

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-282/89023(DRP); 50-306/89023(DRP)

Docket Nos. 50-282; 50-306

License Nos. DPR-42; DPR-60

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Prairie Island Nuclear Generating Plant

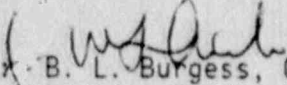
Inspection At: Prairie Island Site, Red Wing, MN

Inspection Conducted: August 13 through September 25, 1989

Inspectors: P. L. Hartmann

J. E. Hard

T. J. O'Connor

Approved By:  B. L. Burgess, Chief
Reactor Projects Section 2A

10/12/89
Date

Inspection Summary

Inspection on August 13 through September 25, 1989 (Reports No. 50-282/89023(DRP); 50-306/89023(DRP))

Areas Inspected: Routine, unannounced inspection by resident inspectors of plant operational safety, maintenance, surveillance, radiological protection and industrial safety.

Results: During this inspection period, Unit 1 operated continuously at 100% except for a minor power reduction associated with the replacement of a gasket on MD-18-1, the shell side relief valve for the 15A feedwater heater. As noted in previous reports, reactor coolant system radiochemistry continues to indicate the presence of a failed fuel rod in the Unit 1 core. Associated activity levels remain less than 1% of Technical Specification (TS) limits. At the end of the inspection period, Unit 1 had operated continuously for 56 days. Unit 2 continued to operate at 100% power throughout this inspection period. Unit 2 has reached 121 days of continuous operation at the end of the inspection period. The licensee continues to be plagued by unplanned starts of the control room emergency ventilation system which have been initiated by

spikes or malfunctions with the site chlorine monitors. Regional management is involved in the issue and the licensee is aggressively pursuing corrective action.

Of the five areas inspected, two violations of NRC requirements were identified.

DETAILS

1. Persons Contacted

Licensee Employees

- #J. Howard, President and CEO
- L. Eliason, General Manager, Nuclear Plants
- *E. Watzl, Plant Manager
- R. Lindsey, Assistant to the Plant Manager
- D. Mendele, General Superintendent, Engineering and Radiation Protection
- *M. Wadley, Shift Manager
- *M. Sellman, General Superintendent, Operations
- G. Lenertz, General Superintendent, Maintenance
- A. Smith, General Superintendent, Planning and Services
- D. Schuelke, Superintendent, Radiation Protection
- G. Miller, Superintendent, Operations Engineering
- K. Beadell, Superintendent, Technical Engineering
- S. Schaefer, Superintendent, Technical Engineering
- M. Klee, Superintendent, Quality Engineering
- R. Conklin, Supervisor, Security and Services
- *G. Eckholt, Nuclear Support Services
- *A. Hunstad, Staff Engineer
- J. Karr, Stone and Webster
- G. Quinn, Stone and Webster
- P. Nelson, Stone and Webster
- #K. Albrecht, Director, Power Supply Quality Assurance
- #F. Tierney, General Manager, Nuclear Engineering and Construction
- #L. Waldinger, Production Training Manager
- #G. Ortler, Manager Corporate Security

* Denotes those present at the exit interview of September 27, 1989.

Denotes those contacted on August 24, 1989 Corporate office visit.

2. Operational Safety Verification (71707, 93702)

a. Routine Inspection

The inspector observed control room operations, reviewed applicable logs, conducted discussions with control room operators and observed shift turnovers. The inspector verified operability of selected emergency systems, reviewed equipment control records, and verified the proper return to service of affected components, conducted tours of the auxiliary building, turbine building and external areas of the plant to observe plant equipment conditions, including potential fire hazards, and to verify that maintenance work requests had been initiated for the equipment in need of maintenance.

On August 15, 1989, the Senior Resident Inspector was interviewed by three Stone and Webster employees as part of an audit of the Power Supply QA program which was being conducted at the request of the Senior Vice President, Power Supply.

b. Control Room Special Ventilation Auto Starts

The inspection period records an increase in the number of licensee reportable events (LERs) due most notably to the Chlorine Monitoring System. On August 15, 1989, at 2:15 p.m. and again at 2:58 p.m. the licensee experienced an auto start of the 121 control room special ventilation system due to spikes received on the 111 chlorine monitor. On September 5, 1989, at 11:04 a.m., the 122 control room cleanup system auto started as a result of a spike on the 122 chlorine monitor. On September 23, the 111 chlorine monitor spiked and resulted in an auto start of the 121 control room cleanup system. The August 4, 6, and 15 reportable events will be followed by LER 282/89012. The September 5 and 23 reportable events will be followed by LER 282/89015. Extensive maintenance and investigation activities have been undertaken by the licensee regarding these monitors during the inspection period. The inspectors and Regional management are closely following these efforts.

c. Rod Control Circuit Failure

On August 16, 1989, Unit 2 received a rod control system urgent failure alarm. The licensee performed a flux map and thermocouple map of the core and determined that shutdown rod I-3 in shutdown Bank B had slipped 6 steps. (Each rod step equals 5/8 of an inch, with the total slippage equaling approximately 4 inches). The rod slipped from Step 228 to Step 222, noting that the top of core active core starts at Step 225.

The licensee's trouble shooting identified the need for new regulator, firing and phase control cards for the affected power cabinets. The inspector monitored the licensee's investigative and corrective actions including the recovery of the slipped rod. The licensee had conducted, as part of the monthly surveillance, a flux map on August 15, 1989. A flux map performed after the recovery was compared to the maps conducted before and after the rod slipping and no discernible effect was noted.

d. Emergency Communication Affected by Weather

On August 22, 1989, numerous lightning strikes at the site resulted in a major disruption of the plant's radio and telephone communication systems. The disruption did not affect the plant's ability to provide offsite notification, to recall licensee personnel to the plant or to provide notification to the surrounding communities of a need for evacuation. All communications systems were returned to service by 3:30 p.m. on August 22, 1989.

e. Fire Protection

On August 29, 1989, at 5:52 p.m. the licensee conducted a fire drill in Zone 74, located in the greenhouse. The drill was terminated at 6:11 p.m. During the course of the drill, the Zone 74 fire detector was placed in bypass, which renders the fire detection instrumentation in Zone 74 inoperable.

