APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/90-14 Operating License: DPR-34

Docket: 50-267

Licensee: Public Service Company of Colorado (PSC)
P.O. Box 840
Denver, Colorado 80201-0840

Facility Name: Fort St. Vrain Nuclear Generating Station (FSV)

Inspection At: FSV, Platteville, Colorado; and PSC offices, Denver, Colorado

Inspection Conducted: August 1 through September 30, 1990

Inspector: D L Garrison 10-11-90
D. L. Garrison, Reactor Inspector, Division of Reactor Safety — Date

Approved: J B Baird 10/11/90
J. B. Baird, Technical Assistant, Division of Reactor Projects — Date

Inspection Summary

Inspection Conducted August 1 through September 30, 1990 (Report 50-267/90-14)

Areas Inspected: Routine, announced inspection of operational safety verification, monthly surveillance observation, and monthly maintenance observation.

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

DETAILS

1. Persons Contacted

PSC

*C. Crawford, Vice President, Nuclear Operations
*C. Fuller, Manager, Nuclear Production
*D. Waremburg, Manager, Nuclear Engineering
*H. Brey, Manager, Nuclear Licensing and Resources
*M. Holmes, Manager, Nuclear Licensing
*F. Borst, Manager, Nuclear Training and Support
*D. Evans, Manager, Operations/Maintenance
*P. Tomlinson, Manager, Quality Assurance
*T. Schleiger, Superintendent, Chemistry and Radiation Protection
*J. Gramling, Supervisor, Nuclear Licensing, Operations
*G. Goebel, Supervisor, Computer Support Services
*H. O'Hagan, Project Manager, Defueling, Decommissioning

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

*Denotes those in attendance during the exit interview conducted September 28, 1990.

2. Plant Status

The plant was permanently shut down August 18, 1989. One third of the fuel has been removed from the core and placed in spent fuel storage wells. The motor control center breakers for the control rod drives are open, racked out, and clearance tagged. The licensee awaits permission from the Department of Energy (DOE) to initiate shipment of irradiated fuel to the DOE Idaho National Laboratory facility. Irradiated fuel was previously shipped to DOE Idaho following each plant refueling.

An NRC confirmatory order prohibiting operation at any power level was issued May 1, 1990. On May 16, 1990, the Federal Register contained an announcement of intent by the NRC to amend the facility license to preclude operation at any power level.

The licensee has submitted a construction application for an independent spent fuel storage facility (ISFSI), as a contingency in the event shipment to DOE Idaho is significantly delayed. This application is under review.

The plant is currently in a defueling mode with the vessel partially defueled and is awaiting approval of a possession only license (POL) application in order to proceed with other scheduled work. Although the licensee has established schedules of activities, they are in a hold

status until a determination is made regarding the shipment of irradiated fuel from the site. Maintenance and surveillance activities are continuing and nonneeded equipment is being placed in a layup status. Preconstruction work is continuing on the ISFSI.

3. Monthly Maintenance Observation (62703)

Licensee maintenance activities for plant systems and components were observed in order to verify that the work was conducted in accordance with approved procedures and standards. The following maintenance activities were observed by the inspector:

- Emergency Lighting Diesel Generator Set Maintenance

  This is a recent installation consisting of a 6-cylinder turbo-charged Caterpillar Model 3406 diesel engine which drives a 250 k.w. generator. The unit is tested monthly on a load bank at the rated power level. Diesel fuel is tested monthly to Procedure WCP314 in order to assure quality diesel fuel and reliable starts. The inspector examined the control panels and electrical components, heating and ventilation system, batteries, fuel system grounding, building construction, exhaust and cooling system, and general overall condition. The unit and related equipment appeared to be in a clean and excellent condition.

- Installation of an Auxiliary Boiler for a Steam Source While the Plant is Being Dismantled

  This unit is a Cleaver-Brooks oil fired unit of 25,000 pounds-per-hour derated to 15,000 pounds-per-hour. The boiler is housed in a metal-sided structural steel building at the southwest corner of the turbine building. The regular plant auxiliary boiler is rated at 250,000 pounds-per-hour and has been taken out of service because it is inefficient at the new required levels of operation. The plant boiler, however, will be kept operational and as a backup unit. The general condition of the boiler, foundation, wiring, and piping was inspected. No problems were noted.

- Replacement of Wheel Stud Nuts on the Fuel Cask Trailers

  On receipt, the custom Fruehauf trailer wheel lug studs were found to be overtorqued, and it was decided by the licensee to inspect and replace the studs with new, properly torqued lug studs. The inspector observed the mechanic in the process of cleaning and replacement on one set of trailer wheels and no deficiencies were observed.

- Preheat and Postweld Heat Treatment of a Welded Piece in the Fuel Handling Machine Grapple Head

This piece had a stationary hole in a part that had been worn to oversize and prevented the grapple from performing accurately. The part was TIG welded with Type 410 stainless rod. The inspector observed the postweld heat treatment which was performed to Station Service Request 89504653 and Procedure MP 2269, Issue 3, dated November 9, 1988. The operator used a calibrated controller, rectifier, and chart recorder. The part was wrapped in fiber-frax insulation and instrumented with a chromel-alumel thermocouple. No problems or deviations from the procedures were noted.

- Removal of the Unit 1B Helium Circulator Steam Source

The inspector observed the removal of the lower inlet/exhaust section and later the removal of the housing and steam jets. The mechanics were using Procedure MP 2225, Issue 5, dated January 5, 1989, and Station Service Request 90502078. A health physics technician performed 16 swipe tests as the part was being removed, and the unit was found to have no contamination and was released to maintenance; the survey was included in the records. No problems or deviations from the procedures were observed.

