APPENDIX B

U. S. NUCLEAR REGUALTORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/82-08 License DPR-34

Docket: 50-267

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

Facility Name: Fort St. Vrain Nuclear Generation Station

Inspection at: Fort St. Vrain Site, Platteville, Colorado

Inspection Conducted: March 1-31, 1982

Inspectors: T. F. Westerman for 4/15/82
M. W. Dickerson, Senior Resident Reactor Inspector Date

T. F. Westerman for 4/15/82
G. L. Plumlee III, Resident Reactor Inspector Date

Approved By: T. F. Westerman 4/15/82
T. F. Westerman, Chief, Reactor Project Section A Date

Inspection Summary

Inspection conducted March 1-31, 1982 (Report: 50-267/82-08)

Areas Inspected: Routine, announced inspection of Surveillance; Maintenance; Inspection During Long-Term Shutdown; Startup Testing Modified System; Transportation Activities; Review of Plant Operations; NRC Bulletin Follow Up; Follow Up of Previous Inspection Findings; and Review of Periodic and Special Reports. The inspection involved 229 inspection-hours onsite by two NRC inspectors.

Results: Within the nine areas inspected, three violations were identified (Failure to follow procedures, Paragraphs 3.b , 3.c , and 3.d)

DETAIL

1. Persons Contacted

M. Block, Superintendent of Operations
T. Borst, Radiation Protection Manager
B. Burchfield, Results Engineering Supervisor
R. Craun, Site Engineering Supervisor
M. Deniston, Shift Supervisor
D. Evans, Shift Supervisor
M. Ferris, QA Technical Support Supervisor
W. Franek, Nuclear Site Engineering Manager
W. Franklin, Shift Supervisor
C. Fuller, Technical Services Engineering Supervisor
J. Gahm, QA Manager
E. Hill, Operations Manager
J. Liebelt, Senior Maintenance Supervisor
M. McBride, Technical/Administrative Services Manager
F. Novachek, Technical Advisor
H. O'Hagen, Shift Supervisor
G. Reigel, Shift Supervisor
T. Schlieger, Health Physics Supervisor
L. Singleton, Superintendent Operations QA
J. Van Dyke, Shift Supervisor
D. Warembourg, Manager Nuclear Production
R. Webb, Maintenance Supervisor
W. Woodard, Health Physicist

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

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (50-267/8118-06) Control of Combustible Material. Additional training has been conducted with personnel from all involved departments. Training was also completed for construction personnel and will continue for new employees. In addition, revisions have been made to the Stearns-Roger Project Manual to meet the requirements of APM P-8.

(Closed) Violation (50-267/8126-02) Failure of HP Technician to Follow RWP Requirements. The individual involved has been retrained in the use of procedures and responsibilities associated with the use of a RWP.

(Closed) Violation (50-267/8126-03) Failure to Follow Procedures During Modification of Steam Generator B-2-3. Operations Order 82-07, dated March 5, 1982, now requires that in cases where a system must be returned to service prior to final completion of the work order, that the Shift Supervisor obtain management approval prior to releasing the affected system into service. Additionally, the importance and necessity of following procedures was reviewed and emphasized with the entire QA/QC inspection staff. This was augmented by an interdepartment memo.

3. Inspection During Long-Term Shutdown

The NRC inspector reviewed licensee activities during an extended shutdown to ascertain that the facility is being maintained in conformance with regulatory requirements and that the licensee's management control system is effectively discharging its responsibilities for continued safe shutdown. The review was conducted by direct observation of activities, tours of the facility, and discussions with licensee personnel.

Included in the inspection were observation of control room activities, review of operational logs, records, and tours of accessible areas. 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

During tours of accessible areas, particular attention was directed to the following:

- Monitoring Instrumentation

- Radiation Protection Controls
- Housekeeping
- Physical Security Implementation
- Plant/Equipment Conditions
- Activities in Progress
- Clearance Tags
- Fire Hazards
- Control Room Manning
- Annunciators

The inspection also consisted of:

