APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/85-17 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 Nuclear Generating Station, Platteville, Colorado

Inspection Conducted: June 17 - August 16, 1985

Inspectors: TH Johnson for R. E. Farrell, Senior Resident Inspector (SRI) 9/12/85 Date

Approved: TH Johnson for J. P. Jaudon, Chief, Project Section A Reactor Projects Branch 9/13/85 Date

Inspection Summary

Inspection Conducted June 17 - August 16, 1985 (Report 50-267/85-17)

Areas Inspected: Routine, unannounced inspection of operational safety verification and prestressed concrete reactor vessel interspace helium pressure (LCO 4.2.7). The inspection involved 111 inspector-hours onsite by one NRC inspector.

Results: Within the two areas inspected, one violation was identified in each area (paragraph 2 and 3).

## DETAILS

1. Persons Contacted

Principal Licensee Employees

D. Alps, Security Supervisor
T. Borst, Support Services Manager/Radiation Protection Manager
*R. Burchfield, Superintendent, Nuclear Betterment
M. Deniston, Shift Supervisor
*D. Evans, Superintendent, Operations
J. Eggebroten, Technical Services Engineering
*M. Ferris, QA Operations Manager
W. Franek, Superintendent Operations
C. Fuller, Station Manager
*J. Gahm, Manager Nuclear Production
*S. Hofstetter, Nuclear Licensing & Fuels
*J. Johns, Supervisor, Nuclear Licensing - Engineering
*D. Mangan, Consultant, Nuclear Licensing - Engineering
J. McCauley, Results Engineering Supervisor
*F. Novachek, Technical/Administrative Services Manager
J. Petera, Electrical Supervisor
*L. Singleton, Manager QA
H. Starner, Coordinator Nuclear Site Construction
J. Van Dyke, Shift Supervisor
*D. Warembourg, Manager Nuclear Engineering

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

*Denotes those attending the exit interview.

2. Operational Safety Verification

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

The review was conducted by direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verifications 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

At approximately 10:30 a.m. August 11, 1985, the SRI received a call that a helium circulator had tripped at the plant. The shift supervisor making the call informed the SRI that the headquarters duty officer had been notified via the ENS line and that he was also advising the SRI, even though this event was not reportable.

Subsequently, the SRI reviewed the licensee's FSAR, Section 7.1, which identifies circulator trips as a function of the reactor plant protective system. The plant protective system, is defined in the Technical Specifications as, "The plant protective system is the reactor protective circuitry and the circuitry oriented towards protecting various plant components from major damage. This system includes (1) scram (2) loop shutdown, (3) circulator trip, and (4) rod withdrawal prohibit." Thus, a circulator trip is a function of what is commonly referred to as the reactor protection system as in 10 CFR 50.72 immediate notification requirement for operating nuclear power reactors (b) non-emergency events (2) four-hour reports, (ii) "any event or condition that results in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)." Consequently, any actuation of the reactor protection system, or as referred to at Fort St. Vrain, the plant protective system or reactor protective system, is reportable under 10 CFR 50.72 as a 4-hour report, and also a 30-day report under 10 CFR 50.73.

Because the shift supervisor, who reported the event had stated to the SRI that the event was not reportable, the SRI interviewed plant personnel to determine if other circulator trips had occurred and not been reported. The licensee, at the SRI's request, reviewed plant logs. The review indicated that there had been 7 circulator trips in 1984 and 9 circulator trips in 1985, including the trip that occurred August 11, 1985. The plant management has identified to the SRI that of the 16 circulator trips, the only trip that was reported via the ENS, was the trip on the August 11, 1985. This failure to report a reactor protective system actuation is an apparent violation (8517-01).

3. Prestressed Concrete Reactor Vessel (PCRV) Interspace Helium Pressure (LCO 4.2.7)

On August 14, 1985, the FSV operations superintendent identified to the SRI that the plant was making notification to the headquarters duty officer via the ENS that a review of their records indicated that from July 30, 1985, when PCRV pressure went above 100 psia through August 10, 1985, the plant had been in violation of LCO 4.2.7. This LCO requires that a positive helium pressure be maintained in the interspace of PCRV penetrations. Specifically, the LCO requires that, "The PCRV shall not be pressurized to more than 100 pisa unless: . . . c) The interspaces between the primary and secondary penetration closures are maintained at a pressure greater than primary system pressure with purified helium gas, with the exception of all or some of the steam generator penetrations. The interspaces between the primary and secondary steam generator penetration closures for either or both loops may be maintained at a pressure greater than cold reheat steam pressure, but less than primary coolant pressure, with purified helium gas."

The SRI found that from July 30, 1985, through August 10, 1985, the PCRV was maintained at a pressure above 100 pounds with no positive helium pressure in two penetration interspaces, specifically, interspaces B21 and B23. The helium pressure in these two interspaces is controlled by one valve which apparently malfunctioned and stuck. On August 10 the valve spontaneously began functioning and again provided positive helium pressure to these interspaces. The turbine equipment operator is required to read and record the pressure in these interspaces on his equipment log sheet. A review of these log sheets shows a preprinted minimum required value of 5 for this pressure differential. Instructions to the equipment operators are to identify to their supervisors or the control room any value outside the preprinted acceptance values. During the period from July 30 through August 10, 1985, the equipment operators consistently recorded a value of 0 for this interspace pressure differential, although the form had a preprinted minimum acceptance value of 5.

These logs are reviewed on the night shift by the west end reactor operator to verify plant compliance with Technical Specifications. Additionally, the night shift supervisor reviews these logs for plant compliance with Technical Specifications. Both the shift supervisor and the reactor operator certify that the plant is in compliance with Technical Specifications.

The operations superintendent reviewed rosters to determine how many plant operators, equipment operators, and shift supervisors were on duty while the LCO violation existed and, of these, how many were licensed. The operations superintendent's review indicated the following: eight different equipment operators were on duty during this period, of the eight, four hold a reactor operator license. During the period there were six individuals holding a senior reactor operator license and five individuals holding a reactor operator license on duty in the control room. Additionally, four different shift supervisors, all holding a senior reactor operator license, were on duty during the period that the LCO was violated.

Although the licensee self identified the LCO violation, it was not until 4 days after the violation ceased to exist. There were a large number of individuals holding operator and senior operator licenses, who had the opportunity to detect this violation over the 11-day period which existed.

This is an apparent violation (8517-02).

4. Exit Interview

The SRI conducted a exit interview on August 16, 1985, with the licensee indicated in paragraph 1. At this time the SRI reviewed the scope and findings of the inspection.