U. S. Nuclear Regulatory Commission
Region I

Docket/Report: 50-333/92-06 License: DPR-59

Licensee: New York Power Authority
P. O. Box 41
Lycoming, New York 13039

Facility Name: James A. FitzPatrick Nuclear Power Plant (JAFNPP)

Inspection: March 23-26, 1992

Inspection At: Oswego and White Plains, New York

Inspectors: Tony Eckert 4/30/92
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Areas Inspected

James A. FitzPatrick Nuclear Power Plant emergency preparedness (EP), including: program changes; emergency facilities, equipment, instrumentation, and supplies; organization and management control; emergency response organization (ERO) training; staff knowledge and performance of duties; and independent reviews/audits.

Results

Overall, effective emergency preparedness (EP) program implementation was found, as was a proactive and productive licensee approach to EP considerations. Areas identified for further consideration included the apparent restrictiveness of some Emergency Action Level (EAL) criteria and the on-shift workload during the initial phase of fast-breaking emergency conditions.

DETAILS

1.0 Persons Contacted

The following licensee personnel were contacted.

*D. Ackley, Technical Training Supervisor
L. Andersen, Manager, Quality Assurance, White Plains Office
*N. Avrakotos, Assistant Planning Manger
R. Beedle, Executive Vice President, Nuclear Generation
*W. Berzins, Manager, Communications
*M. Colomb, General Manager, Support Services
*R. Converse, Resident Manager
B. Cosalito, Lead Auditor
C. Faison, Supervisor, Nuclear Emergency Preparedness
W. Josiger, Vice President, Nuclear Operations and Maintenance
W. Kelley, Manager, Radiological Health and Chemistry
*D. Lindsey, General Manager, Maintenance
*R. Liseno, General Manager, Operations
*K. Locy, Manager, Operations
*M. Prarie, Assistant Emergency Preparedness Coordinator
*A. Salemi, Director, Emergency Preparedness, Niagara Mohawk
*A. Zaremba, Emergency Preparedness Coordinator

The inspectors also interviewed and observed the actions of other licensee personnel.

*Denotes those present at the exit meeting held on March 26, 1992.

2.0 Operational Status of the Emergency Preparedness Program

2.1 Changes to the Emergency Preparedness (EP) Program

The inspectors reviewed changes made to the Emergency Plan and its Implementing Procedures (EPIPs) since the last EP inspection to determine if they adversely affected the licensee's overall state of EP and whether the changes had been appropriately reviewed, approved, and distributed. The inspectors found that those changes improved the program and did not decrease the effectiveness of the Emergency Plan.

Section 8.4.2 of the Emergency Plan required the Emergency Preparedness Coordinator (EPC) to insure that Letters of Agreement are reviewed and recertified on an annual basis. Letters of Agreement were reviewed by the inspectors. At the time of the inspection, the licensee had received all updated letters except one. The licensee stated that they will update Appendix C of the Emergency Plan when that last letter is received.

When all parties agree, the licensee will no longer provide the State of New York and Oswego County with 30-minute updates for Unusual Events declared due to 24-hour Limiting Conditions of Operations requiring a reactor shutdown. This change was initiated in response to a request from the State of New York and Oswego County. The licensee will continue to provide an initial notification and an event termination notification for these events.

A significant change was made to IAP-2, "Classification of Emergency Conditions," which contains the Emergency Action Level (EAL) scheme. Review of Revision 6 by NRC headquarters and regional personnel determined that there was no decrease in emergency preparedness effectiveness. The EAL changes made in Revision 6 adequately addressed the NRC concerns identified in item 50-333/90-15-01, and that item is closed.

The licensee recognized the need for an EAL Technical Basis Document. A decision on how best to develop it was in progress.

The licensee had revised their Evacuation Time Estimates to reflect new data as a result of the 1990 census. Additional planning concerning special events that draw a large transient population was underway in coordination with the surrounding counties.

The meteorological computer system was being evaluated for replacement with personal computers to enhance accuracy and reliability. The new system was in the testing phase and was scheduled for implementation in June 1992.

A modification was under development to enhance drill/exercise realism. The licensee was in the process of gaining the ability to drive the SPDS (Safety Parameters Display System) through software. That will allow creating real time status displays of plant parameters in the Emergency Response Facilities for drills/exercises. These changes will be evaluated in a subsequent inspection.

