

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/85-11

License: DPR-34

Docket: 50-267

Licensee: Public Service Company of Colorado (PSC)
P. O. Box 840
Denver, Colorado 80201

Facility Name: Fort St. Vrain Nuclear Generating Station (FSV)

Inspection At: FSV Site, Weld County, Platteville, Colorado

Inspection Conducted: April 15-19, 1985

Inspector:

H. Chaney
H. D. Chaney, Radiation Specialist

5/9/85
Date

Approved:

Blaine Murray
Blaine Murray, Chief, Facilities Radiological
Protection Section

5/9/85
Date

Dale C. Powers for
R. E. Ireland, Chief, Special Projects and
Engineering Section

5/21/85
Date

Inspection Summary

Inspection Conducted April 15-19, 1985 (Report 50-267/85-11)

Areas Inspected: Routine, unannounced inspection of the licensee's radioactive material transportation program, 10 CFR Part 61.55 and 61.56 low-level radioactive waste (LLRW) program, onsite LLRW storage program, and radiation protection (RP) activities associated with the control rod drive and orifice assembly (CRD&OA) refurbishment. The inspection involved 40 inspector-hours onsite and 8 inspector-hours offsite by one NRC inspector.

Results: Within the four areas inspected, no violations or deviations were identified in three areas. Two violations were identified in one area (failure to follow procurement procedures, paragraph 2.e; and failure to perform quality assurance receipt inspections, paragraph 2.e).

DETAILS

1. Persons Contacted

PSC

*J. Gahm, Manager, Nuclear Production
*C. Fuller, Station Manager
*F. Novachek, Technical Administrative Services Supervisor
*F. Borst, Support Services Manager/Radiation Protection Manager (SSM/RPM)
*L. Singleton, Manager, Quality Assurance (QA)
*T. Schleiger, Health Physics (HP) Supervisor
L. Bishard, Test Director
*T. Orlin, QA Services Manager
*M. Ferris, QA Operations Manager
*J. Gramling, Nuclear Licensing Supervisor
*M. Niehoff, Site Nuclear Engineering Manager
*R. Craun, Site Nuclear Engineering Supervisor
P. Burck, QA Auditor Supervisor
G. Powers, Scheduling/Stores Supervisor
T. Prenger, QA Engineering Supervisor
J. Jackson, QA/Quality Control (QC) Supervisor
J. Sills, Senior Plant Engineer
M. McBride, Nuclear Fuels and Analysis Manager

Others

*G. L. Plumlee, III, NRC Resident Inspector
*M. E. Skow, NRC Inspector
*R. C. Stewart, NRC Inspector
R. H. Odegaarden, NRC Headquarters
G. W. Matheney, Consultant to PSC
M. McCormick, Consultant to PSC

*Denotes those present during the exit interview held on April 19, 1985.

The NRC inspector also interviewed several other licensee employees including QA/QC, warehouse and HP personnel.

2. Radioactive Material Transportation Program

The NRC inspector reviewed the licensee's radioactive material transportation program for compliance with the requirements of 10 CFR Part 71, 49 CFR Parts 171 through 178, NRC Inspection and Enforcement (I&E) Bulletin 79-19, the recommendations of NRC Regulatory Guides (RGs) 7.1 through 7.10, and the guidance contained in NUREG-0923 and I&E Information Notices 83-10 and 84-14.

a. Management Controls

The NRC inspector reviewed the licensee's organization within the support services department that is responsible for activities associated with the shipment of radioactive materials, with the exception of QA/QC activities and the shipment of spent reactor fuel, which are the responsibility of the FSV QA and technical/administrative services departments. Each department had implemented procedures for the conduct of their specific activities. The licensee's onsite organization is not as depicted in the Technical Specifications (TS) nor the Final Safety Analysis Report (FSAR) for the functional responsibilities of the support services manager. These discrepancies were previously discussed in NRC Inspection Report 50-267/85-02. The NRC inspector determined that the licensee had established job/task descriptions for key personnel responsible for the transportation of radioactive materials.

