# U. S. Nuclear Regulatory Commission Region I

Docket/Report:	50-333/92-22	
Licensee:	New York Power Authority (NYPA)	
Facility Name:	James A FitzPatrick Nuclear Power Plant (JAFNPP)	
Inspection:	December 1-3, 1992	
Inspection At:	Fulton and Lycoming, New York	
Inspectors:	L. Eckert, Emergency Preparedness Specialist J. Tappert, Resident Inspector W. Cook, Senior Resident Inspector W. Schmidt, Senior Resident Inspector (Nine Mile Po	$\frac{12/n/92}{\text{date}}$
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Approved:

Ele C. Male

E. McCabe, Chief, Emergency Preparedness Section, Division of Radiation Safety and Safeguards

12/14/92

date

Routine, announced emergency preparedness (EP) inspection and observation of the annual, partial-participation exercise.

Scope

#### Results

Performance demonstrated the ability to protect public health and safety under an appropriately challenging scenario. Although no exercise strengths were identified, the JAFNPP Emergency Plan was well implemented. Additionally, scenario information was excellently presented, and the level of detail provided by the scenario showed very good attention to detail. However, slow dispatch of the initial and highest priority on-site assessment team was an exercise weakness.

#### 1.0 Persons Contacted

The following individuals attended the exit meeting on December 3, 1992.

B. Baker, Senior Technical Advisor

B. Barrett, General Manager, Operations

W. Bennet, Quality Assurance (Contractor)

W. Berzins, Manager, Communications

P. Brozenich, Assistant Manager, Operations

H. Buiniskis, Electrical Supervisor

M. Colomb, General Manager, Support

E. Corrigan, Public Information Systems

J. DeRoy, Manager, Maintenance

J. Erkan, Supervisor, Project Engineering

M. Farley, Computer software Specialist

C. Fiason, Supervisory Engineer Emergency Preparedness

I. Fine, Public Information Specialist

J. Flaherty, Planning Manager

G. Fronk, Nuclear Training Specialist

B. Grandy, Electrical Supervisor

R. Heath, Supervisor, Fire Protection

R. Hladik, Systems Engineer

M. Hogan, Supervisor, I&C

A. Hogevoll, Chemistry Systems Trainer

J. Kelly, Manager, Radiological and Chemistry

D. Kieper, Manager, I&C

T. Landers, Manager, Warehouse an Procurement

D. Lindsey, General Manager Maintenance

B. Lonberger, Electrical Gen Supervisor

G. MacCammon, Security Shift Coordinator

K. Moody, Manager, Configuration Management

M. Mozzor, Nuclear Emergency Preparedness Engineer

E. Mulcahey, Senior Technical Advisor

C. Patrick, Nuclear Communications Manager (WPO)

K. Peper, Radiological Engineer

K. Phy, Scheduling Engineer

J. Prokop, Quality Assurance Auditor

J. Rogers, Computer Manager

J. Romanowski, Simulator Manager

H. Salmon, Resident Manager

T. Teitke, Manger, Security and Safety

J. Warner, Operations Specialist

A. Zaremba, Manager, Operation Review Group

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

# 2.0 Emergency Exercise

The James A. FitzPatrick Nuclear Power Plant conducted a partial-participation exercise on December 2, 1992, from 2:00 a.m. to 8:00 a.m. Oswego County participated to the extent of sending a representative to the EOF and making decisions regarding protective actions. The State of New York's participation was limited to Radiological Emergency Communications System communications. Off-site activities were not inspected.

# 2.1 Pre-exercise Activities and Scenario Development

# 2.1.1 Objective Submittal and NRC Review

Exercise objectives were submitted to NRC Region I on August 31, 1992. After review of the objectives and discussion with the licensee, the inspectors found the objectives acceptable. In general, the objectives provided focus in evaluating player performance.

# 2.1.2 Scenario Submittal and NRC Review

The complete scenario package was submitted to the NRC on September 30, 1992. Following NRC review of the submitted scenario, Region I representatives had telephone conversations with the licensee's emergency preparedness staff. Minor revisions were made to the scenario, which provided an appropriately challenging test of the major portions of the Emergency Plan and Implementing Procedures. Also, the scenario allowed the licensee to demonstrate areas previously identified by the NRC as needing corrective action.

