

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket/Report Nos: 50-220/97-010
50-410/97-010

License Nos: DPR-63
NFP-69

Licensee: Niagara Mohawk Power Corporation
P.O. Box 63
Lycoming, New York 13093

Facility: Nine Mile Point, Units 1 and 2

Location: Scriba, New York

Dates: September 23 - 25, 1997

Inspectors: D. Silk, Senior Emergency Preparedness Specialist
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Division of Reactor Safety

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EXECUTIVE SUMMARY

Nine Mile Point Nuclear Power Plant
Full-participation Emergency Preparedness Exercise Evaluation
September 23-25, 1997
Inspection Report 50-220/97-10 and 50-410/97-10

The overall performance of the emergency response organization was very good. Simulated events were accurately diagnosed, proper mitigation actions were performed, emergency declarations were timely and accurate, and off-site agencies were notified promptly. The licensee interfaced effectively with offsite officials at the emergency operations facility. The licensee's critique process was thorough and balanced and was appropriately self-critical. No exercise weaknesses, safety concerns, or violations of NRC requirements were observed.



Report Details

P4 Staff Knowledge and Performance

a. Exercise Evaluation Scope

During this inspection, the NRC inspectors observed and evaluated the performance of the licensee's emergency response organization (ERO) during the biennial, full-participation exercise in the simulator control room (SCR), technical support center (TSC), operations support center (OSC), and the emergency operations facility (EOF). The inspectors assessed licensee recognition of abnormal plant conditions, classification of emergency conditions, notification of offsite agencies, development of protective action recommendations, command and control, communications, and the overall implementation of the emergency plan (the Plan). In addition, the inspectors attended the post-exercise critique to evaluate the licensee's self-assessment of the exercise.

b. Emergency Response Facility Observations and Critique

Simulator Control Room (SCR)

The senior shift supervisor (SSS) correctly declared an unusual event (UE) at 7:29 a.m. and assumed the position and duties of the site emergency director (SED) when a 100 curie radiography source (cobalt-60) was simulated as becoming detached and lost on the 289 foot elevation of the reactor building. The source caused a high radiation alarm on the area radiation monitor located on the 261 foot elevation (one floor below the lost source) of the reactor building. Initially, only the 261 foot level of the reactor building was required to be evacuated. Evacuation of only the 261 foot level of the reactor building was an incorrect and non conservative decision. However, within five minutes of the initial decision, the SSS/SED corrected the error and directed the assistant senior shift supervisor (ASSS) to evacuate the entire reactor building. Notification of local offsite agencies was completed within the required 15 minutes. Notification of the NRC was implemented within 30 minutes of the UE declaration. The SSS also ensured that updates were made every 30 minutes after the initial declaration until communications responsibility was assumed by the EOF at about 9:20 a.m.

The SSS also promptly and properly declared an alert at 8:26 a.m. and subsequently activated the ERO when a simulated tornado touched down on site and struck the emergency diesel generator building and the reactor building. The SSS continued to exercise good command and control of the implementation of the Plan as the SED until those duties and responsibilities were transferred to the TSC in accordance with the Plan at 8:51 a.m.

The ASSS effectively directed mitigation efforts of the operating crew by implementation and coordination of plant emergency operating procedures (EOPs). He frequently consulted with the SSS and regularly briefed the crew on which EOPs were applicable, plant conditions, and the planned mitigating actions.



One of the SCR communicators experienced difficulty locating the telephone number of the EOF and OSC. Subsequent actions by the communicator located three site telephone books in the SCR and each had different dates and telephone numbers for the requested facilities. The licensee noted during their post-exercise critique that the old site telephone books would be discarded and a new one would be installed. The actual control room would also be checked to ensure that it had the latest edition.

Technical Support Center (TSC)

The TSC was staffed in a timely manner as the TSC was activated 23 minutes after the alert declaration. The TSC was well organized at the start of the exercise. Minor problems were observed in the operability of some communications equipment at the beginning of the exercise, but these were quickly resolved. Applicable procedures and technical reference materials were readily available.

The TSC staff demonstrated excellent communications capability both internally and externally. Internal communications were very formal and professional, although the level of professionalism appeared to deteriorate somewhat towards the end of the exercise. The SED and the individual team leaders at the TSC briefed the staff frequently to provide overall direction and plant status updates. The SED conducted a thorough turnover when a brief watch relief was necessary. The SED closely reviewed plant status to confirm that events were properly classified for the site area emergency (SAE) and the general emergency (GE). Vital plant status updates in the TSC were very good, as plant status was correctly updated every ten minutes. Habitability surveys in the TSC were routinely conducted.

The TSC staff provided good technical support for recovery efforts. Emergency classifications were appropriate and performed within the required time constraints. However, it took several additional minutes for the SED to declare a site area emergency than for the other emergency declarations. The TSC staff's anticipation of developing plant problems demonstrated a sound understanding of the TSC function. Emphasis was placed on maintaining the plant in a safe and stable condition.