This program area was assessed as being effectively implemented.

2.2 Emergency Response Facilities (ERFs), Equipment, Instrumentation and Supplies

The inspectors toured the Control Room (CR), Operations Support Center (OSC), Technical Support Center (TSC), Emergency Operations Facility (EOF), and Headquarters Emergency Response Center to assess whether the facilities, equipment, supplies, and procedures were adequately maintained.

Review of the licensee's facility surveillance reports and discrepancy corrective action reports found them an effective means of insuring readiness. Also, the inspectors noted that the Meteorological Monitoring and Radiological Assessment System (MMRAS) was operable. The inspectors checked communications equipment in the ERFs and found the equipment operable. Ambulance and downwind survey kits were checked and found fully stocked and

ready. Inspected survey equipment designated for emergency preparedness use was within its calibration period. Current copies of the emergency plan and emergency plan implementing procedures were verified to be available in all ERFs.

The licensee had recently relocated the Radiological Protection (RP) Offices to the OSC to improve support to the OSC Manager. This change will be evaluated incident to normal review of the next NRC-observed exercise.

The licensee has committed resources towards improving a facility at the New York State Fairgrounds in Onondaga County for use as the reception center for Oswego County. During the JAFNPP August 7, 1991 exercise, the Federal Emergency Management Agency (FEMA) determined that changes made to the reception center were adequate to support emergency response activities.

The Technical Support Center is to become a dedicated facility upon completion of the new Administration Building and relocation of the OSC to the new Administration Building. That was scheduled for completion in 1993. Also, the licensee was planning to move the Joint News Center (JNC) from the McCrobie Building to a suitable location outside the plume exposure Emergency Planning Zone.

This program area was assessed as being effectively implemented, with notable improvement initiatives evident.

2.3 Organization and Management Control

The inspectors reviewed the emergency response organization and management control of the EP program to determine conformance with site and headquarters emergency response plans. Independent discussions were held with the Executive Vice President, Nuclear Generation; Vice President, Nuclear Generation; and other senior staff at the corporate White Plains Office (WPO). These individuals were familiar with their EP responsibilities, either through program support or maintaining qualification in the Emergency Response Organization. WPO EP staff provided scenario development for drills and exercises and assisted with State and local interfaces. Although there was no direct reportability or accountability by the site EP staff to the corporate office, WPO personnel appeared cognizant of site EP activities. One minor concern was identified: some EP job descriptions had not been revised since 1982. Review of the ERO staffing procedures indicated an ample number of trained personnel available to support response activities both on-site and at the WPO.

There has been a recent significant management reorganization. Three new senior management positions were created. Instead of reporting directly to the Resident Manager, the EPC was assigned to the staff of the General Manager, Support Services, who reported to the Resident Manager. This added management layer was implemented to reduce unnecessary burden on the Resident Manager. The licensee expected an overall benefit due to increased management attention to the program.

The site Emergency Preparedness Coordinator (EPC) was interviewed about ongoing EP program activities. The EPC reported to the General Manager, Site Support, and was assisted by two full-time EP staff. Site EP personnel appeared to receive good support from upper management and sufficient resources to maintain EP program readiness. In addition to effectively carrying out administration of the EP program, the EPC was proactive in ensuring that close coordination was maintained between EP personnel at the site and the WPO.

Three recent key EP staffing changes were noted. The site EPC and EP training instructor, both of whom had considerable EP experience, accepted new positions in the licensee's organization. Also, the General Manager, Site Support, was new to that position. These changes were made within a two-month period and were in effect at the conclusion of the inspection. Impact of the staff changes on EP will be assessed incident to routine inspection.

Qualification and requalification training was tracked in the Training Records Data Base. A hard copy was maintained showing the last requalification dates for all ERO personnel, allowing the Emergency Response Training Program Administrator (ERPTA) instructor to note when training was due. Individuals were required to receive all training every twelve plus or minus three months. Department managers were responsible for sending their subordinates to scheduled training. If a person missed training and failed to make-up the class within the grace period, that person was removed from the ERO until the training was successfully completed. The inspector noted that there were no personnel who had gone beyond their grace period for requalification. The ERO was fully staffed. The licensee had a goal to maintain three individuals in all positions. In practice, they were at least 3 deep in all positions.

