

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Report: 50-267/83-18

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 Site, Platteville, Colorado

Inspection Conducted: June 1-30, 1983

Inspectors: *G. L. Plumlee, III for* 7-14-83
M. W. Dickerson, Senior Resident Reactor Inspector Date

G. L. Plumlee, III 7-14-83
G. L. Plumlee III, Senior Resident Reactor Inspector Date

Approved: *D. M. Hunnicutt* 7/18/83
D. M. Hunnicutt, Chief Date
Reactor Project Section A

Inspection Summary

Inspection Conducted June 1-30, 1983 (Report: 50-267/83-18)

Areas Inspected: Routine, announced inspection of Operational Safety Verification; Surveillance; Maintenance, Review of Plant Operations; Preparation for Refueling; Review of Periodic and Special Reports; and IE Bulletin Follow Up. The inspection involved 273 inspector-hours onsite by two NRC inspectors.

Results: Within the seven areas inspected, two violations were identified (failure to follow procedures, paragraphs 2 and 3).

DETAILS

1. Persons Contacted

Principle Licensee Employees

D. Alps, Security Supervisor
T. Borst, Radiation Protection Manager
T. Burchfield, Superintendent of Betterment of Nuclear Division
W. Craine, Superintendent of Maintenance
R. Craun, Supervisor Nuclear Site Engineering
D. Evans, Shift Supervisor
M. Ferris, QA Auditing Coordinator
W. Franek, Superintendent Operations
W. Franklin, Shift Supervisor
C. Fuller, Technical/Administrative Services Manager
J. Gahm, QA Manager
J. Hak, Shift Supervisor
D. Hood, Shift Supervisor
M. McBride, Operations Manager
J. McCauley, Results Engineering Supervisor
M. Niehoff, Site Engineering Manager
F. Novachek, Technical Services Engineering Supervisor
T. Orlin, Superintendent QA Services
T. Prenger, QA Engineering Coordinator
G. Redmond, Maintenance QC Supervisor
J. Reesy, Nuclear Design Manager
L. Singleton, Superintendent Operations QA
H. Starner, Coordinator Nuclear Site Construction
J. Van Dyke, Shift Supervisor
R. Wadas, Training 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. Operational Safety Verification

The NRC inspector reviewed licensee activities to ascertain that the facility is being operated safely and in conformance with regulatory requirements, and 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

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

- . Monitoring Instrumentation
- . Radiation Controls
- . Housekeeping
- . Fluid Leaks
- . Piping Vibrations
- . Hanger/Seismic Restraints
- . Clearance Tags

- . Fire Hazards
- . Control Room Manning
- . Annunciators

The procedure was reviewed and implementation observed for Radioactive Gaseous Effluent Release 882. The release appeared to have been made in a satisfactory manner.

a. LCO 4.4.5 Violation

In accordance with a facsimile notification to Region IV on June 6, 1983, the licensee reported that on June 3, 1983, the reactor was not placed in a shutdown condition as required by LCO 4.4.5 upon entering the action statement of this LCO.

LCO 4.4.5 requires two analytical system moisture monitors to be in service when the reactor is operated between a shutdown condition and 5 percent power during startup. If both of the monitors become inoperable, the reactor shall be shut down immediately.

On June 3, 1983, with reactor power at approximately 11 percent, and at approximately the same time Equipment Clearance Tag 4985 was hung for the isolation of PCV-93490, a pressure control valve for the analytical moisture monitors, the reactor operator west noticed an increasing dewpoint moisture indication on analytical moisture monitors ME-9306 and ME-9307. Normal corrective action in this case was to reduce reactor power to minimize and/or prevent exceeding the limits of LCO 4.2.11, "Loop Impurity Levels, Low Temperatures, Limiting Conditions for Operation." It was determined that on June 3, 1983, from approximately 9:55 a.m. MDT, to approximately 10:30 a.m. MDT, and again from approximately 12:50 p.m. MDT, to approximately 3:10 p.m. MDT, the reactor was operated between 5 percent power and shutdown. Sometime during the afternoon of June 3, a health physics (HP) person accompanying maintenance personnel for repairs to PCV-93490, located at the depressurization panel on Level 5½ of the reactor building, determined that the flow to ME-9306 and ME-9307 had been isolated. The HP technician restored primary coolant flow to ME-9306 and ME-9307 via an alternate flow path by opening valve V-93444. At this point, the dewpoint moisture indications began to decrease and the licensee became aware that the cause of the problem was not an actual moisture concentration but was due to the isolation of primary coolant flow to the analytical moisture monitors.

