

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/90-21

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

Inspection Conducted: November 11 through December 22, 1990


Inspector:



D. L. Garrison, Reactor Inspector, Division
of Reactor Safety

1-3-91
Date

Approved:



G. L. Constable, Chief, Technical Support
Section, Division of Reactor Projects

1/7/91
Date

Inspection Summary

Inspection Conducted November 11 through December 22, 1990 (Report 50-267/90-21)

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

Results: The licensee performed plant activities in an adequate manner and in accordance with the procedures, work orders, and Technical Specification requirements. Although the staff has been reduced, the licensee continues to perform all work functions in a safe and adequate manner. The remaining staff are highly qualified and experienced and are fully capable of meeting regulatory requirements. The planning and scheduling of required work is performed by knowledgeable personnel to detailed schedules, which results in the work being performed on time. Within the areas inspected, no violations or deviations were noted; one inspector followup and one open item were closed.

DETAILS

1. PERSONS CONTACTED

PSC

- *F. Borst, Manager, Nuclear Training and Support
- *C. Fuller, Manager, Nuclear Production
- *J. Grambling, Supervisor, Licensing
- *M. Holmes, Manager, Nuclear Licensing
- *P. Tomlinson, Manager, Quality Assurance
- *S. Lindsay, Engineer, Quality Assurance
- *H. Brey, Manager, Nuclear Licensing and Resources
- *T. Schlieger, Superintendent, Chemistry and Radiation

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

*Denotes those in attendance during the exit interview conducted December 14, 1990, at the NRC site office.

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. All new fuel has been removed from the site.

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 plant is currently in a defueling mode with the vessel partially defueled and is awaiting approval of a possession-only license (POL) application or specific approval of individual requests 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 and preparation for removing the fuel from the vessel are continuing; also, disposal of some irradiated components is underway.

The licensee has submitted an application to the NRC for the construction and operation of an independent spent fuel storage facility (ISFSI) as a contingency in the event shipments to DOE Idaho is delayed.

The tentative shipment schedule for fuel to DOE Idaho is approximately the first week in February 1991; approval and issuance of the ISFSI construction license by the NRC is also scheduled for the first week of February 1991.

3. FOLLOWUP (92701)

3.1 (Closed) Inspector Followup Item 267/9017-01

This item concerned the fabricated circulator fixture that was to replace the "B" circulator which has been removed. The issue was reviewed and a 10 CFR 50.59 safety evaluation performed which concluded that no safety-related issues were involved. NRR reviewed the evaluation and agreed with the conclusion.

3.2 (Closed) Open Item 267/8913-01

This item concerned the configuration of the three spent fuel casks Nos. H-1501-1, 2, and 3, specifically, questions were raised about the quality of the lid fasteners for the inner and outer cask (reference Office of Investigations summary attachment). The following paragraphs address each fastener separately.

3.2.1 Cask Outer Lid Capscrews, Stock Code 1712275

Description: Capscrews, $1\frac{1}{2}$ diameter x $4\frac{1}{2}$ length, Dwg. 90H1501-33 Item 26.

Fifty spares were ordered on PO N-8728; 53 were received. NCR 89-074 required scrapping all 53. Direct Charge Requisition DC-08572 was used to scrap all 53 capscrews ordered on PO N-8728. PO N-9798 was used to reorder 53 spares; 52 were received; 52 are currently in stock. None of the capscrews were replaced on the three casks; the originals were maintained.

3.2.2 Cask Inner Lid Capscrews, Stock Code 1712274

Description: Capscrews, $\frac{1}{2}$ diameter x $5\frac{1}{2}$ length, Dwg. H1501-35 Item 11.

Twenty-five capscrews were ordered on PO N-8728; 25 were received. NCR 89-074 required scrapping all 25. DC-08573 was used to scrap all 25. PO N-9798 was used to reorder 25 spares; 25 were received. PM work on Cask H-1501-1, done under SSR 89505246, did not require replacement of any capscrews. PM work on Cask H-1501-2, done under SSR 89505237, required replacement of the 12 capscrews which were obtained on DC-00875. Those 12 capscrews had been furnished by PO N-9798. PM work on Cask H-1501-3, done under SSR 89505247, did not require any capscrew replacement; currently 13 capscrews remain in stock.

