

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

IE Inspection Report: 50-267/81-16

License No. 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: July 1-31, 1981

Inspectors: *B M Hennicutt* 8/20/81
for M. W. Dickerson, Senior Resident Reactor Inspector Date

B M Hennicutt 8/20/81
for G. L. Plumlee, III, Resident Reactor Inspector Date

Approved By: *B M Hennicutt* 8/20/81
for T. F. Westerman, Chief, Reactor Project Section 1 Date

Inspection Summary

Inspection conducted on July 1-31, 1981 (Report: 50-267/81-16)

Areas Inspected: Routine, announced inspection of Licensee Action on Previous Inspection Findings; Operational Safety Verification; Surveillance (Monthly); Maintenance (Monthly); Surveillance (Refueling); Maintenance (Refueling); Refueling Activities; Startup Testing; Review of Plant Operations (Refueling); Review of Plant Operations; Review of Licensee Event Reports; Report Reviews; and IE Bulletins. The inspection involved 259 inspector-hours on site by three NRC inspectors.

Results: Within the 13 areas inspected, no violations or deviations were identified.

DETAILS1. Persons Contacted

M. Block, Superintendent of Operations
R. Craun, Acting Site Engineering Coordinator
D. Evans, Shift Supervisor
M. Ferris, Technical Services Engineer
W. Franklin, Shift Supervisor
C. Fuller, Senior Plant Engineer
J. Gahm, QA Manager
D. Gross, Technician, NED
B. Gunderson, Engineer, NED
E. Hill, Operation Manager
W. Hillyard, Administrative Services Manager
D. Hood, Shift Supervisor
J. Jackson, Supervisor QA/QC
J. Liebelt, Senior Maintenance Supervisor
M. McBride, Technical Services Manager
T. Orlin, Superintendent QA Services
J. Reese, Supervisor Nuclear Engineering Department
L. Singleton, Superintendent Operation QA
J. Van Dyke, Shift Supervisor
D. Warembourg, Manager Nuclear Production

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

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (50-267/8025-02) Moisture Penetration Outer Covers. Nuclear Projects Department has completed a safety analysis to determine if removal of the moisture monitor penetration covers during operation is acceptable and concluded that removing them does not reduce the margin of safety. However, since they do contribute to the integrity of the containment boundaries, their removal for maintenance, testing or calibration will be controlled in accordance with Temporary Configuration Request Procedures.

(Closed) Unresolved Item (50-267/8025-03) Clearance Points Form Approvals. Procedure P-2 describing the use of non-standard clearance point forms and their approval has been revised to assure proper approval is obtained.

(Closed) Open Item (50-267/8025-06) No Calibration Data for DVM. DVM M-3147 was calibrated by the Electric Meter Laboratory on March 23, 1981. Additionally, all instruments of this type will be calibrated prior to use.

3. 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 discussion with licensee personnel, independent verification of safety system status and limiting conditions for operations, and review of facility records.

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
- . System Status Log
- . Form 1 Log (Jumper Log)
- . 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 operability of selected systems or portions of systems were verified by walkdown of the accessible portions. The NRC inspector verified the operability of the Circulating Water System and the Service Water System. Findings are documented in paragraph 3.A, "Service Water System," of this report. Procedures were also reviewed and implementation observed for Gaseous Effluent Releases No. 553 and No. 556 and Liquid Waste Releases No. 481 and No. 482. The releases appeared to have been made in a satisfactory manner.

A. Service Water System

On July 29, 1981, during a walkdown of System 42, the NRC inspector noted that valve V-42128, bypass around LCV-4218-3 emergency makeup, was not listed in SOP 42 Appendix II and was still on the system drawing PI-42-1. Upon further review it was determined that Deviation #45 dated December 25, 1979, had removed V-42128 from the SOP stating in part ". . . Valve is now removed and spacer block installed" The NRC inspector was unable to find the Change Notice whereby the spacer block was installed. A visual inspection, by the NRC inspector, of the bypass line did not reveal the presence of a spacer block. There appears to be a valve body, valve stem, and large hand-wheel with the hand-wheel tied in the open position.

This was discussed with the licensee who at the time report was unable to produce the required documentation for the spacer block installation. This matter is considered to be unresolved (8116-01).

No violations or deviations were identified.

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 5.6.1d-M Diesel Engine Exhaust Temperature Functional Test

SR 5.6.1a-w Standby Diesel Generator 50% Test

SR 5.2.8abc-Q Emergency Bearing Water Makeup Pump Functional Test

SR 5.3.6-A Instrument Air System Calibration

SR 5.2.24a-M Circulating Water Makeup Storage Pond Level Instrumentation Functional Test.

