U. S. Nuclear Regulatory Commission
Region I

Docket/Report: 50-220/92-27; 50-410/92-31 Licenses: DPR-63 and NPF-54

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility Name: Nine Mile Point Nuclear Station Units 1 & 2

Inspection: November 03 - 05, 1992

Inspection At: Scriba, New York

Inspectors: _____ 12/3/92
J. Lusher, Emergency Preparedness Specialist date
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Approved: _____ 12/3/92
For E. McCabe, Chief, Emergency Preparedness Section date
Division of Radiation Safety and Safeguards

Areas Inspected

The licensee's annual, partial-participation emergency preparedness (EP) exercise.

Results

Exercise performance showed the ability to protect public health and safety. No exercise strengths were identified. Timeliness of issuing a Protective Action Recommendation (PAR) upon declaration of the General Emergency (GE) was an exercise weakness. Areas for improvement included: inadvertent, early staffing of Emergency Response Facilities, the scenario precluding certain emergency actions of control room operators, a lack of coordination between the Technical Data Coordinator and Radiological Manager to determine release pathways and fuel damage assessment, and damage control team briefing and dispatch.

DETAILS

1.0 Persons Contacted

The following individuals were contacted.

S. Austin, Instructor, Emergency Preparedness
C. Beniti, Senior Instructor, Emergency Preparedness
J. Benson, Drill Coordinator, Emergency Preparedness
N. Carns, Vice President, Nuclear Generation
P. Carroll, General Supervisor, Operations Security
G. Corell, Chemistry Manager, Unit 1
K. Dahlberg, Plant Manager, Unit 1
P. Hartnett, Director, EP Programs
E. Kaish, Manager, Emergency Preparedness/Communications
J. Kaminski, Program Director, Drills/Exercises
J. Perry, Vice President, QA
N. Rademacher, Operations Manager, Unit 1
A. Salemi, Director, Emergency Preparedness
R. Sanaker, General Supervisor, Operations Training, Unit 1
R. Seifried, Supervisor Operations, Unit 1
R. Tessier, Maintenance Manager, Unit 1
B. Thomson, Radiological Protection Manager, Unit 1

The inspectors also interviewed and/or observed other licensee personnel performing their emergency response duties.

2.0 Emergency Exercise

A partial-participation emergency exercise was conducted at the Nine Mile Point Nuclear Station on November 4, 1992 from 0800 to 1500.

2.1 Scenario Planning

Exercise objectives were submitted to NRC Region I on May 5, 1992. The completed scenario package was submitted to the NRC on September 1, 1992. Subsequently, NRC Region I reviewers discussed scenario improvements with the licensee's emergency preparedness (EP) staff. The scenario, as implemented, adequately tested the major portions of the Emergency Plan and Implementing Procedures, and also provided for demonstration of areas previously identified by the NRC as in need of corrective action.

On November 3, 1992, NRC observers attended a 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 plant activities.

2.2 Exercise Scenario

The scenario included the following simulated events:

- Tripping of Motor Generator Set 141 caused loss of feed-water heating, resulting in an increase in reactor power and causing minor fuel damage.
- Failure of South Off-Site Transformer T101S resulted in loss of 115 KV off-site power to Unit 1, initiating an Unusual Event declaration per Emergency Preparedness Implementing Procedure EPIP-EPP-01, Figure 1.
- Emergency Diesel Generator EDG-103 tripped due to loss of cooling caused by a jacket water cooling system rupture.
- Main Steam Isolation Valve MSIV-121 lost power due to loss of Power Board 17B.
- A fire fueled by spilled lubricant in the EDG-103 room causing initiation of the fire suppression system. This required an Alert classification (a confirmed fire affecting EDG-103 operation).
- Cross-Tie Breaker 17B failure.
- Increase in levels of main steam line and Turbine Building area radiation monitors.
- Main Steam Isolation Valve MSIV-122 lost valve stem packing. Area temperature exceeded 200°F, causing an MSIV closure signal, turbine trip, and a reactor scram.
- MSIV-122 failed to close due to mechanical binding of damaged valve stem packing, causing a radioactive release to the Turbine Building. That required a Site Area Emergency declaration on the loss of Primary Containment integrity resulting from an unisolable primary system discharge outside containment.
- A monitored release of radioactive material to the environment began from Turbine Building ventilation through the main off-gas stack.
- EDG-103 return to service allowed MSIV-121 closure and release termination.

- Event termination followed by recovery discussion.

2.3 Activities Observed

The NRC inspection team observed the following:

1. Selection and use of control room procedures.
2. Detection, classification, and assessment of 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. Assessment and projection of off-site radiological doses.
7. Consideration of protective actions.
8. Provisions for in-plant radiation protection.
9. Provisions for communicating information to the public.
10. Accident analysis and mitigation.
11. Personnel accountability.
12. The licensee's post-exercise critique.

2.4 Exercise Finding Classifications

Inspection findings were classified, where appropriate, 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 did not, alone, constitute overall response inadequacy.

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

2.5 Exercise Observations

Emergency Response Organization (ERO) and Emergency Response Facility (ERF) activation and use were generally consistent with the Emergency Plan and Emergency Plan Implementing Procedures (EPIPs). The following observations were made in the ERFs.