Zone 74 was not returned to normal upon completion of the drill and the fire detector was discovered in the bypass position during the course of the midnight to day shift turnover at 6:50 p.m. on August 30, 1989. Technical Specification (T.S.) 3.14.A.2.a requires that within one hour, a fire watch is to be established to inspect the zone with the inoperable instruments at least once per hour. Contrary to TS 3.14.A.2.a, a fire watch was not established during the 12 hour period the Zone 74 detector was inoperable. Failure to establish a fire watch in accordance with TS 3.14.A.2.a is identified as a Violation (282/89023-01; 306/89023-01(DRP)). This violation raises an "operator attention to detail" concern to the inspectors in that the bypass position of Zone 74 was not detected by the oncoming midnight shift. A contributing cause to this event was a failure to log Zone 74 inoperable as required by annunciator procedure 47022-305.

The licensee identified a fire protection Appendix R concern during the inspection period. Specifically, the concern involved the routing path of Emergency Diesel Generator No. 2 (EDG-2) 125 VDC control power which was modified during the inspection period. The licensee will submit LER 282/89017 for this finding. Regional specialists are reviewing the information supplied by the licensee thus far and will review the LER when received. This matter is unresolved pending inspector review. Unresolved Item 306/89023-02 (DRS).

f. Reactor Makeup Tank Overflow

On August 25, 1989, water was added to the Unit 1 reactor makeup tanks (RMU). After completing the fill of the RMU tank, filling commenced on 12 RMU tank. It should be noted that the precautions contained in Operations Procedure C13.1, Reactor Makeup System, Rev. 3, specifically states that "the reactor makeup tank level must not go above 12 1/2 feet to prevent overflowing the tank." Overflowing the tank may cause the floating roof to collapse thereby exposing water in the tank to air.

Sufficient attention was not directed to the filling of the 12 RMU tank which caused the tank to overflow. The overflow water is directly piped to the aerated system sump tank which was not able to keep up with the flow and caused some floor drains on the 695 ft. elevation of the auxiliary building to back up and flood the floor.

This incident also causes the inspector to question the operator's attention to detail. Review of the R.O. or S.S. control room log books makes no mention of the overflowing and flooding. The areas contaminated from the flooding were promptly decontaminated. The licensee has classified this event as a "near miss" which requires evaluation by the Error Reduction Task Force (ERTF), #89-18. The inspectors will review the cause classification and corrective actions identified.

g. Missed Technical Specification Surveillance

On September 5, 1989, it was discovered that surveillance Procedure, SP 1093.2, D-1 Diesel Generator Manual Test - Bus 26, Rev. 36, was not performed during the month of August. Although SP 1093.1 D-1 Diesel Generator Manual Test - Bus 15 and SP 1093.2 both test the operability of D-1, SP 1093.1 and S.P. 1093.2 respectively test the loss of voltage logic associated with the 4kv safeguard busses 15 and 26, as required by T.S. 4.1.A. S.P. 1093.2 was scheduled to be performed on August 22, 1989 and was required to be performed by August 29. By error, S.P. 1093.1 was performed rather than the scheduled S.P. 1093.2. Upon discovery of this missed surveillance, the surveillance was conducted and successfully completed. Failure to perform the monthly testing of the logic associated with safeguards Bus 26 in accordance with T.S. 4.1.A is identified as a Violation (282/89023-02 (DRP)).

h. Plant Airborne Activity Levels

The Nuclear Engineering Department's preliminary analysis has determined that a leaking fuel rod is contained in an assembly which will remain in the core for the next fuel cycle. Accordingly, plans are being developed to perform fuel sipping to locate the effected assembly, and removal of the subject fuel rod prior to reuse.

Minor complications have arisen as a result of the activity levels associated with this failed rod. Monthly at-power containment inspections for Unit 1 result in minor gas contaminations to those performing the inspection which require the individuals to wait until the gas decays to passable levels. Additionally on September 14, 1989, while venting the gas header which calls for utilizing hydrogen from the VCT, coupled with minor leaks in the system, increased airborne levels in the auxiliary building were experienced. The licensee has pursued the identification of leakage points, and has isolated the most probable locations. Work requests have been initiated to repair the suspected leakage points.

i. Operational Concerns

During this inspection period the Unit 1 redundant heat tracing for the boric acid storage tank to blender line has been out of service. The operators are cognizant of the operability considerations that failure of the normal heat tracing would cause. This situation is documented by a Unit 2 Operations Note. Restoration of the redundant heat tracing circuit is scheduled for the upcoming Unit 1 outage. One additional area of operational concern pertains to the failure of the Unit 2 ATWS mitigating system actuation circuitry (AMSAC). Trouble shooting identified that a failed card needed replacement. As of September 25, 1989, the repaired card has not been received from the vendor. Operators are cognizant of AMSAC functions and its effects when inoperable. The inspectors will follow replacement of this circuitry as an Open Item 306/89023-04(DRP).

