APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/84-18 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

Inspection at: Fort St. Vrain (FSV) Site, Platteville, Colorado

Inspection Conducted: July 1-31, 1984

Inspector: G. L. Plumlee III — 8-28-84
G. L. Plumlee III, Senior Resident Inspector (SRI) Date

Approved: R. E. Ireland — 8/31/84
R. E. Ireland, Acting Chief Date
Special Projects & Engineering Section

Inspection Summary

Inspection Conducted July 1-31, 1984 (Report: 50-267/84-18)

Areas Inspected: Routine/Reactive, announced inspection of Licensee Action on Previous Inspection Findings; Operational Safety Verification; Surveillance - Refueling; Maintenance; TMI Action Plan Requirement Followup; IE Bulletin Followup; Control Rod Drive Event Followup; and Review of Periodic and Special Reports. The inspection involved 40 routine inspector-hours onsite, and 37 reactive inspector-hours onsite by one NRC inspector.

Results: Within the eight areas inspected, one open item (procedure deficiencies, paragraph 8) was identified.

DETAILS

1. Persons Contacted

Principal Licensee Employees

D. Alps, Security Supervisor
L. Bishard, Maintenance Supervisor
W. Craine, Superintendent of Maintenance
*R. Craun, Supervisor Nuclear Site Engineering
+*M. Deniston, Shift Supervisor
J. Eggebroten, Technical Advisor
D. Evans, Shift Supervisor
*M. Ferris, QA Auditing Coordinator
+*W. Franek, Superintendent Operations
+*C. Fuller, Technical/Administrative Services Manager
*J. Gahm, QA Manager
J. Hak, Shift Supervisor
+ M. McBride, Operations Manager
P. Moore, QA Technical Support Suppervisor
*M. Murphy, Training Instructor
*M. Niehoff, Site Engineering Manager
*F. Novachek, Technical Services Engineering Supervisor
H. O'Hagen, Shift Supervisor
*T. Orlin, Superintendent QA Services
J. Petera, Electrical Supervisor
*T. Prenger, QA Engineering Coordinator
J. Reesy, Nuclear Design Manager
G. Redmond, MQC Supervisor
*T. Schleiger, Health Physics Supervisor
*L. Singleton, Superintendent Operations QA
H. Starner, Coordinator Nuclear Site Construction
J. Van Dyke, Shift Supervisor Administration
*D. Warembourg, Manager Nuclear Production
*S. Willford, Training Supervisor

Principal NRC Contacts

+ P. Check, NRC, Region IV
# D. Bennett, LANL
# D. Brinkman, NRR
# G. Holahan, NRR
#+ R. Ireland, NRC, Region IV
J. Jankovich, NRR
R. Karsch, NRR
T. King, NRR
K. Meier, LANL
J. Miller, NRR
S. Moore, LANL

L. Reyes, NRC, Region III
P. Wagner, NRC, Region IV
E. Zukas, LANL

The SRI also contacted other plant personnel including reactor operators, maintenance men, electricians, technicians, and administrative personnel.

*Denotes those attending the exit interview.
+July 5, 1984, Meeting Attendees
#Members of the FSV Operations Assessment Team

2. Licensee Action on Previous Inspection Findings

(Open) Open Item (50-267/8415-05): RP-5 Procedure Deficiencies. Refer to paragraph 8 for details.

3. Operational Safety Verification

The SRI reviewed licensee activities to ascertain that the facility is being operated safely and in conformance with regulatory requirements and that the licensee's management control system is effectively discharging its responsibilities for continued safe operation.

The review was conducted by direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions for operations, and review of facility records.

Logs and records reviewed included:

. Shift Supervisor Logs

. Reactor Operator Logs

. Equipment Operator Logs

. Auxiliary Operator Logs

. Technical Specification Compliance Logs

. Operations Order Book

. Operations Deviations Reports

. Clearance Log

. Temporary Configuration Reports

. Plant Trouble Reports

Due to reactive inspection efforts (i.e., control rod drive (CRD) failure to scram event followup) and the SRI's absence from the site, plant tours during this reporting period were limited in nature and were concentrated on followup of the licensee's housekeeping efforts. The SRI has noticed a vast improvement in the cleanliness of the plant as a result of the licensee's cleanup program outlined in PSC letter P-84169, dated June 6, 1984.

