

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-267/87-03

License: DPR-34

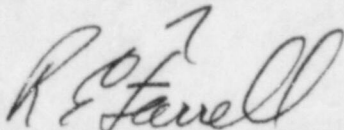
Docket: 50-267

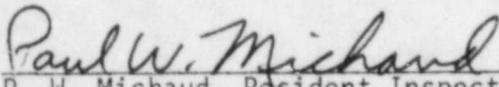
Licensee: Public Service Company of Colorado (PSC)

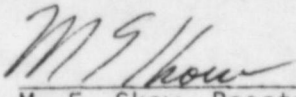
Facility Name: Fort St. Vrain Nuclear Generating Station

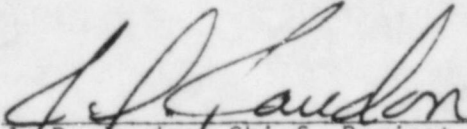
Inspection At: Fort St. Vrain (FSV) Nuclear Generating Station, Platteville,  
Colorado and PSC Offices, Denver, Colorado

Inspection Conducted: January 1-31, 1987

Inspectors:  2-2-87  
R. E. Farrell, Senior Resident Inspector (SRI) Date

 2-2-87  
P. W. Michaud, Resident Inspector (RI) Date

 2-10-87  
M. E. Skow, Reactor Inspector Date

Approved:  2/10/87  
J. P. Gaudon, Chief, Project Section A Date  
Reactor Projects Branch

Inspection SummaryInspection Conducted January 1-31, 1987 (Report 50-267/87-03)

Areas Inspected: Routine, unannounced inspection of operational safety verification, licensee action on previously identified inspection findings, in-office review of periodic and special reports, licensee action on licensee event reports, maintenance, surveillances, engineered safety features, emergency response, and security.

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

DETAILS1. Persons ContactedPrincipal Licensee Employees

- D. Alps, Supervisor, Security
- F. Borst, Manager, Support Services/Radiation Protection
- \*L. Brey, Manager, Nuclear Licensing and Fuels
- R. Burchfield, Superintendent, Betterment Engineering Nuclear Results
- R. Craun, Manager, Nuclear Site Engineering
- D. Evans, Superintendent, Operations
- \*M. Ferris, Manager, QA Operations
- W. Franek, Superintendent, Plan/Scheduling & Stores
- \*D. Frye, Licensing Specialist
- \*J. Gahm, Manager, Nuclear Production
- D. Goss, Coordinator, Nuclear Licensing and Fuels
- J. Gramling, Supervisor, Nuclear Licensing Operations
- \*M. Holmes, Manager, Nuclear Licensing
- F. Novachek, Manager, Technical/Administrative Services
- \*P. Tomlinson, Manager, QA
- R. Walker, Chairman of the Board and CEO
- \*D. Warembourg, Manager, Nuclear Engineering
- \*R. Williams Jr., Vice President, Nuclear Operations

The NRC inspectors also contacted other licensee and contractor personnel during the inspection.

\*Denotes those attending the exit interview conducted February 3, 1987.

2. Operational Safety Verification

The NRC inspectors 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 verifications of safety system status and limiting conditions for operation, 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
- . Station service requests (SSR)

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 NRC inspectors observed a continuing improvement in control room decorum during the inspection period. As the equipment qualification outage draws to a close, equipment is being restored to operability causing a gradual decline in the number of lit annunciator windows.

During this inspection period a major plant cleanup was conducted to correct housekeeping deficiencies which occurred due to the extensive outage activities.

No violations or deviations were identified.

### 3. Licensee Action on Previous Inspection Findings

The following items were reviewed:

(CLOSED) Open Item (267/8012-04): Establish a Trend Evaluation Program. This item concerned the licensee's commitment to establish and utilize a trend analysis type of equipment history. The licensee has implemented Procedure PEP-1, Issue 2, dated October 28, 1986, "Failure Trend Analysis." This procedure establishes guidelines for identifying, researching, and analyzing failure trends in equipment, structures, and techniques. A computerized component tracking system is available that provides component maintenance history. The NRC inspectors reviewed the history for Valves HV-21350 and HV-21352. These valves were noted in NRC Inspection Report 50-267/79-15 which was the background for this open item. The history showed marked improvement in valve performance since the open item was identified. A recent failure trend analysis performed in accordance with PEP-1 was also reviewed. FTR-85-5 analyzed leaking mechanical seals on bearing water pumps. This analysis appeared

comprehensive and appeared to offer promising results. This item is considered closed.