On June 8, 1983, the NRC inspector determined that on June 3, 1983, at approximately 7:30 a.m. MDT, the hanging of Clearance Tag 4985 was completed by an operations department equipment operator (EO) requiring valve manipulation normally performed by HP personnel. Administrative Procedure P-2, "Equipment Clearances and Operation Deviations," requires that,

"If the clearance is being issued to Results or Health Physics personnel and requires manipulation of valves normally operated by Results or Health Physics personnel, the valve manipulation required and the hanging of tags is to be performed by a Results or Health Physics person other than the person asking for the clearance."

The NRC inspector also determined that Clearance Tag 4985 for equipment number PCV-93490 contained a special instruction requiring verification that V-93444 was open to insure flow to ME-9306 and ME-9307. V-93444 was not opened as required when the clearance was hung.

From a review of the requirements of Clearance Tag 4985 and from discussions with the shift supervisor and reactor operator on duty at the time of this event who believed that Clearance Tag 4985 had established flow through ME-9306 and ME-9307, the NRC inspector determined that sufficient information did not exist which should have alerted the licensee that he was in an action statement condition.

The above was discussed with the licensee. The licensee was informed that failure to follow the requirements of Procedure P-2 which is a Technical Specification requirement is considered a violation (8318-01). Reportable Occurrence Report 50-267/83-019, dated June 17, 1983, documents the licensee's investigation and findings.

b. 83-04 Startup Book

On June 23, 1983, at 9:55 a.m. MDT, the NRC inspector determined that reactor power was at 2 percent and the reactor operator (RO) had permission to continue increasing reactor power. Initial discussions with the RO west indicated that he was planning to continue with control rod withdrawal to >2 percent reactor power. It appeared that Overall Plant Operating Procedure OPOP III, Section D, "Preparation for Increasing Reactor Power to >2 %," was not going to be performed. Upon discussing this with the RO west, the NRC inspector felt that the RO was not very familiar with this requirement. Further discussions with both the RO west and RO east indicated that they were not aware of the recent changes made to the startup book and were unable to find the system checkoff sheets required to be completed prior to exceeding 2 percent reactor power. The most recent change in this area

resulted in the establishment of a startup book file cabinet, containing among other things the blank system checkoff sheets. Upon completion, the completed checkoff sheets are returned to the completed drawer of the file cabinet. Since these checkoff sheets were previously an intergral part of the startup book, the RO was unable to locate them. Later on, the NRC inspector also determined that some of the system checkoff sheets had been completed on a previous shift but had been removed from the completed drawer by clerical personnel. This resulted in having to track down the completed forms to determine what had been completed previously.

This startup book section was completed at 1:30 p.m. MDT, and reactor power increase to 5 percent was started.

This apparent lack of procedural awareness by the reactor operators was discussed with the licensee and the NRC inspector's concerns are noted below in paragraph 2.d.

c. Critical and Sealed Valves

From the results of a walkdown of the licensee's critical and sealed valve list on June 10, 1983, the NRC inspector determined that the breaker for HV-2291, Valve V-21903 and Valve V-4525 were not sealed as required by Procedure SR-OP-40-X, "Critical Valve List," Issue 1, dated March 17, 1983. This list was generated in response to NUREG 0737, Article I.C.6 requirements. The NRC inspector also determined that both SR-OP-40-X and SR-OP-12-M, "Sealed Valve Check List," were last performed on May 24, 1983.

Overall Plant Operating Procedure OPOP III, Section D.6, which is preparation for startup prior to exceeding 2 percent reactor power, requires the following:

"Verify SR-OP-12-M, Sealed Valve Check List, completed."

There is no requirement to perform SR-OP-40-X prior to startup.

The licensee was notified about the above items not being sealed. The apparent failure to seal the above items was also discussed with the licensee. The licensee currently has two methods that ensure the correct positioning and sealing of the above items, either via the licensee's equipment clearance procedures or via the above SR-OP procedures. Since repositioning of certain critical and sealed valves appears to be possible in situations not requiring an equipment clearance, and since SR-OP-40-X is

only a "special" Non-Technical Specification surveillance with no specific scheduling requirement, this might appear to be the cause of the above problem. However, the NRC inspector did verify that SR-OP-40-X was performed on the same date as SR-OP-12-M, but his was done approximately 10 days prior to exceeding 2 percent reactor power.