This program area was assessed as being effectively implemented.

2.4 Training

The inspectors interviewed the ERTPA, reviewed key training procedures, lesson plans, tests, training reports, conducted interviews with selected individuals in the ERO, and conducted walk-through drills for four shifts (Detail 2.5).

Section 8 of the Emergency Plan and Indoctrination and Training Proced. 12, "Emergency Response Training," Revision 7, 1/14/92, established the requirements for EP training at JAFNPP. All training was conducted by the ERPTA instructor. Training was accomplished through classroom lectures, facility walk-throughs, and drills/exercises.

The inspector reviewed EP training requirements for the ERO. Besides General Employee Training, ERO personnel received Indoctrination for Essential Personnel (EP overview) and position-specific training. Both of these were provided as classroom lectures. Once these were completed, personnel were assigned to the ERO. There were no skill/performance training requirements for ERO assignment. There were no drill/exercise participation requirements for initial assignment to the ERO. Personnel could theoretically have assumed

their ERO position without having performed it during prior training. The licensee had addressed this, informally, by ensuring that personnel had sufficient experience before assuming a position during an event.

ERO members were not required to participate in drills/exercises to maintain ERO certification. However, that was a goal and a facility walk-through training session was required if drill/exercise participation had not been practicable.

The inspector reviewed the process used to update training materials after EPIPs were revised. In such cases, the ERPTA instructor initiated an Emergency Plan Procedure Change Tracking Form. That form noted the procedure change and explained the instructor's proposed changes to training materials. This was submitted to the EPC for approval. The revised training was then administered the next training cycle. This was deemed effective as the licensee conducts its annual emergency plan review around November/December, initiates changes to reflect new training in January/February, and commences the new training cycle in February.

Several lesson plans were selected and reviewed. The EPC had reviewed and approved changes to lesson plans via the Emergency Plan Procedure Change Tracking Form. All lesson plans reviewed were thorough, accurate, and properly approved and controlled.

The inspectors selected two EPCARs (emergency plan corrective action reports) on training issues which surfaced in the December 1990 annual exercise. These were resolved by incorporating findings into annual requalification training. Also, requalification lesson plans required coverage of all EPCARs from the previous year as well as current industry experience. No inadequacies were identified in this area.

Several training tests were reviewed. The ERPTA was the sole approval authority for all EP tests. For all topics, the ERPTA maintained two current tests on which 30% of the questions differed. In case of test failure, the ERPTA provided specialized remedial training if the score was 65-79%. A score below 65% required that initial training be repeated. The inspector reviewed all training reports for 1991 and 1992. These reports were properly completed and signed by the ERPTA. All tests and training reports were sent to Document Control to be recorded on microfiche. The inspector checked several archived exams and found them easily retrievable.

The inspectors interviewed five non-supervisory personnel from the ERO to check the knowledge gained from Essential Personnel training. Several questions taken from the lesson plan enabling objectives were asked. All personnel interviewed were familiar with the basic concepts of the emergency plan and their responsibilities within the ERO.

The licensee provided a three-hour classroom session on handling contaminated individuals to off-site medical and fire fighting personnel. Hospital personnel also received training on handling contaminated patients. The inspector reviewed copies of the signed training reports,

which were maintained by the licensee. Oswego County was responsible for training its own personnel. The County provided a copy of the yearly training schedule to the licensee, and the licensee periodically attended some of these sessions. On 12/17/91, the licensee had conducted an EP seminar for State and County personnel. Overall, off-site training was discrepancy free.

This program area was assessed as being effectively implemented.

2.5 Knowledge and Performance of Duties

In order to determine the effectiveness of response training administered to shift operating crews, walk-through scenarios testing severe accident conditions were conducted with selected shift members. Four shifts were tested in the TSC. Crew makeup included a Shift Supervisor, Assistant Shift Supervisor, a Control Room Communicator, and a Chemistry Technician.