On August 31, 1989, in conjunction with review of IE Notice 89-32, Surveillance Testing of Low Temperature Overpressure Protection Systems, issued March 23, 1989, the licensee identified actual valve stroke times greater than that assumed in the analysis. Pending final analysis by the licensee, this item will be identified as an Unresolved Item (282/89023-03(DRP)).

j. Cooling Water Pump Manual Start

On September 14, 1989, while both units were at 100% power, control room operators manually started the 22 cooling water pump as a conservative precaution, in response to decreasing cooling water pressure. The cooling water pressure perturbation occurred during a surveillance which tests operability of the turbine building cooling water header valves, which isolate non-essential loads from the cooling water system. Prior to closing valve MV-32031 at power, the test requires a flow path to be established by opening two chiller system supply valves (CV-39449 and MV-32032). These valves were verified as opened. Later in the surveillance the valves were found closed, as evidenced by rising turbine generator-temperature parameters. In response, in-plant operators reopened the chiller isolation valves. This reopening of the chiller isolation valves caused a drop in cooling water pressure and flow. The unit two shift supervisor directed an additional cooling water pump to be started. An operator started the 22 (diesel driven) cooling water pump. With the system verified as stable, the 22 cooling water pump was secured at 5:31 a.m. The licensee has not identified the cause of the valve closure. Regional management and the inspectors have discussed cause identification with the licensee. This matter is unresolved pending inspector review. Unresolved Item 282/89023-04 (DRP).

k. Auxiliary Building Special Ventilation (ABSVS) Auto Start

On September 8, 1989, the licensee reported an automatic start of the 122 ABSVS caused by a high radiation signal from Radiation Monitor 2R-30. The licensee determined that this was a false reading and the initiation resulted from a spurious spike. The licensee has initiated actions to reduce the number of Radiation Monitor spikes through hardware improvements. The inspectors will follow the licensee's corrective actions through the LER to be submitted, LER 282/89-12.

l. Industrial Safety Review

On September 12, 1989, electrical damage occurred to a V-1 Motor Control Center - MCC 1E2. The damage occurred when an electrician installed a grounding jumper and inadvertently contacted an energized phase contact. A phase fault occurred and the associated breaker tripped as designed. The electrician did not suffer any injury, but equipment damage did occur.

On September 13, 1989, during the grinding of an access hole on the sulfuric acid storage tank, a small explosion occurred. The cause

was attributed to sparks generated from grinding which ignited vapors within the tank. The licensee suspects the explosion was based on an explosive presence of hydrogen within the tank. No injuries occurred.

The licensee's Industry Safety Group is investigating these events. The inspector will review the root cause analysis and the corrective actions identified. This review will be tracked as an Open Item 282/89023-05(DRP).

3. Maintenance Observation (71707, 37700, 62703)

Routine, preventive, and corrective maintenance activities were observed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes or standards, and in conformance with Technical Specifications. The following items were considered during this review: adherence to limiting conditions for operation while components or systems were removed from service, approvals were obtained prior to initiating the work, activities were accomplished using approved procedures and were inspected as applicable, functional testing and/or calibrations were performed prior to returning components or systems to service, quality control records were maintained, activities were accomplished by qualified personnel, radiological controls were implemented, and fire prevention controls were implemented.

Portions of the following maintenance activities were observed during the inspection period:

- Reconditioning of Non-Safety Related Foxboro Controllers
- Calibration of the CVCS Hold-Up Tank Level Indicators
- Trouble Shooting of Chlorine Monitors
- Replacement of 22 Boric Acid Transfer Pump Seals.
- Repacking Seals on the #21 Charging Pump.

The inspector also monitored activities associated with the relocation of the 22 condensate storage tank which is being moved to accommodate the new diesel generator building. Observed activities included foundation preparation, concrete pouring and sampling. Activities of QC were also observed in regards to the concrete sampling and break test of specimens. The inspector will continue to monitor the progress of new diesel generator project.

No violations or deviations were identified.

4. Surveillance (61726, 71707)

The inspector witnessed portions of surveillance testing of safety-related systems and components. The inspection included verifying that the tests were scheduled and performed within Technical Specification requirements, by observing that procedures were being followed by qualified operators, that Limiting Conditions for Operation (LCOs) were not violated, that system and equipment restoration was completed, and that test results were acceptable to test and Technical Specification requirements.

Portions of the following surveillances were observed/reviewed during the inspection period include:

- SP-1093-2, D1 Diesel Generator Manual and 4kv Voltage Rejection-Restoration Scheme Test, Bus 26, Rev. 36
- SP-1106a, 12 Diesel Cooling Water Pump Test, Rev. 23.

No violations or deviations were identified.

5. Regional Requests (92701)

In response to questions from regional management, the following answers were provided by the Senior Resident Inspector.

1. In general, how do you view your licensee's check valve maintenance/surveillance program (ISI and IST)?

This program is satisfactory.

2. Have there been occurrences of repeat-problems with a specific check valve (valves) that the licensee's program did not appear to correct?

There have been no repeat problems of significance of which the inspectors are aware.

3. Provide a listing of other check valve problems and what actions (main/surv) the licensee took to correct these problems.

Check valve maintenance records back to 1979 were reviewed. Following are the results of this review.

