

U.S. NUCLEAR REGULATORY COMMISSION

REGION 1

DOCKET/REPORT NO: 50-333/94-03

LICENSE NO: DPR-59

LICENSEE: New York Power Authority
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Lycoming, New York 13093

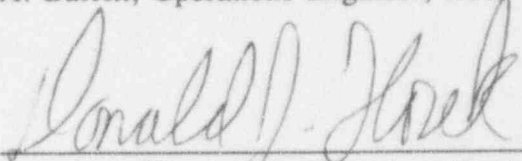
FACILITY NAME: James A. FitzPatrick Nuclear Power Plant

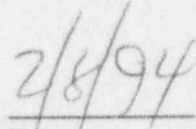
INSPECTION AT: Lycoming, New York

INSPECTION DATES: January 24-27, 1994


INSPECTORS: A. Burritt, Operations Engineer, DRS

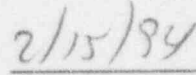
LEAD INSPECTOR:


Donald J. Florek, Sr. Operations Engineer
BWR Section, Operations Branch
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Date

APPROVED BY:


Richard J. Conte, Chief
BWR Section, Operations Branch
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Date

INSPECTION SUMMARY: Inspection from January 24-27, 1994 (Rpt. No. 50-333/94-03)

AREAS INSPECTED: Announced safety inspection of control room operations and review of licensee actions on previous inspection findings.

RESULTS: The operators performed their duties safely, in accordance with NRC requirements, and in accordance with licensee-approved procedures. Overall, the operators were professional, knowledgeable, and attentive. The operators maintained their focus on safe plant operation.

A weakness was identified in that the facility procedures do not require the operators to enter technical specification (TS) limiting conditions for operation (LCOs), when the performance of a surveillance test rendered the equipment inoperable. (IFI 333/94-03-01) Additionally, control room operators were not included in the surveillance test briefing for the containment spray logic functional test that rendered portions of the Residual Heat Removal (RHR) system inoperable.

Six open items were closed. One inspector followup item (333/93-07-02) remains open regarding validation and verification activities on Emergency Operating Procedure (EOP) support procedures. Based on lack of rigorous validation and verification of EOP support procedures and lack of full review and consideration of the recommendations of the related QA audit, your ability to reliably implement the EOP support procedures was questioned.

DETAILS

1.0 PURPOSE OF INSPECTION

The primary objective was to ensure that the operations activities were conducted in a safe manner and in accordance with both regulatory requirements and licensee approved procedures. A secondary objective was to assess the effectiveness of the interface and support between operations and the other departments as these interactions occurred. This inspection was performed in accordance with Inspection Procedure 71715, "Sustained Control Room and Plant Observation."

2.0 SUMMARY OF PLANT ACTIVITIES

The plant was at 100% reactor power during the inspection period. The unit was conducting normal daily activities, such as maintenance and surveillance testing. The inspectors observed two operating crews respond to plant equipment malfunctions and several control room overhead annunciator alarms.

3.0 REVIEW OF FACILITY OPERATIONS

3.1 Scope

The inspectors spent most of the time in the control room observing plant operations. The observations were made during the day and afternoon shifts. The inspectors observed operations interface with maintenance, operator response to plant equipment malfunctions, shift turnovers, logkeeping, control room management, and performance of surveillance activities. The inspector also observed a nonlicensed operator performing plant rounds. Due to the general focus of this inspection, the criteria used were typically established in the facility procedures or in section 6 of technical specifications.

3.2 Control Room Observations

The control room atmosphere was generally acceptable for conduct of operator duties. The number of people in the control room at times was high but was promptly controlled by the Nuclear Control Operator (NCO).

All control room turnovers were professional, thorough and communicated the necessary information to ensure a smooth transition between operating crews.

The operators were consistently aware of the reasons for annunciators in the alarm condition. Operators were aware of the status of ongoing plant activities and surveillance testing. The operations management goal is that no annunciators are illuminated during steady state power operation. At the beginning and the end of the shift, the inspectors observed no annunciators illuminated. The only annunciators illuminated during the shift were those caused by planned testing, maintenance activities or due to equipment trouble.