Test scenarios were designed to test the ability of each shift to recognize and classify degraded plant conditions, make timely notifications to off-site authorities, assess radiological dose, and develop recommendations for protective actions. The scenario events were postulated to occur when additional ERO personnel were unavailable. Also, the scenarios were designed to simulate rapidly breaking events that were based on accident sequences that had been included in the operator training program. Two scenarios involved a LOCA into the torus air space with a loss of RHR and torus cooling. Two scenarios involved an unisolable HPCI steam line rupture. Each scenario had an additional preliminary event such as a stuck open Safety-Relief Valve or an anticipated transient without scram (ATWS). No two scenarios were identical, and each EAL selected was tested on two different shifts.

The Site Emergency Planning Coordinator and a representative from Operations Management were also present at the licensee's request and participated as members of the on-call augmentation staff when TSC activation would have occurred. During the walk-throughs, the inspectors identified the following items associated with the response of shift crews.

2.5.1 Classification of Events:

The operators demonstrated the capability to effectively use the Fitzpatrick EALs to classify events. The EAL procedure provided the operators with a simple flow chart to show the major event areas and refer to more detailed, plant specific indications on separate pages for specific, plant-referenced indications of the accident sequence. These indications were used to facilitate event classification.

The operators demonstrated the ability to use the flow chart and classify events in accordance with the IAP-2, Revision 6. On some scenarios, the operators identified plant-specific indication improvements or clarifications which could avoid difficult interpretations and confusion.

Several areas for improvement were identified. All shift supervisors stated that, while the EAL indications were helpful, they did not always cover all possible indications that could be present during certain accident sequences. In this regard, they believed that they should have more flexibility to use judgement to diagnose events instead of having to explicitly satisfy the detailed logic sequences in the EAL indications.

Some EAL indications were highly complex and required the operator to satisfy a complex chain of AND/OR gates in a logic diagram on one page and text on a second page. Shift Supervisors frequently found themselves shifting between the two pages in order to understand the exact combination of AND/OR gates that had to be satisfied. This activity was difficult and time consuming, and competed with EOP implementation for the Shift Supervisor's attention.

It was noted during the walk-throughs that some Shift Supervisors had different perceptions of barrier failures and accident diagnoses. For example, one supervisor indicated that a stuck open Safety-Relief Valve (SRV) was a steam line break and not a LOCA. Another supervisor indicated that secondary containment was a fission product barrier. However, the plant specific EAL indications in the classification procedure clarified these conditions and there was no incorrect classification.

Prior to the inspection, the operators had identified a number of improvements and clarifications that should be made to the EALs. The overall thrust of these improvements was toward simplification and human factors improvement. EAL improvements identified by the licensee were documented in their internal memorandum JEP-92-044 dated March 25, 1992.

Overall, this area met NRC requirements, and appropriate self-improvement initiatives were evident.

2.5.2 Protective Action Recommendations (PARs):

All shifts demonstrated the capability to select the optimum set of initial protective action recommendations at the General Emergency classification. However, two shift supervisors delayed the prompt transmission of the initial set of PARs to off-site authorities because they attempted to analyze a complex flow chart from NRC Information Notice 83-28, as reproduced in full in EAP-18. Many of the decision blocks in the flow chart required management level interpretations that appeared to be beyond the scope of a Shift Supervisor's role in accident mitigation. Determining whether the Shift Supervisor should have a simpler PAR selection procedure that will not require excessive time or difficult decision-making was classified as an area for improvement.

2.5.3 Notification of Off-site Authorities:

All shifts demonstrated the ability to complete the off-site notifications of State and local authorities within 15 minutes of the declaration of events and to update off-site authorities every 30 minutes or when conditions changed. Some minor problems were self-identified by the Shift Supervisors during the scenarios and were corrected immediately. No inadequacies were identified in this aspect.

2.5.4 Training Effectiveness:

Classification training for shift supervisors and site emergency coordinators was accomplished using the Emergency Planning staff and the License Operator Requalification Training Program. The simulator scenario bank for the License Operator Requalification Training (LORT) program was reviewed in preparation for the walk-through scenarios. During this review, the inspectors observed some classification discrepancies in the LORT scenario bank. No discrepancies in critical functions of specific LORT scenarios were noted, but potentially misleading training due to non-critical classification errors was identified as a concern. The EP staff had not reviewed the LORT scenario bank for classification accuracy after EAL revisions or for new/modified LORT scenarios. The adequacy of the interface between Training, Operations, and Emergency Preparedness is therefore unresolved and will be reviewed in a subsequent inspection (50-333/92-06-01).