3.2.3 Cask Outer Lid Capscrew Washers, Stock Code 1712954

Description: Washers, 1.37 ID x 1.87 OD, Dwg. 90H1501-33 Item 27.

Fifty washers were ordered on PO N-8728; 50 were received. NCR 89-074 required scrapping all 50. DC-08571 was used to scrap 38 and DC-90118 scrapped the

remaining 12 by sending them to the maintenance shop for nonpermanent plant use only. PO N-9798 was used to reorder 38 spares; 38 were received. PM work on Cask H-1501-1, done under SSR 89505246, did not require replacement of any washers. PM work on Cask H-1501-2, done under SSR 89505237, required replacement of 24 washers which were obtained from stores on DC-00876. Those 24 had been furnished by PO N-9798. PM work on Cask H-1501-3, done under SSR 89505247, did not require replacement of any washers. Other POs have also furnished material for this stock code; currently 124 washers remain in stock.

Summary

Cask H-1501-1: did not require replacement of any of the three fasteners.

Cask H-1501-2: required replacement of 24 outer washers and 12 inner capscrews ordered under a safety-related purchase order.

Cask H-1501-3: did not require replacement of any of the three fasteners.

All fasteners used were properly certified and those not properly certified were scrapped or otherwise disposed of.

4. OPERATIONAL SAFETY VERIFICATION

The inspector made daily tours of the control room and refueling deck. Manpower appeared to be at the proper level for prevailing conditions in the plant. Control room operators were observed to be attentive to their duties. Health physics technicians were observed to be stationed in areas of activity where their presence was required. Posting of radiation areas was satisfactory for the areas observed. The inspector also made daily tours to all areas of the plant to assess the condition and the performance of plant equipment and personnel. The security diesel generator house, battery rooms, loading deck, diesel generator rooms, auxiliary boilers, security areas including the fencing and central alarm station (CAS), and all fabrication shops were examined.

The inspector observed part of the dismantling of the "91" system (plant hydraulic system), the test equipment set up in the hot cell that will be used to cut up the control rods and other highly irradiated components, and part of a magnetic particle examination on the reactor building crane hooks. Several linear indications were observed on the neck of the hook which were oriented in the longitudinal direction; these tentatively appear to be material inclusions; the licensee will ultrasonically examine the indications and make a final disposition.

It was observed that the outside auxiliary boiler is not performing as expected in that it trips off about every 2 hours on high steam heat. This due to a low feedwater temperature. The licensee is working on a solution. This system is not safety-related but provides steam to safety-related components.

No violations or deviations were identified. The licensee's approach to the resolution of issues appears to be reasonable and properly focused on safety.

5. MONTHLY SURVEILLANCE OBSERVATIONS (61726)

The following monthly surveillances were inspected to determine whether plant equipment was being maintained as required by the Technical Specifications.

5.1 Fire Suppression Water System Flush - Procedure SR 5.2.10.b.2-SA, Issue 9 December 12, 1986

The testing of the valving and ring header hydrants assure that stagnant water is flushed out of the system to clean residue that normally accumulates in the piping and valve network. The valves, seats, stems, and hollow shafting, and the operating parts of each device are cleaned and determined to be functional when the tests are performed satisfactorily. The inspector witnessed the flushing of the outside ring header north of the reactor building. The operator adhered to the procedure and the system performed as designed. No problems were noted.

5.2 Calibration of Reactor Isolation Valve No. 4 H-14-06-SSR 90502623 Procedure RP-108, Issue 5

This calibration and repair was performed on a new reactor isolation valve (spare) whose differential pressure (DP) cells (Merriman) could not be calibrated. The inspector observed the technician install the new DP cells, wire the associated relays and subsequently test the DP cell. The technician was observed to be using proper parts of the instructions and procedures. The test equipment used (M4294 and P10218) were within their calibration intervals.

No violations or deviations were noted. Licensee personnel were observed to properly follow procedures and tasks were completed in a professional manner.