- Review of the licensee's Jumper/Bypass controls (Temporary Configuration Report Log and the System Abnormalities Clearance Log) to verify that there are no conflicts with Technical Specifications, the licensee is actively pursuing correction to conditions requiring jumpers, and jumper/bypasses have been installed and removed properly.
- Independent verification of Clearance Number 3111 and 2648 to verify that a tagout system is in effect, and that tagouts are properly conducted.
- Witnessing Functional Test FT 1472 after the installation of valve operator position indicator lights in accordance with CN 1472/CWP 82-41 to verify the adequacy of the licensee's work.
- Verification that surveillance tests required during the shutdown were being performed.
- Verification that the licensee's problem identification system (trouble reports) was functioning.
- Verification of the implementation of radioactive waste system controls by witnessing Liquid Waste Release No. 531, and Gaseous Waste Release No. 591 and No. 593.
- Independent verification of decay heat calculations performed by the licensee in accordance with Core Management Guide No. 4 for maintenance requiring primary and secondary coolant flow to be secured to verify that the time limits established by the licensee ensure reactor component design temperature limits will not be exceeded.

a. During a review of the Operations Order Book, located in the control room, on March 22, 1982, the NRC inspector determined that two operations orders number 81-10 and 81-11 were no longer applicable for use by operations personnel. The licensee informed the NRC inspector that the control room copy was not the original and that the master copy, which is the one reviewed by the Superintendent of Operations, is located in the Clerical Department area and maintained by clerical personnel. This arrangement apparently resulted in the failure to remove the out-dated operations orders from the control room copy. The NRC inspector informed the licensee that the control room copy was the vital copy and should be the one reviewed. The licensee agreed and stated that the control room copy would be reviewed at the same time the master copy is reviewed to assure agreement between the two copies.

b. During a tour of the Reactor Building on March 4, 1982, at approximately 2:30 p.m. MST, the NRC inspector noted that a health physics controlled area had been established on level 5½ in an area around the B-5 PCRV penetration. The posting that was established did not indicate the type of control area, the levels of contamination or radiation, nor was a control point established. There were no apparent visual indications of the extent of the problem other than the area being roped off with "Danger" signs bearing the radiation symbol and the words "DO NOT ENTER."

Health Physics Procedure HPP-9 requires that for a contamination area, an access point be established with a Frisker located at the access point and the area is to be properly posted with signs indicating the maximum contamination levels and labeled, "CAUTION: CONTAMINATED AREA."

A Health Physics (HP) Technician informed the NRC inspector that a plant worker had been contaminated while working on an instrument line leading from the B-5 penetration to a portable temporary moisture monitor, which had been sampling the primary coolant via a sample point inside the B-5 penetration and discharging to the Radioactive Gaseous Waste System. Apparently, a portion of the temporary instrument line was plugged and had been removed and replaced by the plant worker. The worker had found the contamination by monitoring himself when exiting the Reactor Building. At 9:40 a.m. MST, Security notified HP that the worker was alarming the frisker.

The NRC inspector determined from the immediate initial discussion with the Shift Supervisor and then from later discussions with plant management, that neither the Shift Supervisor nor any member of plant management had been informed of the contamination problem that occurred some 5 to 6 hours prior to them being notified by the NRC inspector. Besides plant management not being informed, there appeared to be very few plant workers outside the HP department that were aware of a spill that occurred inside the Reactor Building resulting in personnel being contaminated, as well as equipment and area contamination. This appears to be verified by the fact that the plant worker's supervisor, who had also at one point been involved with the temporary line replacement, had reported to the HP office some 4 to 5 hours after the initial discovery of the contamination. The supervisor was apparently just notified of the problem by the plant worker and was concerned as to whether or not he had been contaminated also.

Initial survey of the plant worker indicated contamination on his hands, tools, and pants. Decontamination attempts and subsequent surveys indicated fixed contamination on his hands. The worker was sent home over night in rubber gloves in an attempt to sweat out the contamination. On March 5, 1982, at 11:00 a.m. MST, the licensee initiated the Fort St. Vrain "Medical Emergency Plan" and the worker was transported to Saint Luke's Hospital in Denver in an attempt to remove the fixed contamination, indicating a maximum of 350 Counts per Minute (CPM) on the left thumb. He was decontaminated to $\lesssim$100 CPM and sent home to continue an attempt to sweat out the fixed contamination. Initial survey of the worker's supervisor indicated some minor contamination on his hand which was subsequently removed by decontamination. These findings were reported by the NRC inspector as Preliminary Notification PNO-IV-82-08, dated March 5, 1982.

An initial HP survey of the area around the B-5 penetration on level 5½ was performed on March 4, 1982, at 10:30 a.m. MST, which established the controlled contamination area. However, a subsequent survey on March 5, 1982, at 2:30 p.m. MST, underneath level 5½ indicated contamination on the pipes and cable trays beneath the currently established controlled area. Subsequent surveys, even as late as March 13, 1982, indicated contamination problems on level 3 and level 2, which required establishing new controlled areas. Decontamination of these areas continued through most of the month. Health Physics Procedure HPP-9 requires that a controlled area shall be adequately surveyed to ensure that the boundaries

established completely define the controlled area and that no loose surface contamination exists immediately outside the local boundary.