# 2.1.3 Scenario Briefing

NRC observers attended a December 1, 1992 licensee briefing on the revised scenario. The licensee stated that certain emergency response activities would be simulated and that controllers would intercede in exercise activities to prevent disrupting normal plant activities.

Licensee representatives provided the following information at the scenario briefing.

- Exercise Objectives were announced with the exception of those for which announcement could adversely affect response assessment (e.g., injured personnel response).
- Emergency responders were pre-briefed on exercise rules.
- The exercise start time was not announced.
- Control room play would be by the table-top method by an off-shift crew pre-stationed in the Shift Supervisor's office.
- The pre-staged crew was directed to maintain the exercise start time confidential.

#### 2.1.4 Pre-exercise Activities Summary

In summary, the scenario provided an appropriately challenging test of the JAFNPP Emergency Response Organization's (ERO's) ability to respond to a Loss of Coolant Accident (LOCA). Several success pathways were included to allow the operators to mitigate events through effective response actions.

The lack of significant data discrepancies and level of provided detail showed good attention to detail in scenario development. Scenario information was excellently presented.

# 2.2 Exercise Scenario

The scenario included the following simulated events.

- A spent fuel bundle dropped into the spent fuel pool during fuel moves led to an Alert {Emergency Action Level (EAL) Category 11: Fuel handling accident}.
- A spent fuel pump tripped. The other spent fuel pump was out-of-service for preventive maintenance.
- Power was lost in the Emergency Operations Facility.
- An injury requiring off-site medical assistance occurred.
- The drywell floor drain valve closed.
- A leak developed on the inner spent fuel pool gate.
- Generator load reject followed by a turbine trip and reactor scram. The reactor pressure spike caused a release of the gap activity to the reactor coolant.
- High Main Steam Line (MSL) monitors readings led to a Group I isolation. Reactor water level dropped below 177" leading to a Group II isolation and High Pressure Coolant Injection (HPCI) manual initiation. Standby Gas Treatment (SBGT) train "B" failed to start. Automatic Depressurization System (ADS) control power was lost (manual control was still possible).
- A High Pressure Coolant Injection (HPCI) steam line break led to a Site Area Emergency (EAL Category 3: Steam line break without isolation). That led to a filtered and monitored release through SBGT.
- A General Emergency (EAL Category 2: Loss of 2 of 3 fission product barriers with potential loss of the third).

- Bomb threat received concerning the screenhouse.
- Exercise termination.

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## 2.3 Activities Observed

The NRC observed the activation and augmentation of the Emergency Response Facilities and actions of the Emergency Response Organization staff. The following were observed:

- 1. Selection and use of control room procedures.
- 2. Detection, classification, and assessment of scenario events.
- 3. Direction and coordination of emergency response.
- 4. Notification of licensee personnel and off-site agencies.
- 5. Communications/information flow and record keeping.
- 6. Off-site radiological dose assessment and protective action recommendations.
- 7. Provisions for in-plant radiation protection.
- 8. Provisions for communicating information to the public.
- 9. Accident analysis and mitigation.
- 10. Accountability of personnel.
- 11. Post-exercise critique by the licensee.

## 3.0 Exercise Finding Classifications

Emergency preparedness exercise findings were classified as follows.

**Exercise Strength:** A strong positive indicator of the licensee's ability to cope with abnormal plant conditions and implement the Emergency Plan.

Exercise Weakness: Less than effective Emergency Plan implementation which does not, alone, constitute overall response inadequacy.

Areas for Improvement: An aspect which did not significantly detract from the licensee's response, but which merits licensee evaluation for corrective action.

## 4.0 Exercise Observations

The NRC team noted that the licensee's activation and use of the Emergency Response Organization (ERO) and Emergency Facilities was generally consistent with the Emergency Plan and Emergency Plan Implementing Procedures.

