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REGION I

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Report No. 85-28

Docket No. 50-333

License No. DPR-59 Priority -- Category C

Licensee: Power Authority of the State of New York
P.O. Box 41
Lycoming, New York 13093

Facility Name: J.A. FitzPatrick Nuclear Power Plant

Inspection At: Scriba, New York

Inspection Conducted: October 12 - November 30, 1985

Inspectors: A. J. Luptak, Resident Inspector
J.R. Stair, Reactor Engineer, DRP 2C

Received by: J.R. Stair
J.R. Stair, Reactor Engineer

1-13-86
Date

Approved by: J.C. Linville
J.C. Linville, Chief
Reactor Projects Section 2C, DRP

1/13/86
Date

Inspection Summary:

Inspection on October 12 - November 30, 1985 (Report No. 50-333/85-28)

Areas Inspected: Routine and reactive inspection during day and backshift hours by one resident inspector and one region based inspector (103 hours) of licensee action on previous inspection findings, licensee event report review, operational safety verification, surveillance observations, maintenance observations, follow-up on plant trip, followup on licensee event, TMI Task Action Plan item followup, and review of periodic and special reports.

Results: One violation was identified in the areas inspected: Failure to adhere to Work Activity Control Procedures. (details in paragraph 4.d)

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DETAILS

1. Persons Contacted

- R. Baker, Technical Services Superintendent
- *R. Converse, Resident Manager
- *W. Fernandez, Superintendent of Power
- *J. Flaherty, Acting Instrument and Control Superintendent
- *D. Lindsey, Operations Superintendent
- R. Liseno, Maintenance Superintendent
- E. Mulcahey, Radiological & Environmental Services Superintendent
- *R. Patch, Quality Assurance Superintendent
- *V. Walz, Assistant Technical Services Superintendent
- *G. Vargo, Radiological Engineer
- *R. Weise, Assistant Maintenance Superintendent

The inspector also interviewed other licensee personnel during this inspection including shift supervisors, administrative, operations, health physics, security, instrument and control, maintenance and contractor personnel.

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Inspector Followup Item (85-25-03): The inspector reviewed procedures F-ISP-15, "Drywell Equipment Drain Sump Flow Loop Functional Test/Calibration", Revision 11, dated May 23, 1984 and F-ISP-16 "Drywell Floor Drain Sump Flow Loop Functional Test/Calibration", Revision 10, dated May 23, 1984, and verified that the licensee revised the procedures to record "as found" and "as left" data for the functional test and the calibration procedures, therefore ensuring that a functional test of the loop would be completed during the calibration procedure. The inspector had no further questions regarding this item.

(Closed) Inspector Followup Item (85-25-04): The inspector reviewed F-ST-7A, "Standby Gas Treatment Manual Bypass Operation, Heater DT, Filter DP, Downstream Piping Leak Check Test, and Simulated Automatic Actuation Test", Revision 7, dated October 23, 1985, and verified that the licensee has revised the procedure to incorporate a periodic leak check of the Standby Gas Treatment system. The inspector had no further questions regarding this item.

3. Licensee Event Report (LER) Review

The inspector reviewed LERs to verify that the details of the events were clearly reported. The inspector determined that reporting requirements had been met, the report was adequate to assess the event, the cause appeared accurate and was supported by details, corrective actions

appeared appropriate to correct the cause, the form was complete, and generic applicability to other plants was not in question.

LERs 85-20-01, 85-24, 85-25, and 85-26* were reviewed. *LERs selected for onsite followup.

- a. LER 85-26 reported a reactor trip due Turbine-Generator power load unbalance caused by a load rejection. Details of this event are discussed in paragraph 7.

4. Operation Safety Verification

a. Control Room Observations

Daily, the inspector verified selected plant parameters and equipment availability to ensure compliance with limiting conditions for operation of the plant Technical Specifications. Selected lit annunciators were discussed with control room operators to verify that the reasons for them were understood and corrective action, if required, was being taken. The inspector observed shift turnovers bi-weekly to ensure proper control room and shift manning. The inspector directly observed the operations listed below to ensure adherence to approved procedures:

- Actions following plant trip on October 31, 1985.
- Reactor startup on November 27, 1985.
- Routine power operations.
- Issuance of RWPs and Work Requests/Event/Deficiency forms.