A follow up by the NRC inspector indicated that the replacement of the temporary line had occurred without HP coverage. There apparently is nothing in the licensee's procedures which prevented the worker's supervisor from making the decision that HP coverage was not necessary. The NRC inspector informed the licensee of his concern that this type of decision making is allowed outside the knowledge of the HP department. The licensee states that the plant's procedures would be changed to prevent this type of an independent decision being made by departments other than Health Physics prior to working on potentially contaminated systems. The NRC inspector also stressed the concern that Administrative Procedure P-1 allows operations personnel to enter a radiation or contaminated area without issuance of the Radiation Work Permit (RWP) controls, and the licensee stated that this would be reviewed for possible changes. This matter is considered an open item (8208-01).

The licensee was informed by the NRC inspector that the improper posting and inadequate survey was in violation of the licensee's procedures which are required by Technical Specification and is considered a violation (8208-02). The NRC inspector also informed the licensee of his concern that plant management, which included Health Physics Management, was not notified of the personnel contamination problem within a timely manner.

c. During a review of the Shift Supervisor's Log on March 8, 1982, at 6:30 a.m. MST, the NRC inspector determined that the licensee had reported a Significant Event in accordance with 10 CFR 50.72(a)(8) on March 6, 1982, as a result of an inadvertent radioactive gaseous waste release to the environment. This immediate notification will be followed by Reportable Occurrence Report No. 50-267/82-009.

The inadvertent release occurred during the start of Gas Waste Release No. 592 from 'A' receiver T-6303. The release was started at 2:40 p.m. MST, and terminated at 2:43 p.m. MST, on March 6, 1982, due to an apparent overpressurization of the gas waste vacuum tank T-6301. The licensee determined that V-63238, T-6303 discharge to Gas Waste Vacuum Tank, had apparently been left open resulting in a rupture of the vacuum tank rupture disk and an inadvertent release. Surveillance SR 5.8.1abc-M,

Radioactive Gaseous Effluent System Test, which was performed prior to the start of release No. 592, required V-63238 to be shut and had been signed off by the Test Conductor verifing proper valve lineup prior to the start of the release. However, contrary to these indications, valve V-63238 was found to be in the open position as indicated previously and the verification requirements of Administrative Procedure P-4 were apparently not met. Administrative Procedure P-4 requires the Test Conductor's initials or signature as a verification that each step or page so marked has been completed.

The subsequent release of the contents of the vacuum tank contained gaseous and particulate effluents of an unknown isotopic concentration. The normal flow path is via the 'A' gas waste surge tank T-6303 for which an isotopic analysis of its contents had been made. The vacuum tank apparently contained an unknown amount of unsampled gas. Technical Specification 4.8.1(a) requires that the release of gaseous and airborne particulate effluents shall be made on an isotopic basis.

There was no indication that any release had been made to the environment which exceeded the Minimum Detectable Activity (MDA).

The licensee was informed by the NRC inspector that the failure to follow Technical Specifications and procedures, which are Technical Specifications requirements, is considered a violation (8208-03).

d. During a daily review of control room activities on March 12, 1982, at 6:30 a.m. MST, the NRC inspector determined that recorder RR93256, "Effluent Activity Monitors," was not printing properly. The following points had apparently stopped printing since 6:45 p.m. MST, on March 11, 1982:

Point	Description
10	RT 9301, Primary Coolant Activity
16	RT 6314-2, Noble Gas Activity
11	RT 6314-1, Particulate Activity
14	RT 7325-1, Reactor Stack Low Range Iodine Activity

Administrative Procedure P-1 requires that a verification check be performed at least once each shift to assure recorders are reading properly.

The licensee was informed by the NRC inspector that the failure to follow procedures, which are Technical Specification requirements, is considered a violation (8208-04).

The NRC inspector had no further questions in this area.