2.6 Independent Reviews/Audits

Technical Specification 6.5.2.1 and 6.5.2.8 required an assessment of changes to the EP program. Section 8 of the Emergency Plan, "Maintaining Emergency Preparedness," required an annual audit of the Emergency Preparedness program. Site QA was responsible for auditing EP activities conducted in accordance with Technical Specifications. The Emergency Plan required that the QA Department audit the following activities: organization, training, facilities, emergency plan and procedures, equipment and resources, assessments and notifications, public information, and corrective action follow-up on at least a once-per-three-year basis. The site QA audits were made available to the corporate review team.

The annual 10 CFR 50.54(t) review was conducted by the corporate QA group. This review evaluated the adequacy of state and local interfaces, drills and exercises, and capabilities and procedures. The results of the 10 CFR 50.54(t) review of off-site interfaces was sent to the Oswego County Emergency Management Office and the New York State Emergency Management Office, as required, for 1990 and 1991. In addition, the licensee reviewed the EALs with the County and State, as required, for 1990 and 1991. Corporate audits were complete and thorough. No outstanding corporate QA issues were noted. Through discussions with auditors, corporate QA findings appeared to be adequately addressed by the

EP staff, but the 1990 and 1991 reports did not highlight previous report findings. The inspectors discussed this as an area for improvement with the auditors, who expressed the intention to provide more detail in future audit reports.

Site audits were conducted in accordance with two quality assurance procedures (QAPs). QAP 18.1, 11/25/87, Revision 2, "Quality Assurance Audit Program," established general requirements for the site QA audit program. QAP 18.2, 1/21/92, Revision 4, "Quality Surveillance Program," was utilized to establish audit activities concerning drills and exercises. The audit checklist was scenario objective-driven. The drill/exercise audit also included a critique evaluation. QA auditors insured that minor findings were satisfactorily identified in EPCARs (emergency plan corrective action reports) and were not placed within AQCRs (adverse quality corrective action reports).

The inspectors reviewed audits and surveillances conducted by the Site QA Department since the last inspection and concluded that the reports conformed to Quality Assurance Procedures. No ACQRs have been issued since the last inspection report. No recurring items were identified by the audits. The licensee audit teams concluded that an effective emergency preparedness program was being implemented. The inspectors reviewed audit checklists prepared by the QA department and found them good. The audit reports were submitted to the EPC and senior licensee management.

This program area was assessed as being effectively implemented.

2.7 Commitment Tracking

The licensee was maintaining three separate commitment tracking systems: AQCRs; ACTS (action/commitment tracking system); and EPCARs.

AQCRs were issued for significant deficiencies. These items received high visibility and management attention through review by the Resident Manager and Corporate Vice Presidents. The QA Superintendent was responsible for review and approval of resolution due date extension requests. The responsibility for review and approval of new AQCRs and closeout of completed AQCRs resided within the QA Department. One item specific to EP from a 1989 QA audit concerning dose assessment for an un-monitored release pathway was outstanding in this system. The EPC had planned to close this item due to the ERO's response to the Unusual Event on March 18, 1991; this actual event involved an un-monitored release to the environment. An NRC Augmented Inspection team had concluded that dose assessment for this event was capably performed. However, QA decided not to close this item until an actual licensee drill with an un-monitored release pathway had been successfully conducted. The EPC planned a drill for an un-monitored release pathway in 1992.

ACTS was the station commitment tracking system. The General Manager-Support Services was responsible for maintenance of this system. Items within ACTS were reviewed every Friday by the Resident Manager and the three General Managers. Every third Friday, the Resident Manager held a performance review of overdue items. The General Manager-Site Support Services closed out items with the concurrence of the other General Managers.