No violations were identified.

b. Shift Logs and Operating Records

Selected shift logs and operating records were reviewed to obtain information on plant problems and operations, detect changes and trends in performance, detect possible conflicts with Technical Specifications or regulatory requirements, determine that records are being maintained and reviewed as required, and assess the effectiveness of the communications provided by the logs.

No violations were identified.

c. Plant Tours

During the inspection period, the inspectors made observations and conducted tours of the plant. During the plant tours, the inspectors

conducted a visual inspection of selected piping between containment and the isolation valves for leakage or leakage paths. This included verification that manual valves were shut, capped and locked when required and that motor operated valves were not mechanically blocked. The inspectors also checked fire protection, housekeeping/cleanliness, radiation protection, and physical security conditions to ensure compliance with plant procedures and regulatory requirements.

No violations were identified.

d. Tagout Verification

The inspector verified that the following safety-related protective tagout records (PTRs) were proper by observing the positions of breakers, switches and/or valves.

- PTR 851646 on Reactor Core Isolation Cooling System.
- PTR 851701 on the Air Handling Unit for the "B" 125 Volt Station Battery Ventilation System.
- PTR 851838 on "B" Residual Heat Removal System.
- PTR 851855 on "C" outside containment Main Steam Isolation Valve.

On November 8 1985, while in the control room, the inspector noted that the control switches for the Air Handling Unit, 72-AHU-30B, and Recirculation fan, 72-FN-31B, of the "B" 125V Station Battery Ventilation System were in the pull-to-lock position with reference tag from PTR No.851701 attached.

Attempting to verify the tagout, the inspector found PTR No.851701 had been voided and filed in the "cleared" PTR book. However, the tag sheet indicated that the tags were hung and had not been cleared. The inspector determined that the tags for the breakers had been removed and the breakers were shut, although the tagout did not indicate such. The inspector informed the licensee of his findings and the system was returned to service by removing the reference from the control switches and returning them to the normal position.

A critique of the event held by the licensee revealed that maintenance personnel had asked to replace the filters for both the "A" and "B" AHUs. The operating procedure for the Battery Ventilation System cautions that only one AHU be shut down at a time, and therefore two separate PTRs were prepared. On November 6, after tagging out and replacing the filter for the "A" AHU, the mechanic felt the work could be done safely with the fan in operation. He then proceeded to change the filter on the "B" AHU without the PTR. This work was completed at about noon, but the tags for "A" AHU were not

removed until later that afternoon. Since the request for the PTR on the "B" AHU was still pending, it was hung at 6:13 a.m. on November 7.

Later in the morning on November 7, the mechanic discussed his actions of the previous day with the Assistant Shift Supervisor (ASS), and the decision was made to void the tagout on the "B" AHU. The ASS directed the tags to be removed. An operator removed the tags on the breakers and returned them to service, but failed to initial for the removal on the PTR. He also failed to remove the reference tags on the control switch (which were indicated as being hung on the PTR) and to return the system to operation. A second verification of the release of the PTR was not conducted. The PTR and the tags were left on a desk for the ASS to review. A Senior Reactor Operator qualified individual, who had organized the new work control center which had just begun operation, noticed the PTR and tags on the desk. Since the PTR was voided, the individual placed the PTR in the "cleared" PTR book, never checking the PTR to ensure that it had been initialled, indicating the removal of the tags.

The purpose of the AHU in the Battery Ventilation system is to maintain temperature in the Battery Room. Since the Battery Exhaust fan was operating, there was continuous air flow through the Battery Room; therefore the safety significance of the removal of the AHU from service is minimal. However, the programmatic problems of the failure to properly control tagging and maintenance of equipment that is considered Category I is of greater concern.