4. Surveillance (Monthly)

The NRC inspector reviewed all aspects of surveillance testing involving safety-related systems. The review included observation and review relative to Technical Specification requirements. The surveillance tests reviewed and observed were:

SR 5.8.2bc-M Radioactive Liquid Effluent System Instrumentation Functional Test (Release No. 531)

SR 5.8.1abc-M Radioactive Gaseous Effluent System Test (Releases No. 591 and 593)

SR 5.4.1.3.3.b-M Circulator Bearing Water Pressure Test

SR 5.3.8a-X Hydraulic Snubbers, Issue 21, dated March 22, 1982

SR 5.6.1a-W Standby Diesel Generator 50% Test

During a review of the completed data for hydraulic snubber surveillance SR 5.3.8a-X, Issue 20, dated September 25, 1981, that was performed last month, the NRC inspector brought to the licensee's attention the fact that three Plant Trouble Reports (PTR's) for Class I hydraulic snubbers TWDS-7, BFS-203E, and CRS-262 stated that "junk" was in the reservoirs and the surveillance indicated these snubbers to be operable. A reevaluation was made by the licensee. The "junk" was determined to be bits of "O" ring and the snubbers were classified as inoperable and removed for repairs.

No violations or deviations were identified.

5. Maintenance (Monthly)

The NRC inspector reviewed records and observed work in progress to ascertain that the following maintenance activities were being conducted in accordance with approved procedures, Technical Specifications, and appropriate Codes and Standards. The following

maintenance activities were reviewed and observed:

CN 1433/CWP 82-27 Install Added Control in 62 System HSV/HV-62249

CN 1472/CWP 82-41 Install Local Indication for the Position of the Liquid Waste Block Valve (HV-62249)

CN 1436/CWP 82-19 Modification of Steam Generator Penetration Interspace Pressure Control

CN 1206 & 1206A/CWP 81-20 Install New Recorders to Replace Radiation Monitoring Recorders RR-93254, RR-93255, and RR-93256

PTR 2-422 480 Volt Bus 3 Feed Breaker Repair in Accordance with EMP-14, "Procedure for Replacing ITE Circuit Breakers K-225, K-600, K1600 Trip Elements," EMP-36, "480 Volt Breaker Disassembly," and PME-8, "Preventive Maintenance - Electrical #8 Procedure for Inspection, Test and Adjust 480 V Switchgear."

No violations or deviations were identified.

6. Review of Plant Operations

The NRC inspector reviewed aspects of facility operations to determine if they were being accomplished in accordance with regulatory requirements.

a. Review and Audit

The NRC inspector witnessed portions of NFSC Audit C-28-1 conducted by licensee personnel. The audit was performed to provide an assessment of the Corrective Action activities of the licensee.

b. Security

The NRC inspector attended a training lecture and verified that lesson plan objectives and schedules were being met.

c. Environmental Protection

The inspector observed the placement and functioning of a portion of the equipment utilized for monitoring of the environment adjacent to Fort St. Vrain. Additionally, the NRC inspector reviewed the Environmental Radiation Surveillance Report for the third and fourth quarters of 1981. No significant problems were found.

d. Emergency Preparedness

The NRC inspector observed and verified that systems, equipment, and facilities necessary to and provided for in the emergency plan were operable and/or available.

- Emergency Kits
- Emergency Control Centers
- Emergency Communication Systems
- Stack/Ventilation Monitors
- Liquid Effluent Monitors
- Survey Team Instrumentation
- Meteorological Equipment
- Onsite First Aid Facility
- Trained First Aid Personnel (Onsite)
- Ambulance/Transportation Service

The NRC inspector determined that the preparations were generally adequate except in those areas where corrective action is under way by the licensee as described in their letter P-82056, dated February 26, 1982.

No violations or deviations were identified.

7. IE Bulletin

The original Bulletin 80-06, Engineered Safety Reset (ESF) Reset Controls was determined not to be applicable to Fort St. Vrain. Subsequently, a review indicated that this determination was unacceptable and the six engineered safety features defined in Amendment 18 to the FSAR were required to be analyzed for reset features. Of the six, only the Steam/Water Dump System receives an actuation signal. This system was analyzed and tested. The results of the tests are reported in licensee letter P-82054, dated March 11, 1982. These tests confirmed that each valve remains in its actuated mode following reset of the actuation signal and the questions raised by the bulletin have been satisfactorily resolved.

No violations or deviations were identified.

8. Report Reviews

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

Monthly Operations Report, January 1982
Monthly Operations Report, February 1982
Annual Operating Report, January 1981-December 1981
Monthly Operating Information Report, February 1982
Twenty-First Startup Report, August 23, 1981-November 22, 1981
Twenty-Second Startup Report November 23, 1981-February 22, 1982
Radiation Exposure Summary Report for 1981
Semi-Annual Effluent Release Report, July 1, 1981-December 31, 1981
Report of Changes, Tests, and Experiments, January 1, 1981-December 31, 1981

With respect to the Report of Changes, Tests, and Experiments, the licensee was requested to provide a more complete brief summary of the Safety Evaluation in future reports.