The SSM/RPM and HP supervisor are responsible for radioactive material shipping activities, excluding spent fuel which is a dual responsibility between technical services and the HP group. Licensee procedures (SUSMAP-4 and Administrative P-3) assign the aforementioned specific responsibilities. Procedures were found to be prepared and approved in accordance with FSV administrative instructions. The NRC inspector discussed with licensee representatives the content and scope of shipping procedures and found them adequate to implement the current radioactive material shipping requirements.

No violations or deviations were identified.

b. Training and Qualifications

The NRC inspector conducted interviews with several employees responsible for training and shipment of radioactive materials and spent fuel, and reviewed lesson plans, training records and licensee qualification criteria. The NRC inspector noted that several staff members have completed or are scheduled to attend retraining on FSV transportation activities. The NRC inspector noted that the technical services senior engineer responsible for development of procedures and control of spent fuel handling and loading for offsite shipment was not among the personnel scheduled to receive training concerning transportation regulations. The NRC inspector noted that most of the HP staff had received specialized training in transportation activities by either an onsite training program or attendance in an offsite training course.

No violations or deviations were identified.

c. Procedures and Program Implementation

The NRC inspector reviewed the licensee's procedures and checklists used for shipment of radioactive materials, receipt of radioactive materials, spent fuel shipments, spent fuel shipping cask repairs and seal testing, packaging use and maintenance manuals. The licensee's procedures provide instruction for evaluating and shipping radioactive material to comply with DOT and NRC regulations. The licensee was also noted to have implemented an approved QA program. The licensee was noted to have used detailed checklists with QC verifications for determination of shipment classification, package selection, package (cask) opening, inspection, loading, and closure. The NRC inspector also noted that the licensee maintains a burial site license, cask user/owner maintenance manuals, letters of authorization, maintenance records and procedures, and current DOT and NRC shipping regulations.

No violations or deviations were identified.

d. Review and Audits

The NRC inspector reviewed the licensee's QA audit program for radioactive material transportation activities. The review included audit procedures and checklists, corrective action program, an in-progress audit, and discussions with auditors. The licensee was noted to use outside technical assistance to supplement the auditors experience level in DOT/NRC transportation regulations. An audit was being conducted which appeared to be comprehensive and addressed the applicable requirements of 49 CFR Parts 171 through 178 and 10 CFR Parts 71 and 73.

No violations or deviations were identified.

e. Procurement and Inspection of Packages

The NRC inspector reviewed the licensee's program for procurement and reuse of radioactive material shipping packages. The licensee was noted to have used both DOT and NRC certified packages. The documentation of shipping packages used was detailed and involved the use of checklists requiring signature verification of completed steps/tasks.

The NRC inspector determined during a review of a licensee's submittal to NRC for the certification of modifications to a Type B shipping cask (FSV-1) that certain QA activities required by Subpart H of 10 CFR Part 71 were not being complied with. These activities involved QA review of orders for purchased materials (10 CFR Part 71.109) and inspection of delivered products (10 CFR Part 71.115).

(1) Procurement Procedures

The NRC inspector noted on April 18, 1985, that the licensee had received and stored on the refueling floor area components of the spent fuel shipping cask FSV-1 (NRC Certificate of Compliance No. USA/6346/B). These shipping cask components include burial canisters which are an integral part of the FSV-1 cask. The burial canisters are separate, removal components that fit inside the primary shipping cask. After receipt at the burial site, the burial canisters are removed from the primary cask and disposed along with the radioactive waste material. The FSV burial canisters are designated to hold control rod drive (CRD) components and used control rods.