Effluent Releases

On July 11, 1984, the SRI verified that, for a greater than 10 gpm liquid waste release being made from the reactor building sump (RBS), an analysis had been performed as required prior to start of the batch release, and the results were less than MPC. On July 13, 1984, the procedure was reviewed and implementation observed for Radioactive Liquid Waste Release 792. The releases appeared to have been made in a satisfactory manner.

On July 26, 1984, at approximately 4:15 p.m. MDT, the licensee made an unusual event notification to the NRC concerning a release that was made from the RBS on July 19, 1984, that was greater than the MPC for unknown beta emitters. Followup to this event was performed onsite by both the SRI on July 30, 1984, and the Region IV Chief, Facilities Radiological Protection Section, on July 31, 1984. The findings are documented in NRC Inspection Report 84-20.

Fire Drill

On July 31, 1984, the SRI monitored a fire drill initiated at approximately 5:00 p.m. MDT. No deficiencies were noted.

Assessment of the Overall Conduct of Operations at FSV

At the direction of the Director, Office of Nuclear Reactor Regulation (NRR) an assessment team audited the overall operation of FSV on July 9-11, 1984. The team used as areas for review: (1) the failure to scram event (June 22, 1984), (2) the overall conduct of operations including assessment of existing Technical Specifications, (3) the construction and utilization of Building 10, (4) the continued water ingress problem, and (5) the maintenance and housekeeping situation. The Technical Specification assessment continued through July 13, 1984.

The SRI's function during this assessment was to monitor, mediate, and provide assistance to the assessment team. A concentrated effort by the SRI was made to monitor and assist those team members responsible for assessing the conduct of operations.

The results of this assessment will be published in the form of a NUREG. The SRI provided comments to Region IV and NRR regarding the assessment team findings and recommendations. The SRI also reviewed the licensee's letter P-84221, dated July 18, 1984, "PSC Actions in Response to NRC Evaluation of Fort St. Vrain."

The SRI had no further questions in this area.

4. Surveillance - Refueling

To ascertain whether functional testing of the more complex safety-related systems and subsystems is in conformance with Regulatory requirements, the SRI followed activities performed in accordance with Surveillances SR 5.2.2a-5Y, "Tendon Corrosion and Anchor Assembly Inspection," which consisted of a tendon wire sample inspection, and SR 5.2.2c-5Y, "Prestressing Anchor Assembly Inspection," which consisted of a visual examination of 5% of the prestressing anchor assemblies. Both surveillances are new in-service inspection (ISI) requirements as a result of Amendment 33 to Operating License DPR-34. To complete this inspection effort, the SRI reviewed the completed SR 5.2.2c-5Y test data on July 12, 1984.

As previously identified in NRC Inspection Report 84-13, the licensee had developed an expanded inspection program due to the findings resulting from SR 5.2.2c-5Y. The SRI was informed on July 2, 1984, that this inspection program had been completed and the results were being analyzed. The SRI reviewed the following correspondence relating to the tendon corrosion problem:

a. NRC letter Richard P. Denise (NRC) to O. R. Lee (PSC) dated July 20, 1984, requesting: (1) tendon surveillance program Technical Specification upgrade, (2) details of the evaluation, and (3) schedule for providing metallurgical examination results; and

b. LER 84-005, supplemental report dated July 27, 1984.

The SRI has been informed by the licensee that a bottom head tendon will be detensioned as required to obtain an additional tendon grease sample to complete General Atomic Technologies metallurgical examination. This is to be accomplished in early August 1984.

No violations or deviations were identified.