The EPC entered FEMA draft findings into EPCARs upon issuance of a FEMA draft report. Upon final report issuance, the EPC entered FEMA deficiencies and ARCAs (areas requiring corrective action) into ACTS. This EPCAR system was unique to the EP Department. All items within ACTS were also maintained in the EPCAR system. EPCARs were prepared by the EPC and reviewed and approved by the General Manager-Support Services and the Plant Operations Review Committee (PORC) for placement within ACTS. Generally, ACTS tracking was used when resolution required resources outside of the EP department. Upon review and approval, EPCARs were assigned to an individual responsible for their resolution. That action addressee was required to resolve the problem and forward the completed EPCAR to the EPC for review and closeout. To facilitate root cause analyses, the EPC separated EPCARs into 5 categories: procedures, equipment, training, scenarios, and personnel. The status and resolution of EPCARs were reviewed in QA audits.

The inspectors reviewed the licensee's commitment tracking systems. The EPC showed the inspector the status of concerns noted from the December 1990 and August 1991 annual exercises. Items noted from the December 1990 exercise have been resolved. Several items from the August 1991 exercise required long-term corrective actions (e.g., training issues) and, therefore, await resolution and closeout. The inspectors determined that deficiencies concerning EP were being properly reviewed and received appropriate corrective action.

This program area was assessed as being effectively implemented.

2.8 Drill and Exercise Program

Section 8.3 of the Emergency Plan and Supplementary Action Procedure (SAP) 3, "Emergency Communications Testing," established guidance and responsibilities for communications tests. The inspectors reviewed documentation concerning the conduct and results of these tests and concluded that these activities conformed to the emergency plan and its implementing procedures.

Section 8.3 of the Emergency Plan designated the EPC as cognizant for the development, coordination, and conduct of drills and exercises (except for fire fighting drills, which were the responsibility of the Fire Protection Supervisor). The Emergency Plan required that the JAFNPP conduct the annual exercise and the following drills: medical emergency (annual), radiological monitoring (annual), and radiological protection (semi-annual). The EPC maintained a rolling five-year objective matrix to insure that all of the sixteen planning standard criteria of NUREG-0654 were being tested. Section 8.3.3 of the Emergency Plan, "Drill and Exercise Scenario Preparation Responsibilities," stated that scenario preparation

shall be conducted by a formal committee and documented by memorandum by the EPC. The licensee implemented this by holding a scenario development committee meeting early in the year. That committee reviewed the draft drill/exercise objectives and schedule and then assigned members to scenario development. SAP-1, "Maintaining Emergency Preparedness," provided further instruction on assignments for scenario development. The EPC and a PORC member (SRO qualified) were responsible for review of the completed package. The EPC was currently reviewing Section 8 of the plan and SAP-1 for improvements in drill/exercise program administration.

The licensee had also implemented improvements to drill/exercise program administration, but had not changed procedures to fully reflect the way business was being conducted. This was assessed as a minor discrepancy.

The inspectors reviewed the drill/exercise scenario development process for the drills and exercises conducted in 1990 and 1991 and found it to be good. As noted above, EPCARs were categorized for facilitation of root cause analysis. The 1991 EPCARs were categorized and were to be used to emphasize areas in which improvement is needed through inclusion in drill/exercise objectives. Drills and exercises conducted met the emergency plan requirements for 1990 and 1991. Drill records for 1990 and 1991 were found to be complete. Drills/exercises conducted by the licensee provided varied challenges to the ERO. The EPC had plans to conduct integrated drills on a quarterly basis in the future.

Implementation of this program area was assessed as good.

2.9 Actual Events

The inspectors reviewed logs of events occurring since the last inspection. A concern was identified with notifications to off-site authorities for the November 27, 1991 Unusual Event. The procedurally specified formal 15-minute notification from the control room per EAP 1.1, "Offsite Notifications," via the Radiological Emergency Communications System (RECS) was not made. However, the site EPC was aware that the Unusual Event would be declared and notified Oswego County and New York State within 15 minutes. The EPC call satisfied the 10 CFR 50.72 requirement for 15-minute event notification. On-shift ability to readily perform all tasks in a fast-breaking emergency response was, however, identified for further consideration (IFI 50-333/92-06-02).

3.0 Exit Meeting

The inspectors met with the licensee personnel denoted in Section 1 at the conclusion of the inspection to discuss the inspection scope and findings. The licensee acknowledged the findings and stated their intention to evaluate them and institute corrective actions as appropriate.