(CLOSED) Open Item (267/8206-06): Traceability of Calibration Standards. This item concerned traceability of the calibration of measuring and test equipment through the licensee's calibration laboratory to national standards. The NRC inspectors found that on site calibration records appeared to show traceability of the calibration to national standards. This item is considered closed.

(CLOSED) Open Item (267/8325-03): Auxiliary Bearing Water System Walkdown Deficiencies. Numerous deficiencies, including housekeeping, instruments not on master calibration list, incorrect drawings, and valve and instrument labeling were identified during a walkdown of the system. All concerns identified have been corrected. This item is considered closed.

(CLOSED) Violation (267/7913-01): Omission of Data Taking. Observations of not stamping dates on chart recorders, not ensuring recorders are inking once per shift, not initiating an SSR to correct problems with recorders. The NRC inspectors verified all recorders are operating and being maintained in accordance with procedures and found no indication of a recurrence of any of these previous problems. This item is considered closed.

(CLOSED) Violation (267/8021-01): Control of Sealed Valves. Valves on the sealed valve list are now identified by marking at the valve. Surrender of clearances on such valves triggers replacement of seals by virtue of the marking. This item is considered closed.

No violations or deviations were identified in this inspection area.

#### 4. In-Office Review of Periodic and Special Reports

The purpose of the inspection was to ascertain whether the information reported by the licensee is technically adequate and satisfies applicable reporting requirements established in the Technical Specifications, the license, and regulations. The NRC inspectors reviewed the following reports:

<u>Title</u>	<u>Date</u>	<u>Serial</u>
Forty-First Startup Report for Fort St. Vrain Nuclear Generating Station, Unit No. 1	12/10/86	P-86657
10 CFR 50.59 Annual Report Submittal	07/22/86	P-86454

The NRC inspectors found that the reports appeared adequate and complete.

No violations or deviations were identified in this inspection area.

## 5. Licensee Action on Licensee Event Reports (LERs)

### a. In-Office Review of LERs

The NRC inspectors reviewed LERs to ascertain whether additional reactive inspection effort or other NRC response was warranted, that corrective action discussed in the LERs appeared appropriate, that information reported satisfied reporting requirements, and whether generic issues were present. In this regard, the following LERs were reviewed:

<u>Number</u>	<u>Title</u>
84-010	Continuous Sampler Inoperable During Greater Than 10 GPM Release
85-005	10.1 GPM Release From Reactor Building Sump In Automatic Mode
86-025	Reactor Building Sump Release Not Continuously Sampled
86-027	Reactor Building Sump Release Not Continuously Sampled

The LERs listed above appeared initially to be related and as a result, additional onsite inspection was performed. The onsite inspection, as well as closure status, is discussed in paragraph 5.b.

### b. Onsite Followup of LERs

The NRC inspectors 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.

LERs 84-010, 85-005, 86-025, and 86-027 were reviewed. As noted above, there appeared to be similarities between the events which warranted onsite inspection. LER 85-005 differed from the others in that the liquid effluent release from the reactor building sump was greater than 10 GPM, while the others were for not continuously sampling during a reactor building sump effluent release. The individual causes of the sampling events were different for the different events. The NRC inspectors found that training has improved relative to sump effluent release and sampling. The lesson plans appear to cover related Technical Specifications and procedures. Also included in qualification training for health physics technicians is an actual operation of the continuous sampler. Specific training on LER 86-025 is also included in the lesson plans. Health Physics Procedure HPP-60, Issue 10, dated December 12, 1986, includes a specific section on the reactor

building sump continuous sampler operation. The licensee has also moved the flow element for measuring effluent flow to a point downstream of the branch point to the continuous sampler to more accurately determine the actual discharge rate. It appears that comprehensive programmatic improvements beyond those committed to in the LERs have been implemented. LERs 84-010, 85-005, 86-025, and 86-027 are considered closed.