The NRC inspector determined by discussions with licensee representatives and a review of purchase orders, memoranda/letters, and QA review checklist that certain components for use in conjunction with disposal of used control rods were ordered to be designed and manufactured by a contractor Purchase Order (PO) No. N3931 issued on February 2, 1982, provided for contractor technical assistance related to the FSV reactor fluctuation corrective action program (work specification WS-ALL-5c). This PO (N3931) and PO (N4574) which superseded it had a QA review performed on them; however, the review was based on the contractor providing only "technical assistance," not design and manufacturing services. By PSC letter PG-0941 dated October 8, 1982, PSC requested changes to the contract to design, fabricate and supply burial cannisters for control rod disposal. No QA review was performed for this change in contract scope. FSV procedure Q-4, paragraph 4.8.2, requires that only revisions to POs that do not affect the technical or quality requirements can be generated by memorandum. Discussions with licensee QA/QC personnel indicated that this method of procurement is not an isolated case. The NRC inspector also noted by review of a contractor's letter to PSC dated January 2, 1984, that other equipment involved in the disposal of CRD components was purchased and manufactured per PO N4574 which was found to also be only for the providing of technical services per WS-ALL-5. The failure to follow proper procurement practices is considered a violation of 10 CFR Part 71.109 and FSV QA Procedure Q-4 (267/8511-01).

(2) Receipt Inspections

The NRC inspector determined on April 18, 1985, that the licensee had onsite at least one special disposable burial canister to be used in the shipment of reactor control rods and CRD components in shipping cask FSV-1. The licensee estimated the onsite arrival time of the canisters to be January 6, 1984. The NRC inspector determined that the canister(s) (described in PSC letter P-85122, from M. McBride (PSC), to C. E. McDonald

(NRC), subject: Docket 71-6346, FSV-1 Certificate of Compliance Revision, dated April 4, 1985) had not been provided a QA/QC receipt inspection as required by 10 CFR Part 71.115 and FSV Procedure Q-7, paragraph 4.4.1. This is considered an apparent violation (267/8511-02).

This apparent failure to perform QA/QC receipt inspection on purchased materials that affect quality is similar to the violation (267/8401-01) referenced in NRC Inspection Report 50-267/84-01. The NRC inspector noted to the licensee that it was evident that PSC's corrective action in response to the above noted violation was ineffective in preventing a recurrence of the problem especially from the point of ensuring that material existing onsite, prior to implementation of the corrective action resulting from the above inspection, had not received a QA/QC inspection. The licensee initiated on April 19, 1985, actions to have the canisters "hold tagged" pending further QA/QC actions.

f. Use of DOT Specification 7A Packages

The NRC inspector reviewed the licensee's engineering evaluations and use of DOT specification containers. The licensee had modified a helium circulator shipping cradle per a PSC nuclear engineering department evaluation (NDS-84-0295) to provide nonspecific certification as a specification 7A shipping container. This evaluation appears to satisfy the requirements set forth in 49 CFR Part 173.411 and 412. The licensee's engineering evaluation for the helium circulator cradle had been forwarded to NRC headquarters staff for further review and comment.

No violations or deviations were identified.

g. Radioactive Material Receipt and Shipment Records

The NRC inspector reviewed selected licensee records for receipt and shipment of radioactive materials, including spent fuel, for the periods 1984 and 1985. The records reviewed indicated compliance with the requirements of FSV Procedures HPP-23 and 30, 10 CFR Part 20.205 and 71.5 and 49 CFR Parts 172.200, 203, 173.421, 425, and 441. The NRC inspector noted that the licensee had made approximately 43 shipments of radioactive material during 1984 of which 17 shipments involved spent fuel. Eight shipments of radioactive material have been made during 1985. These eight shipments did not include spent fuel shipments. The NRC inspector also noted that none of the shipments made in 1984 and 1985 involved low-level radioactive waste. The NRC inspector found the licensee's activities to be well documented.

No violations or deviations were identified.

h. Transportation Incidents

The NRC inspector reviewed the licensee's records and interviewed personnel to determine compliance with DOT and NRC requirements 10 CFR Parts 20.205, 20.311, 71.95 and 40 CFR Part 175.31 related to the transportation of radioactive material.