Communication within the shift crew as well as at an interdepartmental level was adequate.

Narrative logs adequately reflected plant activities and status.

Operators were attentive and responsive to plant parameters and conditions. On one occasion the Nuclear Control Operator (NCO) identified a significant reduction in reactor feed pump oil pressure, which was subsequently determined to be an instrumentation problem.

The inspector observed the operators to routinely verify alarms and use the alarm response procedures (ARPs) for unexpected plant conditions. The operating crews used the ARPs to address a number of unexpected plant conditions including a trip of the "B" control rod drive (CRD) pump. Additionally, the NCO demonstrated positive control over control room activities by halting surveillance testing until the CRD pump trip was resolved.

The inspector noted appropriate use of procedures for the following evolutions: (1) swap of a running reactor building cooling pump; (2) swap of the running CRD pump; (3) standby gas treatment system startup and isolation of reactor building ventilation; (4) area radiation monitor functional trip test; and (5) average power range monitor calibration. Self-checking was evident during these evolutions.

The operators were aware of the licensed thermal power limitation and appropriately reduced power to compensate for upward trends.

The on-shift SROs and ROs were not involved with the pretest briefing conducted by the testing personnel prior to the initiation of the Containment Spray Logic Functional Test. This was a weakness in the control room activities. The operators were aware that the test was being conducted but were not immediately aware of the impact on the RHR status. Not including the operators in the briefing was significant since the surveillance test resulted in one RHR train incapable of either vessel injection or containment spray function. If a transient occurred that required use of RHR, the shift supervisor would have to direct use of the RHR train not in test. This issue is related to the item on TS LCO entry during surveillance testing (See next section). Had a TS LCO been entered, the operators would have been fully aware of the effect of the test on the RHR system.

3.3 Equipment Operability During Surveillance Testing

While reviewing surveillance activities, the inspector noted that licensed operators did not routinely enter technical specification (TS) limiting conditions for operation (LCOs), when the performance of a test rendered the equipment inoperable. NRC Generic Letter 91-18, entitled, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degrading and Nonconforming Conditions and Operability," states that, unless specifically prohibited, the TS LCO statement shall be entered when equipment is removed from service for surveillance testing and rendered incapable of performing its safety function. The inspector discussed this issue with the operations manager who observed that this

position was contrary to normal practices at FitzPatrick with the exception of containment isolation valve function testing. FitzPatrick used scheduling controls to limit the performance of TS-required surveillance that render systems inoperable.

While no specific regulatory or safety problems were observed during the inspection, the FitzPatrick operating philosophy could result in a technical specification violation or a safety concern for the following reasons. Compensatory actions required when a safety system function is inhibited may not be implemented, and TS required equipment may be left inoperable for greater than the allowed TS outage time if the appropriate TS LCO is not entered. Additionally, operators may unknowingly allow both trains of redundant, TS-required equipment to be rendered inoperable by allowing LCO-required maintenance to be performed on one train and a surveillance that inhibits the system safety function on the other train.

To implement the guidance provided in NRC Generic Letter 91-18 for all applicable cases, the licensee uses scheduling controls to limit the performance of TS-required surveillance that render systems inoperable. The licensee committed to review this issue and provide a written response of their position and basis within 30 days of the receipt of this report. This is considered to be an inspector followup item (333/94-03-01)

3.4 Nonlicensed Operator Rounds

The inspector observed the nonlicensed operator rounds activities in the reactor building. The non licensed operator completed the rounds in accordance with the reactor building rounds sheets. All appropriate data was obtained during the operator rounds. Local alarms were acknowledged appropriately in accordance with the local alarm response procedures. Control room personnel were informed of the local alarm conditions. Housekeeping activities, including replacement of oil drip mats, were performed by the nonlicensed operator. The rounds activities were conducted in accordance with ODSO-17, "Aux Operator Plant Tour and Operating Logs." The inspector noted a significant improvement in the housekeeping condition of the plant based on prior inspector site visits. No unacceptable conditions were noted.