# 4.1 Drill/Exercise Control

This was the first time the licensee used their new and dedicated microcomputer in an NRCobserved exercise. Previously, drill/exercise data display to support Emergency Response Facility functions were performed by the Emergency and Plant Information Computer (EPIC) computer system. The EPIC operating system shell has been moved to the microcomputer. The combined microcomputer-EPIC system has been named Drill and Exercise Simulation and Training System (DESTINY). Thermal-hydraulic modeling difficulties (e.g. valve position) necessitated a controller-EPIC operator communication network. The EPIC operators changed model parameters in accordance with operator actions.

Overall, the lack of significant exercise control discrepancies showed good attention to detail in scenario development and prediction of player responses. Also, the DESTINY system was a substantial improvement in the provision of live-time data to drill/exercise players.

## 4.2 Overall Observations

- Recognition of Emergency Action Levels (EALs), their declaration, and notifications to
  off-site response organizations were timely and appropriate.
- New York State Radiological Emergency Communication System (RECS) data forms were completed in the Control Room, Technical Support Center, and Emergency Operations Facility. No RECS message discrepancies were noted.
- Positive participation of the Resident Manager in the December 3, 1992 exit meeting was indicative of senior management's commitment to improve the JAFNPP EP program. Additionally, this individual participated as the exercise Emergency Director.
- Logkeeping was good.

# 4.3 Control Room (CR)

Communications in and generated by the CR (Shift Supervisor's Office) were good. The CR staff (shift supervisor, assistant shift supervisor, shift engineer, senior nuclear operator, nuclear control operator, communicator, and logkeeper) consistently used formal direct communication with good acknowledgments and repeat-backs of information when appropriate.

The Emergency Director (ED) turnover between the Shift Supervisor (SS) and the Resident Manager was good. The review of the sequence of events, current plant conditions, activities in progress, and emergency response staffing was thorough.

Shift crew teamwork was good. All crew members remained cognizant of their individual emergency response duties and responsibilities and worked well together to address the drill scenario challenges. Specific CR emergency response actions were properly executed. On several occasions shift members reminded the shift supervisor or others of responsibilities which needed their prompt attention. The shift supervisor gave frequent shift briefs to keep all crew members appraised of plant conditions, developing concerns, and potential problems.

Involvement of the Operations Manager, Assistant Operations Manager, and additional licensed operators provided enhanced defense-in-depth plant assessment and decision making. Their involvement was constructive and supportive and was not distracting and/or burdensome to the shift crew.

Information on the bomb threat was provided to the NRC, New York State, and Oswego County. The RECS message containing the pertinent information was approved by the EOF ED at 0723; this message was initiated at 0726.

Upon notification of the bomb threat, the shift crew was slow to implement the applicable response procedures. Specifically, the shift supervisor appeared to be most familiar with the Security Plan implementing procedures and personally had to breakout the Plan and identify the response requirements. The other crew members did not appear to be familiar with the actions necessary to address this type of operational threat.

No exercise strengths or exercise weaknesses were identified. The following area for improvement was identified.

Training in initiating implementation of the Security Plan.

# 4.4 Technical Support Center (TSC)

TSC manning was acceptable; the TSC was manned at 0330, 65 minute after the Alert declaration. Good command and control was exhibited. The TSC Manager ensured that TSC staff remained cognizant on events, planned actions, and priorities. Periodically, TSC management provided a status to all TSC personnel of the activities for which they were responsible. Communications with the CR and Operational Support Center were good (SROs were used as communicators). Unnecessary personnel were asked to leave the TSC on several occasions.

TSC personnel were slow to understand that there was a high radiation isolation of the Main Steam lines following the reactor scram. This inhibited the upgrade in classification to a General Emergency.

NUREG-0654 provides the following guidance concerning accountability: "Each licensee hall provide for a capability to account for all individuals onsite at the time of the emergency and ascertain the names of missing individuals within 30 minutes of the start of an emergency and account for all onsite individuals continuously thereafter."

NRC Inspection Procedure 82301 further defined NRC's position concerning accountability. Step 03.03.b.1.(e) defines "emergency" as a Site Area Emergency or General Emergency.

- 0225 The Alert was declared.
- 0351 Restricted Area evacuation initiated.
- 0404 Accountability was initiated.
- 0423 Phase 1 of accountability was completed (names of missing individuals acquired).
- 0444 Fhase 2 of accountability was completed (all missing individuals found).
- 0516 HPCI steam line broke.
- 0521 A Site Area Emergency was declared.