The NRC inspector determined that licensee shipments had not involved any reportable incidents; however, the licensee informed the NRC inspector and provided documentation on the receipt of some contaminated CRD bearings in April 18, 1985, from GA Technologies of San Diego, California. These bearings had been shipped by cargo aircraft (GA Shipping Order 189646, dated April 16, 1985) to PSC/FSV as "Excepted Radioactive Material, Instruments and Articies, UN-2911, per 40 CFR 173.421," when they were actually only "limited quantity UN-2910." The licensee also noted that the required "Radioactive" label specified in 40 CFR Part 173.421 was substituted on seven interior packages with "Caution Radioactive Material" labels and four packages did not have any labeling. The shipment was within the limits for radiation and removable surface contamination upon receipt inspection at FSV. The NRC inspector discussed with the licensee their notification of the nearest Federal Aviation Administration office as required by 40 CFR Part 175.31 and the forwarding of this information to the NRC Region V office.

No violations or deviations were identified.

3. Low-Level Radioactive Waste Management

The NRC inspector reviewed the licensee's proposed program for control, classification, characterization, and shipment of low-level radioactive waste as required by 10 CFR Part 61.55 and 61.56.

This area was previously discussed in NRC Inspection Reports 50-267/83-28 and 85-02, and is currently being tracked to completion by Open Item (267/8328-04). The NRC inspector reviewed the licensee's accepted contractor proposal for establishing a program for meeting the requirements of 10 CFR Part 61.55 and 61.56 for low-level waste disposal. The NRC inspector discussed with licensee representatives the contractor's proposed scaling factor program, waste stream identification, and radiochemistry analyses by both the licensee and a subcontractor to the prime contractor for the program. The licensee expects to have the program, including onsite training of key personnel, completed by June 1, 1985. The licensee's process control program (SUSMAP-3) was discussed with licensee representatives and found to be in agreement with NRC staff and NUREG-0472 guidance. The NRC inspector noted that the licensee had not made any shipments of low-level waste to a disposal contractor since the effective date of the 10 CFR Part 61 requirements.

No violations or deviations were identified.

4. Onsite Radioactive Waste Storage

The licensee's onsite low-level radioactive waste storage facilities were reviewed for compliance with the guidance provided in NRC Generic Letter 81-38. This area was initially addressed in NRC Inspection Report 50-267/83-28 and most recently in 50-267/85-02, and is currently being tracked for corrective action per open item 267/8328-05.

The NRC inspector reviewed current FSV operating procedures for low-level radioactive waste management and storage (P-3, SUSMAP-4, HPP-1, and HPP-26), inspected waste compaction area and the four enclosed trailers being used for waste storage, and held discussions with licensee representatives. The NRC inspector noted that an additional trailer had been procured for storage purposes since the last inspection of this area (50-267/83-28) in December 1983. The licensee stated that a radiological environmental assessment study is expected to be completed by April 19, 1985, and should resolve the concerns regarding open item 267/8328-05. The licensee expects to start reducing inventory of solid dry active waste upon full implementation of their 10 CFR Part 61 low-level waste disposal program. The licensee's interim inventory and storage facility surveillance programs were reviewed and found satisfactory.

No violations or deviations were noted.

5. Radiation Protection Program

The NRC inspector reviewed the licensee's RP activities associated with the CRD&OA refurbishment program to determine compliance with 10 CFR Part 20, the TS and Procedures SUSMAP-4 and FHPWP-100.

The NRC inspector reviewed work procedures and survey records, attended prework briefings, inspected RP personnel activities and specific task operations involving control rod maintenance activities and held discussions with shift RP technicians. The NRC inspector discussed personnel dosimetry positioning and the use of radiological status boards with licensee representatives. The NRC inspector noted to licensee representatives the fact that the status board on the elevation 10 of the reactor building (where personnel dress out in protective clothing) was not being frequently updated. The licensee indicated that with more emphasis being placed on use of the RWP, the continued use of the status board will need to be assessed.

No violations or deviations were identified.

6. Exit Interview

The NRC inspector met with the licensee representatives and the NRC resident inspector identified in paragraph 1 at the conclusion of the inspection on March 19, 1985. The NRC inspector summarized the scope and

findings of the inspection presented in this report. The licensee acknowledged the inspector's findings and stated that an investigation of the findings would be initiated.