The licensee was informed that the above is considered an unresolved item (8318-02). The licensee's requirements to verify SR-OP-12-M is completed but not specifying a time frame prior to exceeding 2 percent, to perform SR-OP-40-X without a frequency requirement, and no requirement to perform SR-OP-40-X prior to exceeding 2 percent, appear to be contributing factors to the above problem.

d. Failures to Follow Procedures

The NRC inspector's continuing systematic assessment of licensee performance (SALP), specifically in the area of plant operations, continues to indicate an apparent lack of management control. This is reflected in the following violations reported during this SALP evaluation period:

<u>NUMBER</u>	<u>LEVEL</u>	<u>SALP AREA</u>
8223-01	V - Failure to Follow Procedures	Plant Operations
8224-01	V - Failure to Follow Procedures	Plant Operations
8224-02	V - Failure to Follow Procedures	Surveillance
8227-01	V - Failure to Follow Procedures	Surveillance
8227-02	V - Failure to Follow Procedures	Maintenance
8231-02	V - Failure to Follow Procedures	Plant Operations
8231-03	V - Failure to Follow Procedures	Surveillance
8231-06	IV - Failure to Follow Procedures	Maintenance
8309-01	V - Failure to Follow Procedures	QA Program
8309-02	IV - Failure to Follow Procedures	Surveillance
8315-02	IV - Failure to Follow Procedures	Plant Operations
8318-01	IV - Failure to Follow Procedures	Plant Operations
8318-03	V - Failure to Follow Procedures	Surveillance

The last SALP Report 82-28 indicated this same concern for personnel errors and failure to follow procedures. The licensee's response in P-82550, dated December 20, 1982, stated, in part,

"We will continue to evaluate methods of communications and corrective action concerning personnel errors and failure-to-follow procedures in an attempt to improve this area of plant operations."

From the examples above, it appears that the licensee's corrective action is not preventing or minimizing the problem. Of particular concern is the fact that several of the above violations consist of more than one example of the failure to follow procedures.

As a result of the above, as well as other observations made by the NRC inspector, such as:

- . failure of operators to log events occurring during the shift that may be of concern to operating and supervising personnel;
- . poor shift turnover as reflected by the oncoming operator's apparent lack of knowledge of plant status when questioned by the NRC inspector as well as the NRC inspector's observation of various shift turnovers;
- . the apparent lack of knowledge by the operators of current changes in procedures as discussed in this report, for example; and
- . the apparent unwillingness of some operators and shift supervisors to refer to procedures,

the NRC staff is concerned about implementation of your program for management control of your licensed activities that permits the reoccurrence of these types of violations.

The NRC inspector had no further questions in this area.

3. Surveillance (Monthly)

The NRC inspector reviewed 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 5.8.1abc-M Radioactive Gaseous Effluent System Test (Release 882)

SR 5.8.1cd-A Radioactive Gaseous Effluent System Calibration

SR 5.4.1.1.15b-M High Reactor Building Temperature (Pipe Cavity)
Scram Test

On June 8, 1983, during observation of testing in progress for SR 5.8.1cd-Q, the NRC inspector determined that two steps of the procedure requiring the return of Radiation Monitors RIS 7325-1/-2 to normal, after the calibration of RT 7325-2, had not been performed prior to starting the

calibration of RT 7325-1. RT 7325-1/-2 are low/high range particulate and iodine monitors. Both RT 7325-1 and RT 7325-2 were required to be bypassed during the calibration of the high range since this would also effect the low range monitor which has a control action associated with its alarm setpoint. The results technicians performing the SR felt that since the low range was already bypassed, they would continue on with the calibration of the low range monitor without returning the high range to normal as required by Steps 5.2.38 and 5.2.39 of SR 5.8.1cd-Q. These were bypassed on the previous day with Operations Deviation 2912 remaining in place overnight even though the monitors were returned to normal. Operations Deviation 2912 stated that the monitors were bypassed. The technicians were halfway through the calibration of RT 7325-1 on June 8 when the NRC inspector noted what had occurred. Discussions with the technicians indicated that they were aware of the requirement to issue a procedure deviation report (PDR) in accordance with Administrative Procedures P-4 and 6-2 whenever surveillance steps are deviated from, however, this was not done. The technician's supervisor decided to backup and perform the steps previously bypassed and reperform the steps already completed for the calibration of RT 7325-1 rather than issue a PDR.

On June 14, 1983, the NRC inspector determined that the surveillance requirement, to verify that the radiation monitor status when either bypassed or returned to normal be noted in the RO's log, was not performed as required by the technicians. At the time of this determination SR 5.8.1cd-Q was in progress and RT 7324-1 was bypassed and being calibrated. The following is an example of what the SR requirement is for bypassing and returning an RT to normal:

"5.2.3 Notify Reactor Operator that RIS-7325-1 and RIS-7325-2 are bypassed and verify their status noted in the Reactor Operators Log."