In summary, sampling review of exercise documentation found compliance with existing NRC guidance on accountability timeliness.

No exercise strengths, exercise weaknesses, or areas for improvement were identified.

# 4.5 Operational Support Center (OSC)

Communications were generally good (a SRO was utilized as a communicator). Post-Accident Sampling System (PASS) sampling was conducted professionally and was completed in 3 hours. However, the data sheet was not completed and turned over with the sample as procedurally directed. An actual 115 KV breaker trip was handled well by the OSC; teams were dispatched to investigate in conjunction with drill play.

The following was applicable to the initial and highest priority assessment team.

- 0225 The Alert was declared and the ED directed that the OSC be activated.
- 0247 OSC notified of loss of Spent Fuel Pool (SFP) cooling.
- 0255 The OSC received the Control Room (CR) directive to investigate the loss of SFP cooling (pump, breaker) and check the fuel pool liner tell-tale drain as the highest priority task (Team 1).
- 0309 The OSC Manager arrived.
- 0324 The Radiation Protection Supervisor arrived and the OSC was considered manned. The CR directed the OSC to check SFP water level.
- 0333 OSC management decided to add an electrician and a mechanic to the team {which had consisted of an operator and a Health Physics (HP) technician}.
- 0357 OSC management decided to change Team 1's task to include repair of SFP Cooling Pump "B."
- 0405 Team 1 was dispatched as indicated on the OSC status board.

- 0424 The OSC was notified that an individual had been injured in the Radiation Protection hallway.
- 0440 The OSC discovered that the injured man was the Team 1 HP technician and that Team 1 had not entered the reactor building.
- 0445 Injured man was removed. Team 1's work scope was again modified, through a briefing, to include restoring water level in the SFP. A radio was sent from the OSC to Team 1 prior to Reactor Building entry.
- 0505 Team 1 reached the SFP level. Radio communications were not established.

In summary, it took over two hours for Team 1 to reach its work location after the directive to investigate the loss of SFP cooling was received.

No exercise strengths were identified. The following exercise weakness was identified.

 Slow dispatch of the initial and highest priority on-site assessment team (IFI 50-333/92-22-01).

No areas for improvement were identified.

## 4.6 Emergency Operations Facility (EOF)

The EOF was manned by 0340. Access control did not result in undue delay in facility access. EOF command and control by the EOF Manager was good. The ED arrived at 0540. Shift of command and control to the EOF was orderly. Information flow between senior EOF management and the Oswego County representative was accurate and timely throughout the exercise. The content of media releases was reviewed by senior EOF staff prior to being forwarded to the Media Center.

The EOF loss of power was handled well. For example, the Meteorological Monitoring and Radiological Assessment System (MMRAS) was lost in the EOF. The lead for dose assessment remained at the TSC and efforts were initiated to move MMRAS to the Oswego County EOC (that step was prevented by the exercise controllers; it would not have affected demonstration of exercise objectives). EOF power was restored at 0420. The lead for dose assessment shifted to the EOF at 0426. Additionally, it was decided that the ED should remain in the TSC until power was restored in the EOF. That was assessed as an appropriate action.

Media Release #1, issued at 0352, provided information that an Alert had been declared and stated that "There was no release of radioactive material to the environment as a result of this incident." However, the dropped fuel assembly led to a small simulated release of about 0.05 Ci/second, after SBGT processing, for about 2 hours and fifteen minutes (well within the Technical Specification release rate of 0.629 Ci/second). It would have been correct to state that the off-site field monitoring teams were finding background radiation only.

Media Release #4, issued at 0507, stated that the reactor "shut down automatically early Wednesday because of problems with the plant's turbine." This could have been clarified. In this case, a generator load reject was followed by the turbine trip which led to a reactor scram. The scenario provided no turbine problems. Additionally, this media release stated that "In an unrelated manner, a Power Authority employee was injured while responding to problems with a pump that supplies cooling water to the fuel pool." While it was true that the injury was not related to the reactor scram, it was related to the highest priority concern at this time in the exercise. "In an unrelated manner" was therefore potentially misleading and could have been removed. These were minor discrepancies.

