Step 4.4.14 of the procedure required all material leaving a posted radiological area to be surveyed and released in accordance with the limits specified in Procedure MCP-425 "Survey of Materials for Unrestricted Release and Control of Movement of Contaminated Material." However, MCP-425 included Attachment A "Surface Contamination Guidelines" which established release limits above background levels. NRC requirements in 10 CFR 20.2001 do not provide for releases of material above background. The licensee has added a note to Procedure MCP 2951 immediately above Step 4.4.14 which stated "The release limits for removable and surface contamination are any detectable radioactivity above background, not the limits in MCP-425, Appendix A."
- 2.7 (Closed) IFI 72-09/97207-19 Auditor Independence: 10 CFR 72.176 requires that audits be performed by personnel not having direct responsibilities in the areas being audited. NRC Inspection Report 72-09/97-207 identified that the licensee was performing audits of its management and operations contractor activities using staff from the same contractor. Use of staff from the same contractor being audited would not provide an adequate level of independence to meet NRC regulatory requirements. In their initial response, the licensee stated that staff used for audits of the national spent nuclear fuel program activities were organizationally independent from other contractor-related activities and therefore it would be acceptable for DOE-Idaho to continue the practice. The NRC staff documented its continued disagreement with this practice in NRC Inspection Report 72-09/98-201. As a result, the licensee modified Paragraph 4.a.(1) of Procedure PMP 18.02, "Administration and Conduct of Audits," to include the following statement: "If the audit is of a DOE-owned and NRC-licensed spent fuel storage installation, then identify an audit team leader who is not an employee of the management and operations contractor." The licensee stated that this change was reflected in all applicable sub-tier procedures.

- 2.8 (Discussed) IFI 72-09/97207-22 Quality Assurance Records: NRC Inspection
Report 72-09/97-207 identified that the licensee had not performed receipt inspection of the fabrication records for the two Transnuclear-Fort St. Vrain spent fuel shipping casks received from Public Service Company of Colorado during the license transfer process. A Lockheed-Martin Idaho Technologies Company report dated February 8, 1999, stated that a team reviewed the records that were provided on the Transnuclear-Fort St. Vrain shipping casks and found numerous deficiencies. Specifically, the report stated that numerous records were incomplete or as-built drawings were not the most current version. DOE-Idaho has begun working with Transnuclear, the packaging designer, to establish a complete set of records. This issue has been tracked by DOE- Idaho through process deficiency report Nos. 5198, 5198, and 8831. This issue will remain open and be inspected at a future date.

3 Exit

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on September 30, 1999. A telephonic exit was conducted on November 16, 1999, with the final results of the inspection. The licensee acknowledged the findings presented. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.

ATTACHMENT
PARTIAL LIST OF PERSONS CONTACTED

Licensee

B. Davis, Quality Assurance Manager
M. Gardner, DOE-Idaho
J. Hagers, Licensing Manager
C. Maggart, Licensing Engineer

Lockheed-Martin Idaho Technologies Company (LMITCO)

T. Borst, Fort St. Vrain ISFSI Manager
S. Chesnutt, Fort St. Vrain Senior Engineer
M. Holmes, Fort St. Vrain Project Assurance Manager
H. Lord, LMITCO Safety Analyst
J. Newkirk, Fort St. Vrain Facility Safety Officer
D. Seymour, Fort St. Vrain Quality Assurance Engineer

Other Contractors

J. Jackson, Utility Engineering Company
J. Leger, Fort St. Vrain Security Supervisor, Burns International Security Services

INSPECTION PROCEDURES USED

60855	Operation of an ISFSI
92701	Follow-up on Open Items

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

72-09/9901-01	NCV	Quality Assurance Lead Auditor Qualifications
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Closed

72-09/97207-07	IFI	Radiation Protection
72-09/97207-19	IFI	Auditor Independence
72-09/98201-01	IFI	Safety Review Council Proceedings
72-09/98201-02	IFI	Maintenance of Decommissioning Records
72-09/98201-03	IFI	Vendor Approval Process
72-09/98201-04	IFI	Conflicts Between Quality Management Plan and SAR
72-09/98201-05	IFI	Fort St. Vrain Specific Quality Assurance Plan
72-09/99-02-00	LER	Qualifications of Quality Assurance Auditors
72-09/9901-01	NCV	Quality Assurance Lead Auditor Qualifications

Discussed

72-09/97207-22	IFI	Quality Assurance Records
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LIST OF ACRONYMS

CFR	Code of Federal Regulations
DOE	Department of Energy
FSV	Fort St. Vrain
ISFSI	Independent Spent Fuel Storage Installation
LER	Licensee Event Report
NRC	Nuclear Regulatory Commission
SAR	Safety Analysis Report
SNM	Special Nuclear Material
TLD	Thermoluminescent Dosimeters