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

SR 5.8.1abc-M Radioactive Gaseous Effluent System Test

SR 5.8.2bc-M Radioactive Liquid Effluent System Instrumentation Functional Test.

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:

PTR 5-286 Remove and Replace "B" Circulator C-2102 in accordance with MP 21-15, Helium Circulator Change Out Procedure

FHP-4 Refueling

PTR 2-135 Repair Seal Leakage on P-2105 (Bearing Water Make-up Pump) in accordance with MP 21-2, Repair of Gould Vertical Turbine Pumps

PTR 6-351 P-2105 Repair per MP 21-2, Repair of Gould Vertical Turbine Pumps

- PTR 7-85 Repair P-2108 (Emergency Bearing Water Makeup Pump) in accordance with PM 21.26, Inspection and Preventive Maintenance Procedures
- CN 724F/CWP 81-61 Revise "Loss of Power" Alarm Circuitry, Install "Power Up" and "Alarm Reset" Circuitry, and Install "Logic Latch and LED Test" Circuitry on Fire Protection System Local Annunciators
- PTR 6-112 P-2109 Repair (Emergency Water Booster Pump 1A) in accordance with MP 21.10, Maintenance and Repair of Gould's Pumps Model 3196MT and MP 105, General Pump Removal and Installation
- PTR 7-191 Decon C-2102 Spare Circulator
- PM 92.10 Caterpillar Diesel Engine - Emergency Generator Sets K-9204X and K-9202X
- PTR 7-358 Remove and Replace F-9101X in accordance with MP 91-2, Maintenance and Repair of System 91 Pump Discharge Oil Filters.

The NRC inspector also reviewed the following procedures to verify compliance with ANSI B30.2, "Overhead and Gantry Cranes" and NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants":

- MP 104-1 Reactor Building Crane Operating Procedure
- MP 104-2 Reactor Building Overhead Crane Inspection, Maintenance, and Lubrication

During a review of the maintenance activities on PTR 5-286, the NRC inspector determined that protective covers were missing from the High Pressure Separator Level Controls. The findings are discussed in paragraph 5.A, "Environmental Qualifications."

A. Environmental Qualifications

On July 21, 1981, during a final inspection of the removal and replacement of Circulator C-2102, the NRC inspector determined that the "Environmental" face covers for three of the four High Pressure Separator Level Controllers were missing (i.e., LC-21303, LC-21304, and LC-21305). These protective covers, HiTemp #71M1003 hoods, were installed in accordance with FCN 3518 to meet the maximum temperature environment for the Design Steam-Line Rupture Casualty at Fort St. Vrain. The NRC inspector also noted that two of the level controllers were missing labels (i.e., LC 21303

and LC-21304) which were a requirement of the FCN. The licensee was informed that the above is considered an open item (8116-02) pending replacement of the face covers and label plates.

No violations or deviations were identified.

6. Surveillance (Refueling)

The NRC inspector verified functional testing of the more complex safety-related Technical Specification Surveillance Tests for conformance with regulatory requirements, licensee commitments, and administrative controls. The surveillance tests reviewed and observed are:

SR 5.3.8.d - R Hydraulic Snubber Functional Test

SR 5.4.1.2.1.h - R Steam Pipe Rupture (Pipe Cavity) Calibration

No violations or deviations were identified.

7. Maintenance (Refueling)

The NRC inspector verified that major maintenance activities scheduled during the refueling outage were being conducted by qualified personnel in accordance with approved procedures. The following maintenance activities were observed:

FHP - 4 Refueling

PTR 5-286 Remove and Replace "B" Circulator C-2102 in accordance with MP 21-15, Helium Circulator Change Out Procedure

PTR 3-379 Repair or Replace Digital/Analog Pot in accordance with MP 12-1, Removal and Installation of Control Rod Drive Assemblies in the Reactor Penetration

PTR 2-135 and 6-351 Repair P-2105, Bearing Water Make-up Pump, in accordance with MP 21-2, Repair of Gould Vertical Turbine Pumps

A. Procedure Review

On July 6, 1981, during the NRC inspector's review of MP 12-1 it was determined that:

- (1) MP 12-1 referenced performance of steps per SOP 13-04 which had been deleted on June 16, 1981, and replaced by FHP-4.
- (2) PTR 3-379 which authorized use of MP 12-1 was an old Plant Trouble Report issued to the Results Department which apparently was not

intended to be used for the removal and replacement of the control rod from Region 31 and the accompanying maintenance to repair the control rod.