Operations Support Center (OSC)

The OSC was staffed in a timely manner, twenty-six minutes after the alert declaration. However, three positions in the OSC were each staffed by two responders. This extra staffing (although acknowledged by the lead exercise controller in the OSC as a standard practice) is not described in the Plan, which does not recognize a need for more than one person in the affected positions.

The OSC coordinator (OSCC) failed to keep noise level down during one of the SED's public address (PA) briefings and continued with his activities while the status of the emergency was being broadcast in the OSC. The OSCC provided very little information to the facility staff during the few briefs he gave. Because of size limitations of the OSC, many of the responders were stationed in the hallway and locker room outside the facility. These responders were not provided any updates of plant conditions or developing priorities beyond immediate task briefings.

The OSC received many PA reports from the SED as plant conditions were changing. Despite knowing of these reports (i.e., low standby liquid control tank level, the ATWAS, and drywell integrity failure), the OSC personnel did not anticipate the need to assemble teams to respond to these developments and awaited direction from the Maintenance Coordinator in the TSC. Furthermore, there was no damage control activity in the OSC during the last hour of the exercise, with a significant release of radioactive material in progress, because the TSC was not directing any activity. Although the actions by OSC personnel were performed well, the OSC staff was not always aggressively proactive in their response.

Radiation survey teams were briefed and their progress through the plant was tracked. Radiation protection technicians obtained the proper equipment and materials prior to dispatch. Damage control teams (DCTs) were briefed prior to dispatch, although the DCT coordinators and radiation protection team coordinators who were briefing the teams did not refer to the briefing checklist in the damage control procedure. Teams were issued radios and kept the OSC informed of their progress.

OSC management provided extensive protective actions for onsite personnel. The teams were consistently briefed on dose rate turn back values and prescribed routes of travel. The OSC evacuated all teams from the reactor building when dose rates increased substantially. Radiation protection personnel conducted habitability surveys of the OSC.

Communication between the OSC and the other emergency response facilities was effective. The OSC communicator kept in contact with the TSC and the SCR. Evidence of effective communication was demonstrated by the maintenance manager's knowledge of team status during PA briefings.



Emergency Operations Facility (EOF)

The EOF was activated in a timely manner meeting the one-hour staffing requirement. The corporate emergency director (CED) immediately established communications with the TSC SED and followed the activation checklist as defined in EPIP-EPP-13, Emergency Response Facilities Activation and Operation. The CED demonstrated very good command and control in that he provided facility briefings every 15 minutes, concurred in the SAE and GE declarations with the SED, and provided the State of New York with a correct and timely protective action recommendation (PAR). Press news releases were properly reviewed and authorized, however, the draft press releases needed extensive factual corrections by the CED. The CED facility briefings kept the staff apprised on current plant conditions, however, the CED did not include information such as offsite releases or habitability checks.

The CED had an assistant who was very good at briefing the NRC site team, state and county officials and assisting the CED. (The assistant was a qualified CED). The inspector noted that the licensee's Plan does not include this position. The inspectors concluded that the assistant had specific duties and responsibilities and needed little direction from the CED.

The inspectors observed that the technical conversations between the EOF technical support staff and the CED focused on mitigative strategies to address current plant conditions while there was minimal discussions regarding anticipation of potential problems.

The licensee performance in the dose assessment area was very good. Personnel necessary for the performance of these duties arrived within 45 minutes following the alert declaration. The inspectors observed that licensee personnel were using current and approved procedures, and that these personnel demonstrated knowledge of and the ability to use them.

The dose assessment staff displayed good initiative by promptly obtaining meteorological data and performing calculations of plume direction and offsite dose projections. The staff also performed evaluations according to EPIP-EPP-08, Off-site Dose Assessment and Protective Action Recommendation, of the magnitude of release that would be required to cause a GE to be declared, given the prevailing meteorological conditions stipulated by the exercise scenario. Offsite dose projections were performed in a timely manner as release data and additional meteorological data became available. Frequent "what if" calculations were performed in addition to those based on actual conditions. The dose assessment staff worked well with the offsite dose assessment managers to determine and verify PARs in the form of which emergency response planning areas to evacuate, and which to recommend sheltering.

The environmental sample/survey team coordinator (ESSTC) effectively directed the downwind survey teams according to procedure. Plume traversals were performed as specified in the procedure. The ESSTC appropriately directed the teams to obtain gross beta/gamma survey readings and to perform air sampling.