- | | |
|----------|--|
| 2FW-1-1 | #21 Feedwater Pump Discharge Valve |
| 1988 | Disc did not seem to have been seating. New disc installed. Minor internal modifications made. |
| 2RH-6-1 | Two Inch Letdown Line Bypass |
| 1978-79 | Check valve leaks by. Repaired. |
| 2VC-10-1 | 21 Charging Pump Discharge Check Valve |
| 1984 | Valve spring found missing. Replaced. |
| AF-15-3 | Aux FW to Steam Generator #11 |
| 1986 | Seat lapped because of pressure buildup upstream. |
| AF-16-1 | Aux FW to Steam Generator #11 |
| 1988 | Replaced valve because of pressure buildup upstream. |
| AF-16-3 | Aux FW to Steam Generator #22 |
| 1980 | Lapped seat and disc because of pressure buildup upstream. |
| 1989 | Replaced valve. |

AF-28-1 1988	11 Aux FW Pump Recirculation Line Valve replaced. Worn out.
CL-43-1 1984	11 Cooling Water Pump Discharge Replace butterfly check valve - worn out. Inspect every three years.
CL-43-2 1988	12 Cooling Water Pump Discharge Repair normal wear and corrosion.
RS-19-2 1988	Steam Generator #12 MSIV Valve making rattling noise. To be inspected next outage.
SF-27-1 1986	121 Spent Fuel Pool Pump Discharge Found clapper pin under yoke arm. Rebuilt valve.
SF-27-2 1986	122 Spent Fuel Pool Pump Discharge Found clapper pin under yoke arm. Rebuilt valve.

This is a brief summary of the significant failures experienced in the last 10 years of plant operation. Generic or repetitive check valve failures seem not to be a significant problem at Prairie Island.

6. Commissioner Visit

On September 7, 1989, Commissioner Kenneth Rogers visited the Prairie Island Nuclear Plant. The Commissioner met with plant staff, toured the facility and in an exit meeting provided the licensee with his positive impression of the facility. The topics the Commissioner discussed included plant cleanliness and housekeeping, the strong plant staff, low turnover of staff, the need for continued good chemistry, the excellent college degree program and the need to guard against complacency.

7. Meeting with Corporate Officials (30702)

On August 24, 1989, the senior resident inspector (J.E. Hard) met with the individuals listed above in paragraph 1 at the licensee's corporate offices in Minneapolis. P. Hartmann attended the meeting with Mr. J. Howard. Subjects discussed included:

- Monticello security program
- Corporate Quality Assurance activities
- NRC and NSP organizational changes
- Transfer of SRIs between Monticello and Prairie Island
- NSP's actions in response to the recent SALP reports
- Status of proposed Maintenance Rule
- Upcoming licensed operator requalification exams

8. Exit (30703)

The inspectors met with the licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on September 27, 1989. The inspectors discussed the purpose and scope of the inspection and the findings. The inspectors also discussed the likely information content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any documents or processes as proprietary.

SUMMARY LISTING OF EXERCISE FINDINGS (cont.)

Goodhue County/City of Red Wing

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Dakota County

- | | |
|--------------------------------------|---------|
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State of Wisconsin

- | | |
|--------------------------------------|---------|
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Pierce County

- | | |
|--------------------------------------|---------|
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facsimile operator(s) seemed unaware of this exercise and the simulated priority that should be given to EBS messages. The resolution of this issue must be reexamined by both parties before the next exercise.

The Minnesota State EOC in the basement of the Capital building is a facility that has been in existence for several years. It has received FEMA funds and approval. It has sufficient space, furniture, lighting, map displays, etc. to support emergency operations. It is recommended that color overlays depicting subarea evacuation or sheltering be developed for the EPZ map. This EOC has proven to be adequate during several previous exercises and actual disaster operations. Back-up power, although available was not demonstrated.

The physical space used by the Minnesota Department of Health (MDH) staff to perform dose assessment activities during an exercise or emergency consists of a single room off of the main EOC. The work area layout is poor, with work areas segmented, insufficient desk top space, and emergency telephones located separately from the general staff work areas. Noise levels in the room were extreme at times due to the presence of the other non-nuclear power plant emergency equipment in the room and the presence of main EOC staff discussing issues with the MDH staff. At one point fifteen EOC staff were present in the room discussing the emergency. Corrective actions are required to be taken by the State to reorganize the physical layout of the room, to ensure that critical communication links are located immediately adjacent to work areas, and to eliminate or minimize those factors involved in the extreme noise levels in the room. It is recommended that a system be developed to ensure important information is posted in the dose assessment area in a timely manner.

The MDH field teams partially demonstrated their ability to continuously monitor and control emergency worker exposure. The field teams carried TLD dosimeters and two ranges of self-reading pocket dosimeters. They filled in an exposure control log when they were deployed to the field, and checked their self-reading dosimeters periodically in the field. However, because the team members were unclear of their exposure limit, and because they were not carrying mid-range self-reading dosimeters, this objective was partially met. It is required that the field teams are trained and briefed before deployment on their exposure limits in the field, and that a reference of the exposure limits be included in the written instructions that they carry in the field. It is also required that the field teams carry medium range self-reading dosimeters (0-20R) since this range is crucial for determining their exposure limits accurately.

The MDH field teams correctly used Eberline Geiger-Mueller counters and ionization chambers to obtain ambient field measurements. However, it is required that radioactive check sources be placed

in the kits to enable them to check the operation of these instruments in the field. It is also required that the State Highway Patrol participate with the field teams during full-participation exercises, to enable the teams to practice their required duties fully and accurately.

The field teams demonstrated the appropriate equipment and procedures for the measurement of airborne radioiodine concentrations as low as $10E-7$ microcurie per cc in the presence of noble gases. The field teams used a calibrated RADECO air pump for air measurements. They ran the pumps with silver zeolite cartridges for at least 15 minutes, recorded the measurement times and flow rates to accurately measure low concentrations of airborne radioiodine in the presence of noble gases. They have the capability and instrumentation to obtain these concentrations in the field as a quick check and then to transport them to the State Laboratory.

The State of Minnesota also demonstrated the ability to obtain samples of particulate activity in the airborne plume and promptly perform laboratory analyses.

The Radiochemistry Laboratory adequately demonstrated appropriate operations and procedures for measurement and analysis of radioactivity on air particulate filters and air iodine cartridges.