Media Release #5, issued at 0545, provided information that a Site Area Emergency (SAE) had been declared and stated that "Two teams of workers have been sent offsite to monitor for release of radioactive material to the environment. The teams were reporting background levels at locations southeast of the plant." It was then known that there was a new release of more than 1 Ci/second after SBGT processing (greater than the Technical Specification release rate of 0.629 Ci/second). It would have been more accurate to state that a minor release was in progress and place that release in perspective by describing the off-site field monitoring team measurements (only background radiation was being detected). It could also have been helpful to press release recipients if the press release had noted that a SAE is only appropriate if there are no significant radiation fields except on or very close to the site, and that the licensee and State were closely reviewing conditions to take early action if indicators of further degradation of conditions arose. The severity of the release was well characterized in Media Release #7, which was issued at 0651, and in Media Release #9, which was issued at 0800.

Media Release #6, issued at 0622, stated that a General Emergency was declared "because of problems with two of the three barriers designed to hold radioactive materials within the plant." This declaration was actually based on loss of two of three fission product barriers with potential loss of the third. Stating that there were "problems" with two of the fission product barriers downplayed the situation. This Media Release then provided more information on the status of the Reactor Coolant System (RCS) and Containment fission product barriers. The actual loss of the Containment barrier was clarified; loss of the RCS barrier was not. No mention was made concerning the third fission product barrier (the fuel clad) that TSC and EOF management felt was threatened or lost.

The Media Releases also did not provide the time at which events were declared (Alert, Site Area Emergency, and General Emergency). In summary, better information control could be beneficial to public perception of the nature of events and to licensee credibility with the public.

The licensee provided a Protective Action Recommendation (PAR) to evacuate waterway Emergency Response Planning Areas (ERPAs). This PAR was provided after Oswego County implemented an action of evacuating these ERPAs. Projected doses in these ERPAs were orders of magnitude less than the Environmental Protection Agency Protective Action Guide lower limit (1 Rem). Additionally, this recommendation did not follow the direction provided by licensee

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procedural guidance contained in EAP-18, "Protective Action Recommendations," in Form 18.5, "Waterborne Worksheet."

No exercise strengths or exercise weaknesses were identified. The following areas for improvement were identified.

- Press release provision of a better reader perspective (See Detail 5.0 for a similar NRC finding from the previous annual exercise.).
- PARs were modified to match county Protective Actions rather than making PARs based on risk assessment.

#### 5.0 Licensee Action on Previously Identified Items

With the exception of the Joint News Center, the following areas for improvement identified during the previous annual emergency exercise (Inspection Report No. 50-333/91-13) were acceptably demonstrated and not repeated:

Overall

- Use of status boards
- Logbook entries

Control Room (Shift Supervisor's Office)

- Crew briefs not held
- Participation of additional licensed personnel over the normal shift complement during the beginning of the drill/exercise

Emergency Operations Facility

- Provision of information to the Joint News Center
- RECS form review
- Command and control concerning EOF activation
- Licensee-Oswego County resource pooling

Joint News Center

 Placing radiation releases in perspective during press briefings (The current concern over press releases was a minor one which indicated the need to continue to improve performance in this aspect.).

#### 6.0 Licensee Critique and Exit Meeting

The NRC team attended the licensee's exercise critique on December 3, 1992. Licensee lead controllers discussed their observations. The licensee's critique was constructive and provided a good self-examination. In general, items in need of corrective action were identified. The licensee critique identified most of the concerns noted by the NRC inspection team.

Additionally, the licensee critique provided a preliminary characterization of the relative importance of the identified items. This preliminary assessment on finding significance aided licensee management and the NRC in their assessment of exercise performance.

Following the licensee critique, the inspectors met with the licensee personnel listed in Detail 1.0 to discuss the inspection scope and findings. OSC team dispatching was discussed and characterized as a potential exercise weakness. The areas for improvement identified by the inspection team were discussed. The licensee acknowledged the findings and stated their intention to correct the discrepancies as appropriate.