5. Maintenance (Monthly)

The SRI reviewed records and observed work in progress to ascertain that the following maintenance activity was being conducted in accordance with approved procedures, Technical Specifications, and appropriate Codes and Standard:

PTR 6-859 Remove and inspect CRD- 18 from Region 7 in accordance with MP 12-6, "Maintenance and Repair of Control Rod Drive and Orificing Assemblies," and install temperature sensors in accordance with T-187

On July 9, 1984, during observation of work in progress under PTR 6-859 and from discussions with maintenance personnel, the SRI noted the following:

- Work on the CRD was being performed inside a temporary white plastic containment tent containing Mylar viewing windows providing restricted and unclear visibility.

- The maintenance quality control (MQC) inspector was performing inspection from outside the tent.

- The MQC inspector thought the maintenance workers were performing step 4.44.17 of MP 12-6 when in actuality they were working under step 4.44.25 of MP 12-6. Both steps contained a Hold Point and required MQC to witness torquing evolutions.

- The MQC inspector had been verifying the use of proper torque wrench only. (e.g. Proper torque wrench setting, proper torque sequence, or proper lock wiring were not verified.)

These problems were discussed with the MQC inspector as well as the licensee. The SRI determined the following:

- The maintenance personnel inside the tent had a working copy of MP 12-6. Upon trying to keep the MQC inspector, who was outside the tent, up-to-date on what step was being performed, the wrong step was pointed to. Thus leading to the confusion that existed when the SRI started observing the work in progress.

- The licensee committed to having the MQC inspector inside the tent during the CRD inspection work until a more permanent containment could be fabricated from plexiglass.

- The MQC inspector was given instruction as to adequate inspection requirements.

- The licensee informed the maintenance supervisor of the necessity to ensure that the maintenance crew keep the MQC inspector notified as required.

This problem was assessed to be an isolated case for which the corrective actions should prevent a recurrence.

No violations or deviations were identified.

6. TMI Action Item Followup (II.B.3)

On July 12, 1984, the SRI reviewed the licensee's response to NUREG-0737, Item II.B.3, "Post-Accident Sampling System," dated July 2, 1984 (P-84192). The SRI informed the licensee that this response did not address all the issues necessary to close out this item as requested by the NRC. A subsequent response by the licensee, dated July 16, 1984 (P-84216), provided the additional information needed.

No violations or deviations were identified.

7. IE Bulletins

The SRI verified by record review, observation, and discussion with the licensee the action taken in response to IE Bulletins and reviewed the following bulletin:

(Closed) IE Bulletin 84-02: Failures of General Electric Type HFA Relays in Use in Class 1E Safety Systems. The licensee concluded in PSC letter P-84179, dated June 29, 1984, that:

- FSV does not use or plan to use the Nylon or Lexan - Type GE HFA relays in safety-related systems.

- FSV's review, by contacting the manufacturers and review of records, determined that no other relay types have experienced any problems; therefore, FSV is not instituting a specific monthly functional test of all reactor trip system normally energized relays or a visual inspection of all safety-related relays.

No violation or deviations were identified.

8. CRD Event Followup

Due to the safety significance of this event which occurred on June 23, 1984, as documented in NRC Inspection Report 84-15, the SRI's inspection efforts have for this reporting period been mostly reactive followup. The following is a chronological summary of the SRI's observations in this area:

- Tracking of the CRD refurbishment work in progress indicated that on June 28, 1984, the Region 14 CRD-25 was replaced by a spare CRD-24 from an equipment storage well (ESW 5).

- On July 3, 1984, the Region 7 CRD-18 was replaced by CRD-25 after refurbishment of the CRD-25's shim motor.