Licensee Exercise Critique

The licensee's critique process consisted of several steps. There were facility critiques with the players immediately following the exercise. Then there were more detailed reviews with the facility leads and controllers for each facility. Finally there was a combined session in which representatives from each facility provided a summary of that facility's performance to representatives of the other facilities. The inspectors observe some of the facility post-exercise critiques and the final combined critique presentation. Overall, the inspectors concluded that the licensee's critique process was thorough. The licensee's critique findings were balanced with positive and negative comments and overall were appropriately self-critical. The inspectors assessed the post-exercise player critique in the OSC as cursorily performed. The lead controller stated at the beginning that all objectives were met and then asked a single question of the controllers if they believed that any objectives were not met. The lead controller then ran down a list of objectives and concluded the critique. There was no input from any controllers or players.

c. Overall Exercise Conclusions

Overall performance of the ERO was very good. Simulated events were accurately diagnosed, proper mitigation actions were performed, emergency declarations were timely and accurate, and offsite agencies were notified promptly. No exercise weaknesses, safety concerns, or violations of NRC requirements were observed.

P8 Miscellaneous Emergency Preparedness (EP) Issues

P8.1 Exercise Control

Some minor problems were observed concerning exercise control and use of simulation. A controller error occurred when the OSC controllers provided PASS sample data to the chemistry personnel in the OSC only 15 minutes after the simulated obtaining of the sample. This problem was later corrected by the TSC controllers who directed a rejection of the data. There was one instance in which the OSC lead controller improperly provided the players with the offsite assembly area location and prompted them how to contact that facility by telephone. There was a discrepancy between the radiation survey data and the area radiation monitor readings in the scenario data. For example, the scenario area radiation monitor data simulated in reactor building elevation 215 for the period of 11:00 am to 12:00 pm showed area readings of between 496 mR/hr and 11.8 R/hr. The corresponding scenario survey data showed between 0.29 mR/hr and 730 mR/hr in the same areas. The OSC controllers were unable to explain any reason for the discrepancy during the exercise. Despite these discrepancies, overall exercise control and simulation was performed well.



P8.2 ERO Staffing Versus Plan Staffing

During this exercise, the inspectors observed additional ERO staff than what was designated in the Plan or NIP-EPP-01, Emergency Response Organization Expectations and Responsibilities. For example, in the TSC there were assistant SEDs and multiple radiological assessment managers and technical data coordinators. In the OSC, there were two OSCCs, DCT coordinators and radiation protection team coordinators. At the EOF, there was an assistant CED and two additional offsite dose assessment managers.

The inspectors concluded that the overall performance of the licensee (with these additional players) was very good and demonstrated a well trained and managed ERO. However, the inspectors could not assess the adequacy of the Plan's designated staffing. The inspectors recognize the licensee's prerogative of augmenting the ERO as necessary. As the exercise demonstrated, these additional personnel supplemented the licensee's overall response and without their participation, the remaining ERO staff would have been significantly challenged to perform the necessary duties. Furthermore, with multiple staff in various positions, the licensee could be challenged to staff those positions on a 24 hour rotation.

The inspectors discussed these observations with the licensee. The licensee justified the staffing by exercising the prerogative to utilize additional personnel as necessary. The licensee also stated that the staffing in the Plan was initial responders (i.e., minimum one hour responders). The additional personnel were necessary to accommodate the offsite agencies.

The inspectors concluded that without specific guidance regarding necessary staffing to address foreseeable activities, such as accommodating offsite agency response, the purpose of advance planning is defeated. Furthermore, if the licensee decides to reduce the number of ERO members, and justifies the reduction based upon the staffing stated in the Plan and the NIP, there may not be sufficient staff to perform the necessary functions that were performed with an expanded ERO as demonstrated during this exercise. The specification of necessary positions will be an inspector followup issue. (IFI 50-220/97-010-01 & 50-410/97-010-01)

V. MANAGEMENT MEETINGS

X1 Exit Meeting

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on September 25, 1997. The licensee acknowledged the inspector's findings.



PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Abbott	Plant Manager Unit 1
S. DiCriscio	Emergency Preparedness Specialist
J. Jones	Emergency Preparedness Director
J. Kaminski	Emergency Preparedness Specialist
M. McCormick	Vice President Special Projects
J. Peluso	Training
N. Rademacher	Executive Staff
G. Steiner	Emergency Preparedness Specialist
R. Tessier	Nuclear Training/Emergency Preparedness Manager

LIST OF INSPECTION PROCEDURES USED

82301: Evaluation of Exercises for Power Reactors
 82302: Review of Exercise Objectives and Scenarios for Power Reactors

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

IFI 50-220/97-010-01 & 50-40/97-010-01

Licensee staffing during the exercise exceeded that which is specified in the Plan.

Closed

None

Discussed

None



LIST OF ACRONYMS USED

ASSS	Assistant Senior Shift Supervisor
CED	Corporate Emergency Planner
DCT	Damage Control Team
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
EP	Emergency Preparedness
ERO	Emergency Response Organization
ESSTC	Environmental Sample/Survey Team Coordinator
GE	General Emergency
IFI	Inspector Follow-up Item
OSC	Operations Support Center
OSCC	Operations Support Center Coordinator
PA	Public Address
PAR	Protective Action Recommendation
SAE	Site Area Emergency
SCR	Simulator Control Room
SED	Site Emergency Director
SSS	Senior Shift Supervisor
TSC	Technical Support Center
UE	Unusual Event