Offsite exposure levels and potential integrated population doses, for the expected duration of the emergency, were calculated by the MDH Dose Assessment staff for the plume exposure pathway. Calculations were made throughout the exercise using both computer programs and manual calculation methods. Calculations results were compared to field readings received from Minnesota, Wisconsin and utility field teams and with calculations made by the utility and Wisconsin.

Protective Action Recommendations (PARs) were made by the MDH Dose Assessment staff at each stage of the emergency. Initial PARs were based upon plant conditions and the potential for degradation in the plant's status. PARs made at the start of the General Emergency classification were based upon scenario releases and projected offsite doses. An excellent level of coordination was displayed by MDH, Wisconsin and the utility staffs during the formulation of uniform PARs for the general public. PARs made by the MDH staff were not routinely approved by the Governor, or his representative, as required by the Minnesota Emergency Plan. MDH recommended PARs were distributed outside the State EOC by EOC staff without Governor approval of the recommendations. Corrective actions should be taken by the State to ensure that the Governor's approval of PARs is received prior to the distribution of the PARs to the EOC or others. This information should be provided to the MDH Dose Assessment staff to ensure continued coordination of PARs

with the State of Wisconsin and the utility.

The State of Minnesota partially demonstrated the ability to initially alert the public within the 10-mile EPZ and begin to disseminate an instructional message within 15 minutes of a decision by appropriate State Officials. The State faxes all EBS messages to NOAA for broadcasting over EBS. Delays were observed in faxing these EBS messages to NOAA. In addition, there were also delays of several minutes between the sounding of the siren system and the activation of the EBS system. Future exercises will be required to better demonstrate the procedure for obtaining the Governor's approval of protective action recommendations and the sounding of the sirens and activation of the EBS system.

The ability to coordinate the formulation and dissemination of accurate information and instructions to the public in a timely manner after the initial alert and notification occurred was not demonstrated. This was primarily due to EBS message #3 (General Emergency). The emergency public instructions were drafted, however, part of the EBS message described the shelter and evacuation area as the same area. Absence of information also existed, e.g. locations where transients can go for help, location of reception/ congregate care facilities and guidance on sheltering methods. The message was also confusing and difficult to understand. The State did not take action to provide corrected information to the public. No one approved the quality and content of EBS messages prior to faxing to NOAA. No confirmation of receipt exists at the NOAA facsimile station.

Space for Press briefings is established in room G-15 of the State Capital Building. Joint Public Information Center (JPIC) workspace for JPIC staff is located in the EOC. Activities in the JPIC, though, are controlled by the Governor's PIO who is located in the EOC. The Governor's PIO is responsible for coordinating information prior to the briefings given to the media at the JPIC. This is done by the Governor's PIO holding a pre-briefing with the various JPIC spokespersons (Utility, State, Local). These pre-briefings were conducted in the office of the Director, Minnesota Division of Emergency Government. Each department represented in the EOC also had a PIO who was responsible for development of news releases and bulletins.

The EOC staffing pattern includes a person who is responsible for controlling rumors in a timely fashion. This person, when a rumor was received, coordinated the rumor with the appropriate EOC staff person for an answer. The answer would then be called back to the originator, and significant rumors would be given to the appropriate JPIC spokesperson to be included in the next media briefing or included in a written news release/bulletin. Federal evaluators question the ability of this system to handle a large volume of incoming calls.

The need for distribution of potassium iodide (KI) to emergency workers was discussed by the MDH staff at numerous times during the exercise. The decision to distribute KI to emergency workers was made at 1155. The recommendation was immediately communicated to the main EOC staff and the MDH field staff. This recommendation was not coordinated with either the utility or the State of Wisconsin. Although this decision effects only emergency workers in the State of Minnesota, it is recommended that it be coordinated with the other emergency organizations involved in the response to the emergency.

The sensitivity of emergency workers to KI has not been evaluated by the MDH since the most recent Prairie Island exercise. This was an item recommended for improvement during that exercise. However, during this exercise, an individual team member identified herself as being allergic to iodines after the recommendation on KI was made. This individual was "rotated" out of the evacuated and sheltered areas after an evaluation by the MDH Dose Assessment staff. This spontaneous event was handled effectively by the MDH staff. The previous recommendation for improvement, to evaluate the sensitivity of emergency workers to KI, is being reissued as a result of this exercise.

The State of Minnesota EOC staff demonstrated their ability to determine the Shelter/evacuation areas and the EOC planning to control evacuation traffic flow and to control access to the shelter/evacuation area. The EOC staff monitored the action taken by Dakota and Goodhue Counties and provided State evacuation assistance requested by the Counties.

Two contacts were made (simulated) by the Minnesota Department of Health (MDH) Dose Assessment staff with the U.S. Department of Energy, Chicago Operations Office's Radiological Assistance Program during the exercise. A request for assistance was made. The request for assistance was based upon the increasing potential for offsite consequences due to the emergency at the Prairie Island facility. The Minnesota Department of Health field teams used correct equipment and procedures for collection of vegetation, water, and soil samples. These samples were representative of the area and were properly labelled, bagged, and transported to the hot line.

The Minnesota Department of Health Radiochemistry Laboratory adequately demonstrated appropriate operations and procedures for measurement and analysis of radioactivity in a variety of environmental samples. Sample intake, scanning, log in and identification, bagging, preparation and analysis were adequately demonstrated or discussed for air iodine cartridge, milk, soil, vegetation, water and animal feed samples. Equipment and quality assurance measures are sufficient, however, a problem could develop if the digital equipment computer which controls the gamma analysis fails. It is recommended that staff be trained in manual operation

of multichannel analyzers as a back-up.