- (3) MP 12-1 referenced Results Department testing under a CWP-16 that was replaced by RT-5 on April 30, 1981.

Based on the NRC inspector's comments to the licensee, a new PTR 7-56, Replace the CRD from Region 31 with a Spare CRD Unit in Storage Well #8, was issued for the Maintenance Department, and Procedure Deviation Reports (PDR's) 81-251 and 81-252 were written to FHP-4, Refueling Procedure, to provide the necessary procedural steps to perform the removal and replacement of the CRD. The licensee stated that repair of the old CRD from Region 31 would occur upon completion of the re-write of MP 12-1, which will update the procedure. The NRC inspector has no further questions on this matter.

No violations or deviations were identified.

8. Refueling Activities

The NRC inspector witnessed ongoing refueling activities to verify that all refueling activities were being performed in accordance with Technical Specification requirements and approved procedures. The NRC inspector verified by direct observation that the following refueling procedures had been completed:

FHP - 4 Refueling

FHP - 9 Verification of Shutdown Margin During In-Core Maintenance

The licensee's refueling activities were completed on July 8, 1981.

No violations or deviations were identified.

9. Startup Testing

The NRC inspector reviewed approved startup test procedures, observed portions of tests and reviewed portions of the data obtained.

The following startup tests were conducted by the licensee:

SR 5.1.5 - R Control Rod Reactivity Worth

SR 5.1.3 - R Temperature Coefficient of Reactivity

T - 174 Decalibration Factor and Region Peaking Factor

No violations or deviations were identified.

10. Review of Plant Operations (Refueling)

The NRC inspector reviewed Plant Equipment and systems control procedures, Plant Startup and Criticality Procedures, and observed portions of the plant startup to determine operations were conducted in accordance with approved procedures and Technical Specifications. A walkdown of portions of the Control Rod Drive System and of the "B" Circulator System was also performed by the NRC inspector. During a review of the Startup Book 81-04, the NRC inspector determined inconsistencies in completion of the check lists. The findings are discussed in paragraph 10.A, Startup Book 81-04.

A. Startup Book 81-04

The NRC inspector noted inconsistencies in the completion of Plant Systems Check Lists from two separate reviews of the Startup Book on July 16, 1981, and July 29, 1981. For some check lists (i.e., System 23 and System 82) some components were checked as being inoperable but the inoperable conditions were not listed with operator initials and date. For some of the check lists that contained inoperable components, the Shift Supervisor had initialed and dated the step verifying system operability based on, "the fact that it has remained in a normal operating configuration or that all portions cleared out, shutdown or altered for maintenance have been returned to service," versus that step which verified system operability based on, "the above listed inoperable conditions." Also, in one case (i.e., System 21 Clearance #2246) it was noted that a component was inoperable, C-2105S, but was not noted on the check list for that system. From interviews with Reactor Operators and Shift Supervisors concerning the completion of the Plant Systems Check Lists, there appears to be at least three different interpretations on how to complete the check lists.

Based on the above findings and the NRC inspector's verification that no clear procedural guidance currently exists for completion of the check lists, the above item was brought to the licensee's attention. This matter is considered to be unresolved (8116-03).

No violations or deviations were identified.

11. 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.

A. Emergency Preparedness

The NRC inspector reviewed the licensee's Plant Emergency Response Plan and verified the following aspects of Emergency Preparedness:

- . Location and Content of Emergency Kits
- . Operability of Emergency Control Centers (noted was that the Technical Support Center's equipment is not entirely functional as of this date and is considered as the Interim Technical Support Center).
- . Emergency Communications Systems
- . Stack Ventilation Monitors
- . Liquid Effluent Monitors
- . Survey Team Equipment
- . Meteorological Equipment (information is now available to the plant from the National Weather Service 10 Meter Tower located north of the plant site)
- . Onsite First-Aid Facility
- . Trained Onsite First-Aid Personnel
- . Ambulance - Medical Support

The NRC inspector also observed an Emergency Preparedness Training session for plant personnel on July 13, 1981, which consisted of a fire drill and the handling of injured persons. Additionally, on July 13, 1981, the NRC inspector observed a Fire Training session in conjunction with the Platteville Fire Department. In this session the Fire Department utilized the licensee's training facilities to test and train their personnel in established techniques for fighting oil fires.