3.5 Summary of Conclusions

The operators performed their duties safely, in accordance with NRC requirements, and in accordance with licensee-approved procedures. Overall, operators were professional, knowledgeable, and attentive maintaining their focus on safe plant operation.

A weakness was identified in that the facility procedures do not require the operators to enter technical specification (TS) limiting conditions for operation (LCOs), when the performance of a surveillance test rendered the equipment inoperable. Additionally, control room operators were not included in the surveillance test briefing for the containment spray logic functional test that rendered portions of the RHR system inoperable.

4.0 LICENSEE ACTIONS ON PREVIOUS INSPECTION FINDINGS

4.1 SCOPE

The inspectors reviewed licensee actions for previous inspection findings to determine the adequacy of the licensee actions.

4.2 (Closed) Unresolved Item (333/91-26-02): Licensed instructors take credit for attendance at simulator sessions that they taught or evaluated.

The facility licensee has ceased the practice of crediting licensed instructors with simulator sessions taught or evaluated. Licensed instructors attend simulator sessions as operators to comply with the requalification program requirements. Based on the curriculum status report of 1/24/94, all operators are current with the requalification program requirements. However some staff operators are currently in the 12 week window to complete a missed training segment as permitted in the requalification program. This item is closed.

4.3 (Closed) Unresolved Item (333/91-26-03): Missed nonlicensed operator instructor rounds observation.

The facility licensee procedure requires that once each shift cycle, (8 cycles per year) one of the nonlicensed operator instructors shall complete a rounds walkthrough with a nonlicensed operator. In the 1991 cycle, 9 rounds observations were completed. In the 1992 cycle, 10 rounds observations were completed. In the 1993 cycle, 23 rounds observations were completed. This is considerably beyond the 8 rounds observations required by the procedure. The inspector noted that no rounds observations were performed during Cycle 93-2. The facility licensee was keeping records of each nonlicensed operator observed to assure observation of all nonlicensed operators. Based on the performance of nonlicensed rounds observations over the last three years, this item is closed.

4.4 (Closed) Unresolved Item (333/92-08-01): Close out of simulator discrepancy report (DR-6421) and revision of procedure AOP-36.

The discrepancy report was issued for unstable mass, pressure and power response during certain Anticipated Transients Without Scram (ATWS) conditions. The facility licensee had modified the simulator model, tested the revised model and closed out the discrepancy report in December 17, 1992. No unstable response has occurred since the model has been revised and tested. Further, AOP 36, "Stuck Open Relief Valve," was revised to scram the reactor if the relief valve would not close and to initiate a normal shutdown if the relief valve was successfully reclosed. This item is closed.

4.5 (Closed) Unresolved Item (333/92-18-01): Procedures potentially requiring changes.

During the operating portion of a replacement examination, the examiners identified four procedures, which lacked clear guidance and potentially required changes. The four procedures and a summary of the problem are as follows:

1. Procedure OP-22, "Diesel Generator Emergency Power," does not provide consistent guidance for emergency diesel generator (EDG) loading for the condition when only one EDG is available for each emergency bus.
2. Indications of thermal hydraulic instability contained in AOP-8, "Loss of Reactor Coolant Flow," and AOP-62, "Loss of Feedwater Heating," are not consistent with RAP-7.3.16, "Plant Power Changes."
3. Procedure OP-19, "Reactor Core Isolation Cooling System," section/step E.1.3 does not provide clear guidance on which Reactor Core Isolation Cooling (RCIC) system valves should be closed when RCIC is in a standby lineup.
4. Procedure ST-11, "Off-Gas Rad Monitor Instrument Functional Test," does not contain a precaution or a note to alert operators that in the trip test mode, if the test setpoint is left static for 3 minutes the monitor will shift to the inoperable mode causing a channel trip. Also, the procedure does not provide remedial guidance if this inadvertent channel trip occurs.

The inspector reviewed the procedure changes made and determined that the inconsistencies were resolved and the affected sections of the procedures were made clearer. Based on the review of the procedure enhancements, this item is closed.