- Tear-Down and Lay-Up of the Byron-Jackson Boiler Main Feed Pump "C"

This pump is steam-turbine-driven and was removed from service, disassembled, coated with preservative, and partially reassembled. The mechanic performed the work to Station Service Request 89505645 and Procedure MP 1805, Issue 3, dated April 4, 1990. The work and work area were clean and all parts were packaged for future reassembly and conditioning. No problems or deviations from the procedures were noted.

- Maintenance on Instrument Air Compressor C-8201.

This unit is a Gardner-Denver single cylinder, horizontal piston dry compressor with a 12-inch bore and 9-inch stroke. The maintenance work was the replacement of the teflon carrier ring which is located between two compression rings and whose function is to perform as a seal in keeping oil out of the cylinder. The mechanic kept the parts in a clean and orderly manner and was using Station Service Request 90502127 and other procedures to perform the work. No problem areas were noted.

- Removal of the 1 "B" Reactor Helium Circulator

The inspector observed the craft as they removed the reactor portion of the circulator. The work was monitored by the health physics section as the unit was slightly contaminated. The unit was initially attached to a hydraulic fixture which was unbolted and drawn downward through a valve and into a storage cask, then the valve

was shut thus sealing off the opening. The unit is stored and awaiting disposition for removal to a low level waste storage area. No problem areas were noted.

No violations or deviations were identified in the review of this program area.

4. Monthly Surveillance Observations (61726)

The monthly surveillances for plant systems were inspected in order to observe the licensee's activities and determine if the safety-related components and systems were being operated and maintained in accordance with the Technical Specifications and procedural requirements. The inspector observed all portions of Section 5 of the following surveillance tests. Section 5 contains the actual procedural surveillance walkdown and testing of components in a system.

- Procedure SR 5.2.20-M, Issue 1, May 11, 1990, Electrical - "Auxiliary Cooling Method (ACM) Batteries" - Monthly Check

  This battery rack consists of 55 cells in 14 batteries whose value for the temperature at which they were tested was 128.6 volts d.c. The purpose of these batteries is to supply power to start the ACM diesel generator set. The craft followed the procedure, which required them to assure cleanliness, check electrolite level, check for problems, measure room temperature, check battery voltage, adjust battery charger, and complete the data sheets in the procedure which records the condition of the system. All instruments used in testing the batteries were in current calibration intervals. No problems were noted.

- Procedure 5.2.20 ab-w, Issue 8, September 30, 1988, Operations - "ACM Generator Load Test" - Weekly Test

  This test involves the starting of the ACM diesel generator and testing the generator at full load for 2 hours after synchronizing to the reserve auxiliary transformer (RAT). This set is used to supply reserve power on loss of offsite power; however, it does not take the place of the emergency diesel generator sets. The operator was very familiar with the equipment and proceeded through a normal start of the engine and the loading of the generator to the RAT. No problems were noted.

- Procedure SR-FP-1b-M, Issue 1, May 27, 1988, Operations - "Cardox System Valve Lineup"

  This surveillance was to verify the correct valve lineup from the cardox tank in the turbine building to the emergency diesel generator rooms. The operator and inspector observed the position of the

valves, general condition of the tank and equipment associated with the unit, and all piping and valves, including the discharge nozzles in each generator room. The unit was found to be in good condition and ready to operate. No problems were noted.

° Procedure SR-AC-4.3.2.d1-M, Issue 1, May 11, 1990, Operations - "Service Water Pump Functional Test"

This procedure assures the operability of 3 Service Water Pumps Nos. P4201, P4202, and P4202 S. The object is, with 2 pumps running and 1 in standby, to isolate 1 running pump and bleed the pressure off and verify an autostart on the pump in standby. The procedure is repeated until all 3 pumps start automatically on low pressure and the procedure is complete. This will give assurance that each pump will start on a low pressure signal. No deficiencies were noted during the test.

° Procedure 5.2.24f-M1, Issue 1, May 11, 1990, Operations - "46 System Pumps Functional Test - Loop 1" (Reactor Liner Cooling Water)

This test procedure is performed to verify that the liner cooling water pumps are functional and cycle on loss of pressure or demand, and that adequate flow to the liner is available from each pump. The inspector followed the execution of the procedure through the complete test cycle. No problems were noted.

In each surveillance that was performed, the operator was in touch with the control room by radio; also a quality control inspector accompanied the operator when required. The independent verification steps performed by ancther operator were also observed by the inspector.

No violations or deviations were identified in the review of this program area.

5. Operational Safety Verification (71707)

The objectives of the inspections were to assure that the licensee was operating the plant in a safe manner and in conformance with procedures, Technical Specifications, and regulatory requirements and management controls; and assure that activities of the licensee radiological protection programs are in conformance with plant procedures and regulatory requirements.

The inspector conducted daily tours in all areas of the plant and reviewed documentation of equipment problems and plant schedules of ongoing work. The plant tours and attendance in scheduling meetings kept the inspector cognizant of the ongoing work effort.

During plant tours and observation of surveillances, the inspector brought to the licensee's attention some areas of minor concern that needed improvement. These were housekeeping problem areas, damaged duct work, damaged fire barriers and doors, and unmarked valves.

Other routine areas found to be satisfactory were: melting of lead into storage casks, yard and security fencing, general maintenance, and control room demeanor and operation.

No violations or deviations were identified in the review of this program area.

6. Exit Meeting (30703)

An exit meeting was conducted with licensee representatives identified in paragraph 1 on September 28, 1990. During this interview, the inspector reviewed the scope and findings of the report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.