Staffing of the lab is adequate with a staff of one director and two assistants and a backup staff of six additional assistants. However, there is only one individual who can function as the director and so around-the-clock operation is doubtful. It is recommended, as a corrective action, that a back-up director be trained and available.

Several weaknesses were observed in the sample intake process and the sample storage process. The sample exchange pad was located near an operating air conditioner exhaust stream and there are no plans or necessary materials available to rope off and post the sample storage area. Required corrective actions include revision of Standard Operating Procedures (SOPs) for exchange pad location and storage area posting; training of staff in these procedures; the development of an inventory list of accessory materials; the addition of a variety of plastic bags of various sizes (so large and small samples can be compactly bagged); a spill absorption and decontamination kit; and rope and "radioactive material" signs for posting the storage area.

Finally, the sample preparation and counting procedures which were demonstrated for soil, milk, and other environmental samples, although appropriate to the situation, are different from the SOPs for routine sample analysis and are not written down. Additional required corrective actions include the development of SOPs for sample preparation and counting in support of State response to a radiological emergency, and the updating of the list of laboratory equipment in the State Plan.

The total population dose received by the general public, as a result of the emergency, was estimated by the MDH during the exercise. Results of field measurements, previous computer calculations of exposure levels, and a manual calculation sheet were used to perform the calculations.

Reentry and recovery PARs were made by the MDH Dose Assessment staff. PARs were based upon field team measurements and results of laboratory analysis of environmental samples. All PARs, previously issued during the course of the exercise, were not relaxed at the end of the exercise due to the levels of radioactivity present in the analyzed samples. Long term PARs were coordinated with the State of Wisconsin, and the utility. Reclassification of the emergency by the utility to "Recovery Phase" was required by both States prior to the issuing of final PARs.

Limited recovery and reentry procedures were effectively demonstrated during this exercise. This was done through a table top discussion in the EOC. Protective action recommendations were not relaxed until monitored field data showed safe radiation levels

for reentry. A public health information bulletin with instructions to the evacuees was issued in conjunction with advisories from the Minnesota Department of Agriculture. The instructions included restrictions on crop harvesting and the consumption of garden vegetables and raw milk.

Goodhue County/City of Red Wing

The City of Red Wing/Goodhue County activated the Emergency Operation Center (EOC) at the County Public Safety Building. The call initiating activation of the EOC facilities and mobilization of staff were received in the dispatch center of the County Sheriff's Department. However, the County EOC was never fully staffed as reflected in the County plan, nor did the City of Red Wing/Goodhue County fully demonstrate the ability to maintain staffing on a continuous 24-hour basis by an actual shift change of all positions represented in the County EOC. Further, evaluators observed that first shift staff in several positions represented in the EOC, remained in the EOC and continued to control or prompt their second shift counterparts on their responsibilities and involvement in the exercise.

The EOC management staff did not fully demonstrate the ability to direct, coordinate and control emergency activities. EOC briefings, staff involvement in decision-making and direction and control deteriorated during the advent of the second shift. The Chief of Staff reflected dependency on his first shift counterpart (who had remained in the operations area after the shift change) regarding his responsibilities and what to do next.

The required maps were posted in the EOC and the staff effectively used the map displays to enhance the EOC operations. Although there is a status board in the EOC, the staff chose to use a flip chart to record the sequence of events and other important information. The status board contained only marginal information, much of which was incomplete. The flip chart was difficult to read without walking up to the chart. The EOC was noisy, due to extraneous conversations being carried on during briefings, the State Police radio and staff movement into and out of the area.

To assist in reducing the noise level, it is recommended that the State Police radio be relocated outside the operations area or be operated with a headphone, and management controls be instituted to reduce private conversations during briefings.

The EOC and Red Wing Fire Department staff demonstrated primary and backup means of communications by use of commercial telephone and radio to the State EOC, Dakota and Pierce Counties, State and County field teams, and the JPIC. Present in the EOC and the Red Wing Fire Department were amateur radio operators from the Hiawatha Valley Amateur Radio Club and the Civil Air Patrol. The CAP and Hiawatha Valley Amateur Radio Club, which are fully equipped,

serves as additional backup means of communications to the City of Red Wing/Goodhue County. The EOC is also equipped with a data fax capability to the State EOC and the JPIC.

The EOC staff responded to initiate the activation of the siren systems (2 separate systems) for the City of Red Wing and Goodhue County during the Site Area Emergency Classification when the protective action recommendation (PAR) notification came from the State EOC. The State had informed the County, via telephone, when the EBS would be activated and the time to sound the sirens in the County. To insure that siren systems were activated simultaneously, the Sheriff's dispatchers coordinated the information with the Red Wing Fire Department and Dakota and Pierce Counties. The initial sounding of the sirens was at 1101 and at 15-minute intervals thereafter. The initial siren activation was implemented in accordance with the emergency plan operations procedures.

The EOC staff of the County Sheriff's Department and Red Wing Police and Fire Departments coordinated to demonstrate the capability to control evacuation traffic flow and access to evacuated and sheltered areas; to continuously monitor and control emergency worker exposure; and the ability to implement appropriate protective actions for special needs population, handicapped and institutionalized persons.