4.6 (Closed) Unresolved Item (333/92-18-02): Lack of sufficient guidance in EAP-18, "Protective Action Recommendations."

During the operating portion of a replacement examination, the examiners identified that emergency plan implementing procedure EAP-18, "Protective Action Recommendations," does not appear to provide sufficient guidance. The method to determine emergency response planning areas (ERPAs) is susceptible to nonconservative errors and could result in incorrect shelter and/or evacuation recommendations.

The inspector reviewed changes made to the emergency plan implementing procedures and noted that protective action recommendations guidance was moved to procedure EAP-4, "Dose Assessment Calculations." The facility has developed a flowchart and table for initial protective action recommendations. The revised guidance is acceptable and eliminates the previously identified inaccuracies in ERPA determination. Based on these procedure changes this item is closed.

4.7 (Closed) Inspector Followup Item (333/93-07-01): Temporary EOP changes and incorporation in EOPs.

Minor changes to EOPs were not incorporated into all controlled copies of the EOPs. The EOP procedure change process including distribution of revised EOPs was weak.

The inspector reviewed changes to the process for control and distribution of EOPs. The facility revised procedure AP-02.02, "Development of Emergency Operating Procedures" to include an independent process for temporary changes to the EOPs. This procedure adds additional controls, specifically verification and validation of temporary changes to the EOPs. The new procedure section also requires temporary changes to be marked on certain controlled copies of the EOPs. The inspector noted that, although previously-identified temporary changes had been incorporated in the Technical Support Center (TSC) and Emergency Operating Facility (EOF) EOP flowcharts, this was not required by the procedure. Subsequent to this inspection the facility revised procedure AP-02.02 to require temporary changes also be incorporated into TSC and EOF controlled copies. Based on the enhanced procedural controls for temporary changes to EOPs, this item is closed.

4.8 (Open) Inspector Followup Item (333/93-07-02): Verification and validation of EOP support procedures.

The licensee does not require that EOP support procedures receive the same verification and validation as EOP flowcharts. This issue was also identified by Quality Assurance (QA) audit 807, recommendation 3.

The inspector determined the facility did not revise the process for EOP verification and validation in response to the NRC concerns or the QA audit recommendation. The facility relies on both operating procedures (OP) and abnormal operating procedures (AOP) to function as EOP support procedures. These procedures are required to be validated in accordance with ODSO-35, "Procedure Validation." However, this procedure does not require many of the verification process attributes detailed in NUREG-1358, Supplement 1, "Lessons Learned from the Special Inspection Program for Emergency Operating Procedures." Since the EOP support procedures are an extension of the EOP flowcharts, they often contain the event mitigation strategy and should be given these additional reviews such as verification of technical adequacy against plant-specific technical guidelines.

The inspector noted that EOP support procedures AOP-38 "EOP Isolation/Interlock Overrides," and AOP-52 "Termination or Prevention of RPV Injection", with previously identified discrepancies, had been validated using ODSO-35 while several problems or discrepancies existed below.

The inspector identified additional EOP support procedure implementation problems with AOP-38, "EOP Isolation/Interlock Overrides," during observations of on the job training and additional procedure walkdowns with facility staff. The specific discrepancies and performance problems are as follows:

- Reactor water cleanup isolation jumper location (relay room panels 09-41 & 09-42) is not reasonably accessible. Electrical tape is used to insulate exposed terminals near the front of the cabinets to reduce the electrical shock hazard. Terminal board labels are obscured by wire bundles, labels are not readable without physically entering the cabinet. The terminal boards required for jumpering are located deep in a cabinet and blocked by cable bundles.
- Round head terminal screws and alligator clips are used for EOP support procedure implementation. Wire lugs do not consistently have an exposed area to fasten jumpers. This is the method that was previously demonstrated for securing EOP support procedure jumpers during NRC inspection 50-333/93-07.
- Two of the three nonlicensed operators did not use the prestaged, EOP support procedure jumpers near the panels. The operators used extra jumpers located in the work control area of the control room.
- Relay room prestaged jumpers are not specifically labeled.
- One shift supervisor and two nonlicensed operators, identified by the facility as those nonlicensed operators who would actually perform the task, were asked to walk through the bypass of the main steam isolation valve low level isolation. The inspector noted the use of magic marker labeling for terminal boards. The shift supervisor encountered difficulty due to the lack of exposed metal surface on the lug for attaching the alligator clip. When questioned by the inspector, the shift supervisor stated he would loosen the terminal screw to allow connecting the jumper.