* * *

"5.2.39 Notify Reactor Operator that RIS-7325 and RIS-7325-2 are returned to NORMAL and verify their status is noted in the Reactor Operators Log."

The following list identifies when the RT's were bypassed in accordance with the completed SR and from discussions with the technicians:

<u>SURVEILLANCE STEP</u>	<u>RT</u>	<u>STATUS</u>	<u>DATE</u>
5.2.3	7325-1/-2	Bypassed	June 7, 1983
5.2.39	7325-1/-2	Normal	June 7, 1983
5.3.2	7325-1	Bypassed	June 8, 1983
5.3.38	7325-1	Normal	June 8, 1983
5.4.2	6314-1	Bypassed	June 13, 1983
5.4.38	6314-1	Normal	June 13, 1983
5.5.3	6314-2	Bypassed	June 13, 1983
5.5.27	6314-2	Normal	June 13, 1983
5.6.3	7324-1	Bypassed	June 14, 1983

The following identifies what was noted in the RO's log:

<u>DATE</u>	<u>TIME</u>	<u>LOG ENTRY</u>
6-7-83	0800	"Status #2912 on stack monitors for calib. per SR 5.8.1cd-Q"
6-8-83	1100	"Results working on stack monitors system status 2673"
6-13-83	0930	"Issued S.S.3270 on RIS 6314-1 and -2, RIS 7324-1 and -2 for SR"
6-14-83	0800	"RIS 7324-1 bypassed"

On June 28, 1983, during the continued observation of SR 5.8.1cd-Q, the NRC inspector determined that on June 27, 1983, at 9:45 a.m. MDT, Operations Deviation 2681 was issued for work on RT 7325-1. The deviation had remained in affect overnight even though the RT had been returned to normal the afternoon of June 27. Discussions with the shift supervisor and ROs indicated that this was normal practice. Administrative Procedure P-2, "Equipment Clearances and Operation Deviations," requires that after a system is returned to normal, the RO is to remove the operation deviation sheet and initial the form to indicate the system is in its normal condition. Therefore, for Operation Deviation 2881 and also for 2912 discussed previously, the RO had not returned the deviations but left them active overnight even though the technicians had returned the monitors to normal.

The above items were discussed with the licensee. The licensee was informed that the failure to follow procedures which are Technical Specification requirements is considered a violation (8318-03).

The NRC inspector had no further questions in this area.

4. 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:

CWP 83-74 Mix the Boron Balls in the Receiving Warehouse (Resulting from Nonconformance Report NCR 82-89. Details documented in NRC Inspection Report 83-01.)

PTR 6-207 "A" Instrument Air Compressor (C-8201) Repair in Accordance with PM 82.1, "Inspection and Maintenance of Gardner Denver Compressors"

PTR 6-232 Loop 1 Main Steam Relief (PV-22167) Repair in Accordance With MP 16-1, "Maintenance and Repair of Consolidated 1538 VX Electromatic Relief Valves"

On June 16, 1983, during observation of the disassembly of C-8201, the NRC inspector was informed that the apparent loss of piston carrier ring clearance resulted in piston and cylinder damage. The NRC inspector determined that PM 82.1 requires a monthly check of the carrier ring clearance and identified that this monthly check was last performed on January 26, 1983. This is but one example of how the licensee's safety-related preventive maintenance program gets bypassed by higher priority maintenance.

The NRC inspector informed the licensee of his concerns in this area which indicate a low priority is being given to preventive maintenance. The licensee indicated their concerns were also in this area and informed the NRC inspector that efforts were underway to improve their preventive maintenance capabilities. The NRC inspector noted that a new procedure SMAP-4, "Work Control, Preventive Maintenance," dated May 31, 1983, has been issued which, ". . . establishes the guidelines for the Maintenance department administration of the Preventive Maintenance Program."

No violations or deviations were identified.

5. Review of Plant Operations

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

Emergency Preparedness

a. Training

Additional verification that the licensee is implementing its emergency preparedness training was observed during the NRC inspector's attendance at the RO's requalification training session on dose assessment calculations of June 2, 1983.

b. Facilities and Equipment

The NRC observed and verified that emergency communications systems at the Technical Support Center (TSC) and Forward Command Post (FCP) are provided as described in the licensee's emergency plan.

c. Emergency Preparedness Exercise

The NRC inspectors reviewed the exercise scenario, participated in, and monitored the licensee's annual radiological emergency exercise (FOSAVEX-83) to verify the licensee's compliance with regulatory requirements. The exercise was initiated at 8:30 a.m. MDT, on June 15, 1983, and terminated at 1:18 p.m. MDT. The exercise was based on a nonisolable leak of primary coolant from "D" helium circulator. Refer to NRC Inspection Report 83-13 for additional details and comments.