Technical Specification (TS) 6.8 (A) requires that written procedures and administrative policies be established, implemented, and maintained that meet or exceed the requirements and recommendations of Section 5 "Facility Administrative Policies and Procedures" of ANSI 18.7-1972. Work Activity Control Procedure (WACP) 10.1.1, Procedure for Control of Maintenance, Revision 9, dated September 28, 1984, section 7.2.1 requires the use of a Work Tracking Form to track and control corrective maintenance for Category I systems. WACP 10.1.2, Equipment and Personnel Protective Tagging, Revision 8, dated September 25, 1985, requires, in section 6.18, removal of reference tags from control switches when tagout is released, and, in section 7.1.3.d, an independent verification of the removal of the tags and reposition of each device. The inspector informed the licensee that the failure to use a work tracking form to replace filters on the AHU's and improperly controlling PTR No. 851701 which left the "B" AHU inoperable was a violation of TS 6.8(A), WACP 10.1.1 and WACP 10.1.2. (333/85-28-01)

e. Emergency System Operability

The inspectors verified operability of the following systems by ensuring that each accessible valve in the primary flow path was in the correct position, by confirming that power supplies and breakers were properly aligned for components that must activate upon an initiation signal, and by visual inspection of the major components for leakage and other conditions which might prevent fulfillment of their functional requirements:

- "B" 125 V D.C. Power System
- Standby Gas Treatment System
- "A" 125 V Station Battery Ventilation System.

No violations were identified.

5. Surveillance Observations

The inspector observed portions of the surveillance procedures listed below to verify that the test instrumentation was properly calibrated, approved procedures were used, the work was performed by qualified personnel, limiting conditions for operation were met, and the system was correctly restored following the testing:

- F-ST-12E Turbine Building Exhaust Monitor Instrument and Logic System Functional Test, Revision 10, dated October 2, 1985, performed October 18, 1985.
- F-ST-2C Residual Heat Removal Motor Operated Valve Operability Test, Revision 15, dated July 17, 1985, performed October 18, 1985.
- F-ST-4B High Pressure Coolant Injection Flow Rate/Pump Operability/Valve Operability Test, Revision 20, dated August 2, 1985, performed October 21, 1985.
- ISP-202 Main Steam Line High Flow Transmitter Calibration and Channel Functional Test, Revision 0, dated March 27, 1985, performed on November 6, 1985.
- F-ST-39A Type "B" Leak Rate Test (Air Locks) Revision 8, dated September 8, 1983, performed November 25, 1985.

The inspector also witnessed all aspects of the following surveillance test to verify that the surveillance procedure conformed to technical specification requirements and had been properly approved, limiting conditions for operation for removing equipment from service were met, testing was performed by qualified personnel, test results met technical specification requirements, the surveillance test documentation was reviewed, and equipment was properly restored to service following the test.

-- F-ST-5B Average Power Range Monitor Instrument Functional Test, Revision 10, dated December 14, 1983, performed November 26, 1985. No violations were observed

6. Maintenance Observations

- a. The inspector observed portions of various safety-related maintenance activities to determine that redundant components were operable, that these activities did not violate the limiting conditions for operation, that required administrative approvals and tagouts were obtained prior to initiating the work, that approved procedures were used or the activity was within the "skills of the trade," that appropriate radiological controls were properly implemented, that ignition/fire prevention controls were properly implemented, and that equipment was properly tested prior to returning it to service.
- b. During this inspection period, the following activities were observed:
 - WR 13/37638 replacement of the motor and torque switch for Reactor Core Isolation Cooling Turbine Steam Supply Valve.
 - WR 02/38507 troubleshoot and repair steam flow transmitter for "C" Main Steam Line.
 - WR 29/23895 replacement of the solenoids for the actuator of the "C" outside containment Main Steam Isolation Valve.

No violations were identified.

7. Followup on Plant Trip

At 9:24 a.m. on October 31, 1985, the reactor tripped from full power due to a generator load rejection. The load rejection occurred when one of the two 345 KV output breakers opened after sensing a fault at a substation approximately 50 miles from the plant. The other output line was carrying only a small portion of the plant load due to transmission

line work. The mismatch between turbine load and generator load caused a fast closure of the turbine control valves, which resulted in the reactor scram. There was no Emergency Core Cooling System actuation or any radioactivity release associated with this event.