In subsequent discussions, the inspector determined that the shift supervisor was not sure of the effect this would have on the circuit or if the jumper should be installed on the screw or wire lug. The first nonlicensed operator selected the wrong terminal board; and then, based on the level of difficulty in attaching jumpers, the operator identified an alternate location. The alternate connection point was the back of the associated relay, but this location was not addressed in the procedure and not in accordance with licensee expectations. The second nonlicensed operator successfully implemented the EOP support procedure; however, he did not use the prestaged jumpers.

The inspector concluded that, under the conditions and constraints described in the above listed examples, reasonable expectations for successful completion of a number of EOP support procedures did not exist. This conclusion was also supported by a number of facility

personnel statements when questioned by the inspector. The inspector could not determine one specific cause for the EOP support procedure implementation deficiencies; however, it appears that the lack of a rigorous verification and validation process is a primary contributor. Also the recommendations of the related QA audit apparently was not fully reviewed and considered.

The licensee committed to review their ability to implement EOP support procedures and to take appropriate action to resolve these issues. Subsequent to the inspection, facility management representatives informed the inspector, by phone, that training had been provided to nonlicensed operators and the unique EOP support procedure labeling of the jumper locations had been installed. Additionally, the licensee committed to provide a written response within 30 days of issuance of this report addressing the both short-term corrective actions and longer term EOP program enhancements. This item remains open pending a review of specific corrective actions and program enhancements (333/93-07-02).

4.9 Summary of Conclusions

The facility licensee actions on seven of eight previous inspection findings were sufficient to close the item. One previous inspection finding remains open due to lack of a rigorous verification and validation process of EOP support procedures and lack of full review and consideration of the recommendations of the related QA audit.

5.0 EXIT MEETING

An exit meeting was conducted on January 27, 1994. Personnel in attendance are listed below. The NRC presented the inspection related findings. The facility representatives acknowledged the NRC findings and agreed to formally respond to the NRC findings related to entry into technical specification limiting conditions for operation when performing surveillance activities and upgrade of EOP support procedures and equipment. The facility licensee did not indicate that proprietary information was disclosed during this inspection.

An inspector follow-up item is an area that requires further review and evaluation by the NRC staff. An unresolved item is an area in which more information is needed to determine if the item is acceptable, a deviation, or violation. Unresolved items are discussed in sections 4.2, 4.3, 4.4, 4.5 and 4.6. Inspector followup items are discussed in sections 3.3 and 4.7 and 4.8.

PERSONS CONTACTEDNew York Power Authority Personnel

- * F. Catella, Operations Training Supervisor
- * M. Colombs, General Manager-Support Systems
- * R. Converse, Sr. Assessment Engineer
- * F. Edler, Technical Services Manager
- * W. Hendrick, Operations Engineer
- * J. Hoddy, Licensing Engineer
- * R. Lawfon, QA Engineer
- * D. Lindsey, General Manager-Maintenance
- * R. Locy, Operations Manager
- * T. Pelton, Shift Supervisor
- * H. Salmon, Resident Manager
- ◊ D. Topley, Training Manager
- * A. Zaremba, Operations Review Manager

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- * A. Burritt, Operations Engineer
- * W. Cook, Senior Resident Inspector
- * D. Florek, Sr. Operations Engineer

The inspectors also held discussions with managers, supervisors and other licensee employees during the course of this inspection including operations, technical, quality assurance and administrative personnel.

*Denotes those present at the exit meeting on January 27, 1994.