LERs 84-011, 82-051, and 82-040 were also reviewed. Each of these LERs deals with ultrasonic detectors in the steam pipe rupture detection system (SPRDS) found out of tolerance during surveillance tests. The SPRDS system is replaced by the steam line rupture detection/isolation system (SLRDIS), thus the SPRDS is no longer required. These LERs are considered closed.

No violations or deviations were identified in this inspection area.

#### 6. Maintenance

The NRC inspectors witnessed the completion of hardware modifications to the DC power supplies for the degraded grid voltage and undervoltage protection relay system. Controlled Work Procedures (CWP) 86-0391, -0392, and -0393 were reviewed for completion and verification of proper quality control acceptance. PSC agreed to implement this temporary modification in a meeting with the NRC staff on August 14, 1986, to remove a potential single failure point in the emergency electrical power system. All hardware changes associated with this modification have been completed. The NRC inspectors will monitor the verification tests on this system when they are performed.

The NRC inspectors observed an attempt to locally operate Valve SV2111, "Circulator Steam Turbine Speed Control." Test Procedure T-338, "Verify SV-2111 Can Be Opened Locally Even When It Is Receiving A TRIP Signal," was discussed with the engineer and technicians performing the test. The purpose of this special test was to determine if the valve could be operated locally to meet Appendix R requirements in the present configuration, and to document steps to do so. It was not possible to operate this valve in the OPEN position locally during this test. Discussions with the engineers indicated a modification is in progress to provide a hydraulic accumulator on each valve like SV-2111 to allow local operation to satisfy Appendix R requirements. This unsuccessful test was to determine if the modification was necessary. The NRC inspectors will follow the licensee's implementation of these modifications.

The NRC inspectors observed work in the bottom elevation of the reactor building (sump area) to move solenoid valves currently subject to flooding to a higher elevation. This work was accomplished on Change Notice (CN) 2202 and associated CWP 86-0332.

The NRC inspectors also observed cable lugging on Bearing Water Pump P-2107. A calibrated lugging tool was utilized, a quality control

inspector was present observing the work, and the workman's documentation appeared to be in order.

No violations or deviations were identified in this inspection area.

## 7. Surveillance

A detailed review of surveillance procedures associated with the steam/water dump system valves and instrumentation was performed by the NRC inspectors. Procedures SR 5.3.1ab-Q, Issue 23, "Steam Water Dump Valves and Level Indicator Test," and SR 5.3.1c-AX, Issue 3, "Steam Water Dump Tank Instrument Tests," were reviewed to ensure:

- . conformance to Technical Specification requirements
- . proper licensee review and approval
- . steps of the procedure properly remove instrumentation from service and verify their return to service
- . tolerances are specified and correct
- . instructions are given to initiate an SSR when valves are not within acceptance criteria
- . proper radiological precautions are specified
- . all local and remote functions are included for each instrument.

During the inspection period the NRC inspectors received detailed information regarding the scheduling and tracking of surveillance tests, and on the licensee's actions in response to previously reported NRC inspectors concerns (SALP Report 50-267/86-12).

The FSV scheduling system utilizes the corporate computer system and "ROSCOE," "RPF," "PLI," and "MARK IV" software programs. This system has been utilized for approximately nine years.

This program schedules surveillances as follows:

- . If a test is completed before the scheduled date (Interval -25 percent), the next scheduled surveillance due date is calculated from the completed date.
- . If a test is completed after the scheduled date but before the latest date due (Interval +25 percent), the next scheduled date is calculated from the scheduled date.

This approach is intended to assure that all intervals are within the interval +25 percent, and that utilizing the +25 percent does not allow a continuous addition of the +25 percent time allowable.



The NRC inspectors have expressed concern about the "user friendly" capabilities of the scheduling program. The licensee has the following changes in progress:

- a. Expand Master Data Base:
  - . Expand field called, "RTEST," from 1 to 2 bytes. This will allow for a more meaningful code for retests or reschedules on surveillances.
  - . Establish a new two-byte field which will flag the related surveillance as "QC" related.
  - . Add another date field to the records which will be used to help track surveillances which have been set for retest.
- b. Change weekly printout which is issued with the surveillances to reflect only those surveillances being issued at that time.
- c. There is a "Mark IV" table in use now within this system which is used by the scheduling clerk mainly for weekly surveillances. These were originally scheduled from Monday through Sunday and will now be scheduled from Saturday through Friday.
- d. Develop a "LOOK AHEAD" schedule which will enable the scheduling clerk to determine ahead of time surveillances which will be coming due within a date range which will be input at the terminal.
- e. Develop a master list of all surveillances sorted by surveillance number or department code. Change the "ROSCOE" terminal input procedure to allow the clerk to request this report at will.
- f. Provide the ability to flag those surveillances which are required for start up or special conditions.
- g. Reformat the reports distributed to the control room and shift supervisors to reflect the following:
  - . The early date which is now calculated as 25 percent less than the surveillance interval will now be reported as the scheduled date.
  - . The late date will be reported as the last date on which a surveillance can be done and remain within the surveillance interval (i.e., 30 days for a monthly, 7 days for a weekly, etc.,). Exceeding the late date does not violate Technical Specifications, because the +25 percent allowance has not been utilized. The licensee intends to normally perform surveillances in the "interval minus (-)25 percent" time frame.

No violations or deviations were identified in this inspection area.

## 8. Engineered Safety Features

The NRC inspectors verified the operability and status of the steam/water dump system. Applicable sections of the FSAR, Technical Specifications, and system design requirements were reviewed for familiarization with the system and requirements. A complete walkdown of all accessible portions of the system was performed, and the following checks were made:

- . The as-found configuration was compared with the system lineup procedure and the P&I diagrams to verify their agreement.
- . Valves were verified to be in their proper position and locked as required. Local and remote position indications were compared.
- . Verified that instrumentation was properly valved in and functioning. Calibration dates were appropriate.
- . Inspected the equipment conditions and general housekeeping items which could degrade performance.

A housekeeping problem in the steam/water dump tank room was corrected when brought to the attention of the licensee. Minor valve labeling deficiencies were also reported to the licensee and corrective actions under the licensee's relabeling program will be monitored by the NRC inspectors.

No violations or deviations were identified in this inspection area.

## 9. Emergency Response

The NRC inspectors observed an unannounced radiological emergency drill for the purpose of establishing initial personnel accountability on January 22, 1987. Administrative Procedure G-5, "Personnel Emergency Response," describes the initial actions required by all onsite personnel upon notification of a plant emergency. Section 3.3 of this procedure defines "Initial Accountability" as the process of initially identifying any missing personnel on site following sounding of a plant emergency alarm. This process is required to be completed within 30 minutes following alarm sounding per Administrative Procedure G-5, Step 3.3, and the radiological emergency response plan (RERP), Section 6.4.1.a.1.

Accountability was reported to the emergency coordinator in the control room just past the 30-minute mark, and thus the drill was not satisfactorily completed. Approximately seven minutes after accountability had been reported, the security officer reported to the emergency coordinator that three individuals were still onsite, whereabouts unknown, who should have exited the protected area. This particular drill was not intended to go further than identification of any missing individuals, although this was not performed within the required 30 minutes. The NRC inspectors noted, however, that no procedure exists to specify or perform search and rescue functions

following initial accountability. RERP, Section 6.4.1.a.4, requires the shift supervisor to assign a search and rescue team to locate and rescue personnel unaccounted for in initial or subsequent accountability. Administrative Procedure G-5 ends with identifying missing individuals and procedurally there is nothing to direct any further actions, including that specified in the RERP. When brought to the licensee's attention, it was agreed that this was a deficiency and that a revision to the control room emergency procedure currently being performed will include the appropriate search and rescue functions. This is considered an open item (267/8703-01).

No violations or deviations were identified in this inspection area.

10. Security

During the inspection period the NRC inspectors observed compliance with the facility security plan. Perimeter security, detection aids, personnel access, compensatory measures, area patrols, and security event reporting were observed.

No violations or deviations were identified in this inspection area.

11. Management and Exit Meetings

During the inspection period, the NRC inspectors conducted several meetings with the licensee senior management to review progress on activities to correct SALP report identified weaknesses and progress on environmental qualification of equipment. Several meetings were held with the plant manager, the site engineering manager, and manager of quality assurance to monitor outage progress, performance enhancement program activities, and preparations for restart of the unit.

An exit interview was conducted February 3, 1987, attended by those indicated in paragraph 1. At this time the NRC inspectors reviewed the scope and findings of the inspection.