The inspector arrived in the control room within minutes after the trip and observed the operator response to the event. The inspector also reviewed the process computer alarm printout, the post trip log, various chart recorders, and the completed data sheets for procedure No. ODSO 23, "Post Trip Evaluation." Based on these observations and reviews, the inspector determined the operator actions in response to the event were proper and in accordance with approved procedures, the plant responded as designed, the required notifications including an Emergency Notification System call was made, and the licensee review and determination of root cause was adequate.

The licensee investigation into the trip focused on the adequacy of the relaying circuitry which sensed the fault and tripped the 345 KV output breaker. It appears as though this sensing circuit should not have generated a trip signal based upon the location of the fault. The licensee plans to calibrate the relaying circuit during the next outage and is reviewing the adequacy of the system. The inspector will review the results of the licensee calibration during a subsequent inspection. (333/85-28-02)

8. Followup on Licensee Event

On November 23, 1985, the licensee initiated a reactor shutdown to repair Main Steam Isolation Valves (MSIV) after failing to meet requirements of surveillance testing. During the performance of F-ST-1B, MSIV Fast Closure on November 22, 1985, two problems were discovered. On initial attempts, the "D" outside containment MSIV failed to fast close. After slow closure of the MSIV, the valve was successfully fast closed several times. Next, the "B" outside containment MSIV closed in approximately 2.9 seconds (Technical Specifications require valve closure to be 3 to 5 seconds). Investigation revealed that the bolts for the dashpot cover had sheared. The dashpot is a hydraulic cylinder used to control the speed at which the MSIV operates by porting oil from one side of a piston to the other. After isolating the "B" Main Steam Line as required by Technical Specifications, the licensee continued to operate at 65 percent power until making the decision to conduct an orderly shutdown to repair the MSIV.

The licensee, in conjunction with the valve manufacturer, was unable to immediately determine the cause of the bolt failures. However, they are continuing to investigate the cause. As a precautionary measure, the licensee replaced the bolts of the dashpot covers for the remaining

outside containment MSIVs. The inspector will review the results of the licensee's investigation into the failure of the dashpot bolts during a subsequent inspection. (50-333/85-28-03)

The licensee also determined that the failure of the "D" MSIV to close was caused by a piece of foreign material lodged in the solenoid valve of the MSIV air actuator. This piece of material appears to have been produced by cross-threading an air line into the solenoid valve body. This material then worked its way into the valve seat. The solenoid valves were replaced for the "D" MSIV and the other MSIV solenoids were checked for evidence of cross-threading.

9. Engineered Safety Feature (ESF) System Walkdown

The inspector verified the operability of the selected ESF system by performing a complete walkdown of accessible portions of the system to confirm that system lineup procedures match plant drawings and the as-built configuration, to identify equipment conditions that might degrade performance, to determine that instrumentation is calibrated and functioning, and to verify that valves are properly positioned and locked as appropriate.

-- Reactor Core Isolation Cooling System.

No violations were identified.

10. TMI Task Action

III.D.1.1 Integrity of Systems Outside Containment Likely to Contain Radioactive Material

As noted in Inspection Report 50-333/85-25, the licensee had agreed to incorporate a periodic leak check of the Standby Gas Treatment System (SGTS) into their leak reduction program. As discussed in paragraph 2 the licensee has revised its procedure to include a leak check of the SGTS once per operating cycle. This item is closed.

11. Review of Periodic and Special Reports

Upon receipt, the inspector reviewed periodic and special reports. The review included the following: inclusion of information required by the NRC; test results and/or supporting information consistent with design predictions and performance specifications; planned corrective action for resolution of problems, and reportability and validity of report information. The following periodic report was reviewed:

-- October 1985 Operating Status Report, dated November 7, 1985.

12. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. On December 6, 1985, the inspector met with licensee representatives (denoted in paragraph 1) and summarized the scope and findings of the inspection as they are described in this report.

Based on the NRC Region I review of this report and discussions held with licensee representatives during the exit meeting, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.