2.5.1 Overall ERF Observations

There was good teamwork in the recognition, anticipation, and mitigation of adverse plant conditions. Good command and control were displayed by all emergency facility managers. Personnel were aware of their responsibility in the on-site accountability process. However, crafts and other personnel were observed responding earlier than expected (during the Unusual Event) to log in at accountability card readers.

2.5.1.1 Simulator Control Room (SCR)

The Control Room Operations Advisor demonstrated exceptional knowledge, anticipated problems, recommended solutions, and provided an excellent interface between the Control Room and the Technical Support Center (TSC). That was evident in the response to area radiation and atmosphere monitor alarms, in station evacuation decisions, and in identification of fuel failure.

No exercise strengths or weakness were identified. The following Areas for Improvement were noted:

- After declaring the Unusual Event, the Emergency Director inadvertently ordered staffing of the ERFs by making an incorrect entry on the event notification form.

- The Control Room reactor operators often grouped together with no apparent functions or responsibilities. Also, the Control Senior Operator (CSO) relegated to himself the role of log keeper and announcement maker and was not seen to be pursuing problems, monitoring conditions, or making recommendations.

- The scenario did not provide the opportunity for the operators to perform emergency depressurization to minimize the release. The scenario anticipated normal depressurization after MSIV packing blowout, and loss of the 17B power board which prevented remote leak isolation.

2.5.1.2 Technical Support Center (TSC)

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

- Better coordination between the Technical Data Coordinator (TDC) and the Radiological Assessment Manager (RAM) could have led to more timely determination of the release path. The RAM's staff appeared to develop their own technical assessment of the release path without working with the TDC's team.

- Calculation of fuel damage differed from what was expected in the scenario by a factor of 10. The reason for the difference was not identified, but may have been related to the difference between using iodine instead of xenon as the limiting nuclide. (Some licensee personnel stated that using iodine for the calculation was more reliable.)

- The General Emergency column of Figure 1, Attachment 1.D in EPIP-EPP-01, "Classification of Emergency Conditions at Unit 1," referred the reader to move back-and-forth between several pages. Some of the inter-page references were wrong.

- It appeared that the Unit 1 basic electrical plant schematic used was not up to date as it did not show the static inverters.

2.5.1.3 Operational Support Center (OSC)

Performance by OSC personnel was generally good. Communications with the Control Room and TSC were good. Habitability surveys and log keeping were complete.

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

- Damage Control Teams were not dispatched to Emergency Diesel Generator EDG-103 in a timely manner following the loss of jacket water cooling.

- The Damage Control Team dispatched to trouble shoot EDG-103 were neither adequately briefed nor checked to assure they had proper tools and equipment.

- Damage Control Teams did not consider cooling water leak isolation, wetting of electrical equipment (electrical shorting problems), or spill cleanup.

2.5.1.4 Emergency Operations Facility (EOF)

Dose assessment and Off-Site Radiological Assessment Director (ORAD) performance were good. That included direction and coordination of field teams, all required demonstrations by the Corporate Emergency Director (CED), and evaluations performed by the Technical Assessment Group. Direction and control demonstrated by the CED were excellent.

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

- There was over 40 minutes between the declaration of the General Emergency (GE) and transmittal of the Nine Mile Point Nuclear Station Notification Sheet over the Radiological Emergency Communications System (RECS) communicating the Protective Action Recommendation (PAR) off-site. A PAR should be communicated within 15 minutes of a situation requiring urgent action in accordance with 10 CFR 50, Appendix E, Paragraph D. (IFI 50-220/92-27-01;50-410/92-31-01)

The following areas for improvement were noted:

- EOF access control did not expedite entry of the New York State representative.

- A news briefing contained erroneous information on reactor depressurization. It was not clear that technical information was carefully reviewed before being given to the media.

3.0 Licensee action on previously identified items

Based upon NRC observations, discussions with licensee representatives, and examination of procedures and records, the status of open items is as follows:

Closed (50-220/90-24-01 and 50-410/90-22-01) Protective Action Recommendations (PARs) were made by the EOF to the State and county at a Site Area Emergency declaration, even though the definition of a Site Area Emergency encompasses no risk to the population beyond the site boundary. Contributing to this weakness, the General Emergency declaration was not declared as early as it could have been, based upon degrading plant conditions (a core melt sequence) without credible reason for expecting correction of that problem. This item is

closed due to Emergency Plan Procedure changes and successful demonstration during the exercise.

Closed (50-220/90-24-02 and 50-410/90-22-02) The EOF should have been more conservative in making PARs for Emergency Response Planning Areas (ERPAs) located on either side of the projected plume pathway. Too much confidence was placed in the ability to precisely predict plume pathway. As a result of an undetected wind shift, the plume went through an ERPA for which no PAR had initially been made. This item is closed due to Emergency Plan Procedure changes and successful demonstration during the exercise.

All areas for improvement identified in the previous annual exercise were acceptably demonstrated and not repeated.

4.0 Licensee critique

On November 5, 1992, the Program Director, Emergency Preparedness and lead controllers summarized licensee observations. No critique inadequacies were identified by the NRC.

5.0 Exit Meeting

Following the licensee's critique, the inspection team met with the personnel denoted in Detail 1 of this report. Team observations were summarized. The licensee was informed of the following:

- Adequate protection of public health and safety had been demonstrated.
- No violations were found.
- Previous concerns had been adequately addressed and were resolved.
- The areas for improvement identified during this exercise.

Licensee management acknowledged the findings and indicated that they would evaluate and take appropriate action on the identified items.