No violations or deviations were identified.

9. Transportation Activities

The NRC inspector continued his review of the shipment of PGX Graphite samples to verify compliance with NRC and certain DOT regulatory requirements. The NRC inspector verified from licensee documentation and observation that the licensee, in accordance with written procedures, had notified the consignee of the PGX Graphite sample shipment.

The NRC inspector verified from a review of the licensee's approved procedure, Health Physics Procedure HPP-23, that written instructions provided for:

- Safely opening received packages of radioactive material.
- Immediate notification of the delivering carrier and the NRC Regional Office when removable contamination exceeds 0.01 microcuries (20,00 dpm) per 100 square centimeters.
- Immediate notification of the delivering carrier and the NRC Regional Office if the radiation levels exceed 200 mr/hr on the surface or 10 mr/hr at 3 feet.

The NRC inspector determined that HPP-23 did not incorporate instruction identifying the time limitations for monitoring of certain types of radioactive materials upon receipt for contamination and radiation levels as required by 10 CFR 20.205(b) and 20.205(c)(1). The licensee was informed by the NRC inspector that the failure to provide those written instructions was considered an unresolved item (8208-05).

The NRC inspector also informed the licensee of his concern relating to the fact that the Health Physics Department does not have an indoctrination and training program established for health physics (HP) personnel involved in the licensee's transportation activities. The licensee informed the NRC inspector of plans to send two HP personnel to a formal transportation training course put on by Chem Nuclear in May 1982, in South Carolina, and that the establishment of a formal documented training program in this area would be reviewed.

For shipments of Special Nuclear Material (SNM) using DOT specification containers that require an approved documented quality assurance program to be in effect, the NRC inspector verified that the licensee's system of management controls included:

- Designation in writing of the individual(s) and organization(s) assigned the responsibility for transport activities.

- An explanation in writing of the authorities and duties of those individuals and organizations, including identification of the activities and processes for which they are responsible.

- Written procedures or instructions for carrying out the various processes and details of the transport activities.

- A documented program of planned and periodic audits to verify compliance with requirements and determine the effectiveness of the controls over transport activities.

The NRC inspector reviewed the report of the licensee's most recent audit of transport activities, QAA-901-80-01, Audit Report Quality Assurance Audit of Spent Fuel Shipping, to verify its performance in accordance with the licensee's published procedures.

No violations or deviations were identified.

10. Startup Testing - New or Modified Systems

The NRC inspector is reviewing the licensee's Startup Testing Program associated with the installation of a modified system (System 21 Modification Program) to ascertain whether the program conformed with Regulatory requirements, licensee approved procedures, and administrative controls.

This reporting period, the NRC inspector performed a walkdown of portions of the newly modified system to verify the adequacy of the licensee's Issue 53 of Standard Operating Procedure SOP 21-02, Appendix 2, dated February 1, 1982 (Valve lineup). The portions of the valve lineup compared against the actual installation indicated some 54 deficiencies that were reported to the licensee by the NRC inspector. The deficiencies generally consisted of valves not being labeled; valves labeled incorrectly; instrumentation labeled incorrectly; and incorrect valve descriptions on the valve lineup.

As a result of the NRC inspector's comments and concern, the licensee initiated an independent walkdown of the newly modified systems to compare the actual installation versus the most current set of system drawings. The licensee had informed the NRC inspector that his comments were valid due to the SOP's being re-written using system drawings that were other than the final issues. The licensee's review resulted in issuance of a new SOP 21-02, Appendix 2, Issue 54, dated March 22, 1982, containing corrections as a result of the NRC inspector's findings and additional problems noted by the licensee. The licensee's review resulted in numerous additional deficiencies other than those noted by the NRC inspector. Included in these findings were needed revisions to the system drawings because of as-built piping and valves not agreeing with system drawings, as well as numerous comments similar to those made by the NRC inspector.

The licensee informed the NRC inspector that a review of the SOP's was in progress to ensure agreement with the latest system drawings and that an active program was in progress to resolve the deficiencies noted. There are still items open that require SOP revisions and items requiring engineering resolution to obtain revisions to system drawings. The licensee was informed by the NRC inspector that the final resolution of these identified deficiencies is considered an open item (8208-06).

11. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations or deviations. The unresolved item disclosed in this inspection is:

8208-05 in Paragraph 9.

12. 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 Public Service Company staff. At the interviews, the inspector discussed the findings indicated in the previous paragraphs. The licensee acknowledged these findings.