Beginning at the Site Area Emergency notification, the County Sheriff and Red Wing Police Departments simulated in the EOC the staffing of traffic and access control points and actually dispatched patrols for route alerting in the 0-2 mile radius of the plant. Subsequent route alerting and staffing of traffic and access control points were implemented upon receipt of protective actions by the City/County after the General Emergency notification. A traffic and access control point was manned at U.S. 61 and County Route 7 and the intersection in the Village of Welch by personnel of the Goodhue County Sheriff's Department. Federal evaluators determined that the patrolman at U.S. 61 and County Route 7 had been issued dosimetry, potassium iodide and the necessary record keeping and instruction cards. While on assignment, the patrolman received radio instructions to ingest the KI which had been issued to him prior to his departure for the traffic and access control assignment. The patrolman was aware of the evacuation routes, the location of the Reception and Congregate Care and Decontamination Centers. He had radio capabilities with his counterparts at other traffic and access control points, and the County EOC. The patrolmen were polled by radio on the need to read and report their respective dosimeter readings to the Sheriff's dispatch center.

The County has a room designated for media briefings in the EOC. However, the area was not set up for that purpose and there are no maps nor displays in the room to enhance briefings. Upon inquiry

by evaluators near the end of the exercise the Mayor and Chief of Staff stated they were prepared to brief media representatives, however no media came to the EOC. The County did not demonstrate the ability to brief the media and to establish and operate rumor control.

The County's failure to brief the media is a repeated weakness identified in Goodhue County from the last exercise June 17, 1986. The objective must be demonstrated during the next exercise.

The EOC staff also did not entertain the reentry and recovery objective, although they were provided the information by the State EOC and posted it on the flip chart in the EOC. Upon notification that the exercise was terminated the Chief of Staff announced the termination and dismissed the EOC staff.

Dakota County

Dakota County clearly demonstrated the ability to utilize the appropriate emergency classification levels and fully activated the Dakota County EOC in the Dakota County Government Center, following receipt of the Alcrt notification.

The County Administrator, supported by the Operations Chief, effectively managed the emergency response activities within Dakota County and coordinated these activities with the State of Minnesota and Goodhue County. However, on several occasions County requests to the State for supplementary emergency information did not receive a prompt response.

The demonstration of decision-making and emergency activities was met. The Dakota County EOC utilized the dedicated telephone line as its primary communication system, and employed commercial telephones, telefax and radios as "back-up" systems. These systems operated adequately. Despite this, hard copy message delays did occur when the telefax system at other locations malfunctioned.

The EOC operations area was situated in a temporary basement location in the Dakota County Government Center. This location and the associated maps and graphics were sufficient to support emergency operations.

The ability to continuously monitor emergency worker exposure was to be demonstrated by the Dakota County EOC and Dakota County traffic control point personnel. Greater familiarity with radiological monitoring instruments and concepts would have enhanced the exposure control function. Emergency workers staffing traffic control points wore only low-range dosimeters (0-200 mR). High-range dosimeters (0-200 R) were available to those staffing

the TCPs, but were not actually worn. There was insufficient knowledge displayed as to when or by whom the high-range dosimeters were to be used. There was also a failure to issue (or to simulate issuance of) TLDs to emergency workers. The workers themselves were unaware that TLDs existed. Confusion regarding the location of, and procedures for reporting to decontamination facilities was also in evidence among the TCP staff. This is a repeat weakness from the previous exercise. EOC radiological staff were not aware of stay times for emergency workers in evacuated areas (e.g., security patrols). This objective was not fully met.

The ability of the Dakota County EOC to initially alert the public within the 10-mile EPZ and to begin dissemination of an instructional message within 15 minutes of state decisions regarding PARs was demonstrated. In the case of the two emergency PARs, siren activation was achieved within 5-8 minutes of PAR notification from the State EOC.

Objectives involving the coordination of public information, briefing the media in a timely manner and the coordinated operation of rumor control required demonstrations performed by a Dakota County representative to the JPIC. During this exercise, the representation of Dakota County at the JPIC was simulated because the appointed representative was unavailable for duty. This simulation was not sufficient to meet these objectives, nor can it correct two ARCAs identified during a previous exercise, given that no alternate County representative to the JPIC had been designated to compensate for the missing staff member.

The Dakota County EOC demonstrated that it possessed the ability and resources necessary to implement appropriate protective actions for the impacted permanent and transient plume EPZ population. The ability and resources were specifically demonstrated by the Dakota County Sheriff's Department (handling route alerting and traffic control) and the Hastings Fire Department (handling the evacuation of special needs populations, rescue operations and emergency medical transportation).

The Dakota County EOC demonstrated that it possessed the organizational ability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas. The lead in this process was taken by the Dakota County Sheriff's Department, which established two of its Traffic Control Points in Sectors P and Q on the very perimeter of the 10-mile EPZ. The Radiological Officer handled all requests for access to restricted areas based on State-issued PARs and forwarded this information via the Sheriff's dispatcher to the traffic control points.

A tabletop discussion held by the staff of the Dakota County EOC demonstrated the ability to determine appropriate measures for controlled reentry and recovery, based on total population

exposure, available PARs and other relevant factors. The table-top discussion included considerations of population distribution and size within areas still on restricted status during recovery, environmental radiation assessments provided to the EOC by the MDH and MDH PARs regarding food and water consumption. On this basis a strategy for handling the reentry of the evacuated population to restricted areas was developed.

With the exception of a shift change performed by the Hastings Fire Department EOC staff member, the objective involving 24-hour staffing was partially demonstrated through the presentation of a roster and by double staffing of positions at the EOC itself.

State of Wisconsin

The State Division of Emergency Government (DEG) demonstrated their ability to use emergency classification levels and for each level. This was accomplished in a timely and efficient manner.

The Emergency Operations Center (EOC) was fully activated and staffed for a full-participation exercise. Several State government agencies were represented and carried out emergency response activities. Personnel call-up procedures were initiated by the Operations Officer in accordance to the plan. The Department of Health and Social Services, Section of Radiation Protection staff handled the radiological control/dose assessment function in the State EOC and carried out field sampling and monitoring activities in the vicinity of the plant.