- On July 5, 1984, the SRI attended an onsite meeting between members of the NRC Region IV staff and FSV staff. The objective of this meeting was to understand what occurred during reporting of the June 23, 1984, event. In the initial report to the headquarter's duty officer at 1:10 a.m. MDT (non-emergency), the licensee had failed to report the failure of the six CRDs to automatically insert. A followup report, concerning the failure to insert, was made by the licensee at approximately 8:50 a.m. MDT, June 23, 1984, to the SRI and shortly afterwards to the headquarter's duty officer. The NRC informed the licensee of the safety significance of this event and the importance placed on immediate and accurate reporting, especially when it relates to sensitive issues such as a failure of control rods to function properly. The licensee acknowledged the NRC's concerns and has identified possible corrective actions to their administative reporting requirements. The licensee pointed out problems that occur when trying to report FSV events to headquarter's duty officers who are sometimes not completely familiar with HTGR technology. The licensee also stated that the reporting requirements addressed in 10 CFR 50.72 did not clearly identify that the CRD failure was reportable. As a followup to this issue, the SRI determined that the superintendent of operations or his alternate has been designated as the individual required to make the initial report instead of the shift supervisor.

- On July 6, 1984, the SRI reviewed the licensee's CRD inspection log for content/details. This log is maintained by the engineer responsible for the coordination of all inspection/testing efforts during performance of the CRD inspection program. The log appeared to provide adequate detail of visual inspection results, test result data, and other information pertinent to the ongoing inspection effort.

- On July 9-13, 1984, the SRI monitored, mediated, and assisted a review conducted by Region IV and the NRR Division of Licensing to assess the overall conduct of operations at FSV (refer to paragraph 3). The failure to scram event was one of the areas under assessment.

- On July 9, 9198 the SRI observed work in progress during the inspection of CRD-18 from Region 7 (refer to paragraph 5).

- On July 12, 1984, the SRI noted that the watt recorder at CRD Motor Control Center 1 had been returned after calibration. The use of a watt meter that was not calibrated was previously identified as part of Open Item 8415-05.

- On July 12, 1984, during a review of the inspection efforts for CRD-18 from Region 7, the SRI determined that the nonconformance reports (NCRs) issued to date against the CRDs were not traceable back to the CRD serial number. Of specific concern was NCR 84-215, which directly related to CRD-18 from Region 7. This was brought to the attention of the licensee. The SRI has since noted that NCRs 84-225 and 84-233 do reference the CRD serial number or region affected.

- On July 12, 1984, the SRI also determined that MP 12-6, Issue 16, dated February 14, 1984, Step 4.48.5, still states "Request the Results Department to complete Data Sheets 2 and 3 from RP-5 . . . ." Data sheets 2 and 3 relate to the control rod operability tests performed by the reactor operators. These tests have been made into a separate nontechnical specification surveillance SR-OP-39X to be done when the CRD is reinstalled into a refueling penetration. The licensee was informed that this is considered an open item (8418-01) pending incorporation of the necessary corrections to MP 12-6.

- On July 14, 1984, CRD-14 was removed from Region 10 and replaced by CRD-18 whose shim motor and 200 assembly had been refurbished.

- On July 27, 1984, CRD-29 was removed from Region 6 and placed in ESW 5 on July 30, 1984.

- On July 30, 1984, the SRI determined that several CRD related problems had occurred during the SRI's absence from the site July 16-27, 1984; for which neither Region IV nor NRR had previously been informed of these problems. Followup will be discussed in the SRI's August 1984 report.

- On July 31, 1984, CRD-14 was installed in Region 6 after refurbishment of the shim motor and 200 assembly.

The SRI is continuing to follow/assess the CRD inspection efforts. The SRI has also reviewed the State of Colorado's concerns as outlined in their July 18, 1984, letter to FSV regarding PSC's failure to notify the State when the six CRDs failed to insert, and the subsequent response by FSV (P-84228, dated July 23, 1984).

No violations or deviations were identified.

9. Report Reviews

The SRI reviewed the following reports for content, reporting requirements, and adequacy:

Monthly Operations Report for the month of June 1984.

Report of Changes, Tests, and Experiments Not Requiring Prior Commission Approval for the period January 1, 1984, through January 22, 1984.

No violations or deviations were identified.

10. Exit Interview

Exit interviews were conducted at the end of various segments of this inspection with Mr. D. Warembourg, Manager, Nuclear Production, and/or other members of the PSC staff as identified in paragraph 1. At the interviews, the SRI discussed the findings indicated in the previous paragraphs. The licensee acknowledged these findings.