The NRC inspector also attended the licensee auditor orientation/observer briefing on June 9, 1983, to verify that the licensee has an internal annual evaluation program as required by regulations.

d. Emergency Preparedness Meeting

The NRC inspector attended a meeting on June 17, 1983, at the NRC Region IV, Denver office concerning emergency planning and preparedness topics. NRC, FEMA, state, local government, and licensee representatives were in attendance. Several topics of interest by all the attendees were presented for discussion and future resolution.

No violations or deviations were identified.

6. Preparation for Refueling

New Fuel Receipt

- a. The NRC inspector determined from a review of the licensee's procedure "Fuel Handling Procedure (FHP) Manual," Issue 1, dated June 14, 1983, from the FHP work packages prepared from the FHP for this month's fuel shipment, and from Procedure QAMP G6-1, that the procedures had been approved and were technically adequate for covering the receipt, inspection and storage of new fuel.
- b. The NRC inspector observed portions of the receipt, inspection and storage of new fuel to verify that it was performed in accordance with the licensee's procedures.
- c. Deficiencies found in the fuel inspection consisted of one drum received with a broken seal and one drum mislabeled. The NRC inspector verified that the drum contents were inspected and the deficiencies were resolved.

No violations or deviations were identified.

7. Report Reviews

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

Monthly Operations Report, May 1983

Twenty-Seventh Startup Report, for period from February 23, 1983 through May 22, 1983

8. IE Bulletins

The NRC inspector verified by record review, observation and discussion with the licensee, the action taken in response to IE Bulletins.

The following bulletins were reviewed:

- 83-05 ASME Nuclear Code Pumps and Spare Parts Manufactured by the Hayward Tyler Pump Company. Inter-department Memo NDS-83-0413, dated May 27, 1983, stated that the concern expressed over pumps and spare parts manufactured by Hayward Tyler Pump Company was not applicable to Fort St. Vrain (FSV), since a review of O&M manuals and foreign print drawings and discussions with the FSV maintenance department produced no evidence that the materials were purchased from Hayward Tyler.

83-03 Check Valve Failures in Raw Water Cooling Systems of Diesel Generators. The licensee's response P-83201 dated June 8, 1983, stated that the inspection of the check valves in both the service water and emergency fire water supplies to the cooling systems of both emergency diesel generators would be included in the licensee's annual preventative maintenance (PM) program. The NRC inspector did not concur with this based on the past performance history of the licensee's PM program. As a result, the licensee has agreed to develop and implement a Non-Technical Specification surveillance, "SR-MP," to insure that this inspection is performed. The licensee was informed that this is considered an open item (8318-04) pending development of the SR-MP.

The NRC inspector had no further questions in this area.

9. Building 10

As a result of a PSC internal commitment which also affects prior commitments to the NRC concerning electrical equipment modifications/upgrade, construction of a safety-related structure, Building 10, was started on April 26, 1983.

Building 10 will be a three level complex containing equipment rooms, a battery room, computer room, training room, and office space. The following is a list of the safety-related items:

- . Concrete
- . Reinforcing steel
- . Main Structural Building steel, including inserts, and bolts
- . Missile doors
- . Missile walls
- . Masonry block walls
- . New wall openings in access bay east wall (Col. 8)
- . Welds on structural steel
- . Structural steel anchor bolts
- . These structural safety-related items apply from the project roof to the bottom of the caissons
- . All cable trays and risers are safety-related. The cable trays and risers are located in all rooms, except the training room.

Stone and Webster is the prime contractor and G. E. Johnson is the constructing contractor. Structural construction is in accordance with CN 1460/CWP 82-206 and Specification 75-J-02.

Current Status of Construction:

<u>DESCRIPTION</u>	<u>DATE COMPLETED</u>
. Walkover structure foundation and concrete placed	June 21, 1983
. Test caisson installed	June 23, 1983
. Caisson #1 installed	June 24, 1983
. Caissons #2 through #6 installed	July 1, 1983

The NRC inspector witnessed portions of the above construction and required concrete testing to verify compliance with the specifications. The NRC inspector also noted that at the time of this report the licensee was up to deviation "T" for CWP-206.

No violations or deviations were identified.

10. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether or not the items are acceptable, violations or deviations. The following unresolved item was discussed in this report:

<u>Paragraph</u>	<u>Item No.</u>	<u>Subject</u>
2.C	8318-02	Critical/Sealed Valves

11. 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. At the interviews, the NRC inspectors discussed the findings indicated in the previous paragraphs. The licensee acknowledged these findings.