6. MONTHLY MAINTENANCE OBSERVATIONS (62703)

Licensee maintenance work on plant systems and equipment was inspected to verify that the work was in accordance to approved procedures to appropriate standards of workmanship. The following maintenance activities were observed by the inspector.

6.1 Fuel Handling Console Power Transformer - Station Service Request 90502854 November 10, 1990 - Annual Maintenance

This equipment is part of the fuel handling machine console computer power supply. The inspector observed the electrician removing panels, cleaning the internals, and checking for loose components. The work was performed in accordance with manufacturer's instructions.

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6.2 Fuel Handling Console Continuous Power Voltage Regulator - Station Service Request 90502855, November 10, 1990 - Annual Maintenance

The electricians using the vendor manual performed annual maintenance on the voltage regulator. The maintenance was performed in accordance with Chapter 4 of the manual which required inspection for cleanliness, cable damage, evidence of overheating, physical damage, broken solder joints or corrosion. Connections were verified to be properly torqued. Circuit breakers were exercised and the output voltage phase balance was verified. No problems were identified.

6.3 Repair of Nitrogen Compressor 1-C-29-31 - Station Service Request 90502229 December 12, 1990

This compressor started losing second stage pressure which was determined to be O-ring blow-by. The inspector verified the replacement of the O-rings and head by the mechanic was to controlled work instructions. The mechanic was observed using a calibrated torque wrench for tightening the bolting on the second stage head.

The function of this compressor is to fill nitrogen bottles, and the accumulator for the auxiliary backup bearing water for the circulators. This accumulator would provide water for the circulator bearings to allow coast down of the circulators, in an emergency. All work was performed in a professional manner.

6.4 Motor Generator Set 1-N-13-06 - November 16, 1990, Station Service Request 90502899 - Annual Maintenance

This motor generator set supplies emergency power to the fuel handling deck equipment. The inspection was to clean the unit and check the auto starting features and correct phase alignment. The inspection was performed in accordance with the vendor manual.

6.5 Replacement of Ball Valve Inflatable Seal - November 29, 1990, Station Service Request 90502837

This valve is a two-part ball valve used to seal the circulator openings when the circulators are removed. During operation, one of the two inflatable seals which maintains pressure integrity in the vessels was damaged. The inspector witnessed the disassembly of the valve and the replacement of the seal.

6.6 Installation of a Site-Fabricated Fixture to Replace the "B" Helium Circulator and Assembly - November 29, 1990, Station Service Request 90502837

The inspector observed the installed fixture which had been the subject of previous reports (i.e., 50-267/90-17). The installation appeared to meet the specified conditions of the drawings.

No violations or deviations were identified. All work was performed in accordance with applicable procedures or vendor manuals in a professional, workman-like manner.

7. EXIT MEETING (30703)

An exit meeting was conducted with licensee representatives identified in paragraph 1 on December 14, 1990. During this interview, the inspector reviewed the scope of the inspection and findings of the report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector.

Attachment

SYNOPSIS

The Nuclear Regulatory Commission (NRC) Office of Investigations, Region IV (OI:RIV), based on information provided by United States Customs Service (Customs), initiated an investigation to determine if substandard fasteners had been sold by Centennial Bolt, Inc. (Centennial), Denver, Colorado, to the Public Service of Colorado, Fort St. Vrain Nuclear Power Station (PSC/FSV) for use in safety related applications. OI investigation disclosed Centennial had provided fasteners to PSC/FSV on 10 purchase orders between 1985 and 1988. PSC/FSV representatives provided copies of their files concerning these purchases which were not designated as safety related by the licensee.

The OI investigation did not substantiate that substandard fasteners were sold by Centennial to PSC/FSV. The investigation did substantiate that four PSC/FSV purchase orders (POs) to Centennial were for fastener products which were used by PSC/FSV in a vessel(s) to transport used radioactive fuel. No NRC determination has been made relative to the safety related designations of these fasteners. OI investigation did not identify any failure by Centennial to comply with the PSC/FSV purchase order requirements.