B. Procurement and Storage

- (1) The NRC inspector conducted an inspection of the licensee's storage areas to verify proper:

- . Receipt inspection and storage
- . Handling of nonconforming items
- . Housekeeping and environmental controls
- . Shelf-life controls

The NRC inspector audited the receipt inspection area and the store storage areas.

The following findings were noted by the NRC inspector.

- a. The Service Water System Pump and Motor replacements (Purchase Order N-2728) have been in storage since July 1980. There have been no storage instructions established, i.e., motor rotation or temporary energization of motor heaters. There is an outstanding Nonconformance Report 81-34 (issued June 5, 1981) relating to storage in an outside open building vice inside storage (ANSI Level C) as called for by the purchase order. This item is considered open (8116-04).
 - b. Shelf life control was identified as an unresolved item previously (8110-02) and remains unresolved.
- (2) The NRC inspector verified traceability and records for the following purchase orders: N-2005B, N-1731-072B, N-10017, N-10015, and N-2728.

The following findings were noted by the NRC inspector.

- a. The following issue records "DCs" were not in the records vault for the Purchase Orders indicated:
 - . Purchase Order N-1731-072B for solenoid operators
 - DC 98531 (6/14/79)
 - DC 25836 (3/7/81)
 - DC 27462 (6/11/81)
 - DC 27519 (6/17/81)
 - . Purchase Order N-10015 for overload relays
 - DC 89281 (3/23/79)

The NRC inspector was subsequently informed that the DCs were in the process of being transmitted on July 14 and 15, 1981. The records copy of DC 89281 had not been located, however, a copy is still on file in stores and will be forwarded to records. As in the case of DC 98531, there appears to have been up to a two year lag in transmitting some DCs. Based on the actions by the licensee, no further actions by IE appears necessary. The licensee has stated that the DC records will be reviewed.

- b. Purchase Order N-2728 for the Replacement Service Water System Pump Motors was not in the Records Building. The inspector found that it was on hold at receipt inspection pending motor test reports since July of 1980. The pumps had no nonconformance or hold tags, however, the licensee stated that the lack of purchase records in stores would have precluded installation. The NRC inspector was subsequently informed that the motor test reports were on site. The NRC inspector plans no further action on this item, however, he did state that a nonconformance report would have brought the matter to management's attention in a more timely fashion.
- c. Purchase Order N-10017 for Agastat Relays as contained in the records vault was incomplete in that the records indicated the relays were acceptable pending verification of seismic acceptability. The licensee subsequently provided documentation indicating seismic acceptability and stated that N-10000 series Purchase Order records would be reviewed to determine record completeness. The N-10000 series Purchase Order consisted primarily of a large number of turnover items from construction. This is considered an open item (8116-05).

No violations or deviations were identified.

12. Review Of Licensee Event Reports

The NRC inspector reviewed licensee event reporting activities to verify that they were in accordance with Technical Specification, Section 7, including identification details, corrective action, review and evaluation of aspects relative to operations and accuracy of reporting.

The following reports were reviewed by the inspector:

79-05	81-026
79-34	81-027

79-48	81-029
80-53	81-031
81-014	81-032
81-021	81-035
81-023	81-040

13. Report Reviews

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

Monthly Operating Information Report, June 1981
 Monthly Operations Report, June 1981
 Nineteenth Startup Report, February 23, 1981, through May 22, 1981

No violations or deviations were identified.

14. IE Bulletin 79-15

The licensee's September 14, 1979, response indicated that the Bearing Water Makeup Pump (P-2105) and the Emergency Fire Water Pumps (P-4501 and P-4501S) are operated on an intermittent basis. Question has been raised as to the operational adequacy of these pumps.

The review of the operational history of P-2105 indicates over 6,800 hours of operation in the period of January 1980 through May 1981, without major maintenance. This pump has been in operation since March 28, 1978, until this past spring refueling outage (1981). At that time the bowl was replaced with a stainless steel bowl. The NRC inspector has concurred with the licensee that the history and recent design changes on this pump provide a basis for considering the long-term operability of this pump adequate.

The licensee stated that an additional time will be needed to obtain operational data for the Emergency Fire Water Pumps (P4501 and P-4501S). Normal run time is unknown at this time. An elapse time meter will be attached to P-4501, to obtain run time for a typical month, after which time the data will be analyzed. The licensee had indicated that this information will be available October 9, 1981.

No violation or deviations were identified.

15. 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 items disclosed in this inspection are:

8116-01 in paragraph 3.A.
8116-03 in paragraph 10.A.

16. 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.