The Wisconsin DEG participated in coordination with the field activities in Wisconsin and Minnesota.

Several communications methods were utilized to accomplish the dissemination of information to field offices and field personnel. Used were commercial telephone, NAWAS, DATAFAX, RACES, TIME and State radio bands.

The State DEG demonstrated the capability of facilities to support the emergency response operations. Maps, displays and message status boards were utilized. The message status boards were not kept up-to-date nor were they accurate, timely or graphically displayed. Many key emergency response messages did not get posted or were excessively late in being posted. The message distribution system needs specific attention to improve the message flow. Improvement can be achieved by designating and training an individual to post key emergency response information.

Field team monitors reported their exposure at every sampling point. This included pocket dosimeters.

The field procedures and equipment were demonstrated for taking direct air measurements, particulate and Iodine 131 samples and

soil and vegetation samples. Gamma spectroscopy is available in the field to make the measurement of airborne radioiodine concentrations following the collection of samples. These procedures were demonstrated in accordance with the SOPs.

The dose assessment group using the projected dosage assessment in the plume made protective action recommendations and disseminated the information to the field through the State Officer in Charge.

The State DEG supported Pierce County in their decision-making and notification as to the appropriate protective actions when notified by the utility.

The recommendation to use potassium iodide (KI) for emergency workers in the EPZ was made at 1206 and then disseminated to the field. The decision for this was predicated on the evaluation of the exposure expected in the plume.

The Wisconsin DEG demonstrated the requesting of Federal assistance in two forms; 1) that FEMA by the central point of contact for the Federal response and, 2) that additional assistance was requested for livestock feed.

The radiation assessment group utilizing their equipment and expertise demonstrated the estimated total population exposure in the evacuated areas using both plant and field data.

The SRC and staff discussed the reentry and recovery procedures with the State Department of Agriculture in the EOC and made recommendations to be implemented by the State. The recommendations pertained to food, dairy animal products and water in the evacuated area.

Nearly all Departments demonstrated the ability to perform a 24 hour continuous operation by a shift change with the exception of the State PIOs in the State EOC. They presented a roster of personnel. The Wisconsin Department of Transportation did not make provisions for a shift change.

Pierce County

Pierce County effectively demonstrated its capabilities for taking, in a timely manner, appropriate emergency response actions to protect the public upon receipt of the ECLs; including alerting and mobilizing personnel, activating and staffing of the EOC, as well as managing, coordinating, and controlling emergency operations. Leadership and supporting personnel were assigned to the EOC including two full shifts. All participants appeared very knowledgeable of their responsibilities and demonstrated their competence by taking appropriate actions as required throughout the simulated emergency. The Pierce County EOC facility, together with its communications, displays, and amenities proved to be fully

adequate to enable the carrying out of necessary emergency actions by the staff.

The initial protective action recommendation of sheltering people and livestock in a two-mile radius was received in the Pierce County EOC during the Site Area Emergency. The simulated siren sounding and issuing of an EBS message was accomplished in 11 minutes. After the simulated accident escalated to the General Emergency, the protective action recommendations were increased to evacuation of the two-mile radius and 2 to 5 miles in the downwind sectors with sheltering in the remainder of the EPZ. The second simulated siren sounding and issuing of an EBS message was accomplished in 10 minutes.

Although the instructions to the public were timely, the conversion from the sector designation to geopolitical boundary descriptions for the second set of emergency instructions for the public was not accurate. The prescribed sub-area designations were not used. The 10-mile radius for sheltering was not defined by geopolitical descriptions familiar to the public. The City of Prescott not in the EPZ was included. Clarification of procedures and additional training will be required to insure that the accurate description of the affected area will be contained in the EBS messages.

Since Pierce County also provides information direct to the local media (in addition to the State JPICs), this function was demonstrated by the preparation and conduct of three media briefings during the exercise. The State PIO assigned to the Pierce County EOC conducted the briefings following preparation of the materials in coordination with the Pierce County PIO and the State EOC at Madison. The briefings were sketchy and the presenter was unaware of fundamental information. Improvements to this function are needed to essentially enhance the County capability to handle an expanded local media. This would involve providing appropriate displays and providing facilities to support the media staff.

Specific rumor control activities were not observed to have occurred at the Pierce County EOC. However, constant coordination between the EOC and the JPIC was maintained primarily by using the FAX equipment thereby providing the capability for rumor control coordination should it be needed. To fully demonstrate rumor control in future exercises, specific rumors should be inserted into the exercise play.

The EOC staff demonstrated the implementation of the protective action recommendations (PARs) of sheltering and evacuation by effectively simulating their responses. The County Highway Department and the Sheriff's office coordinated the location and maintenance of the traffic access control points. A thorough procedural discussion of assisting the evacuation of the mobility impaired was given by the Social Service representatives.

Activation and staffing of the Plum City congregate care facility was simulated. The Social Service, American Red Cross and Health Services representatives discussed each of their roles in supporting congregate care. Even though school was not in session, the arrangements for notifying and coordinating evacuation of schools was reviewed with the evaluator.

An excellent demonstration of emergency worker exposure control was given by the County Radiological Officer. When the Site Area Emergency classification was received, he distributed dosimeters and TLDs to all emergency workers in the EPZ together with written instructions and registration cards. Periodically, throughout the exercise, the radiological officer asked the Department representatives to obtain dosimeter readings from their personnel in the field. When KI was recommended for emergency workers in the EPZ, instructions were given for the distribution of the initial dose. Sufficient quantities and types of dosimeters, TLDs, KI, and monitoring equipment are stockpiled in a room adjacent to the EOC. Arrangements for identifying evacuated farmers as emergency workers and establishing a pass system to allow their reentry into the evacuated area for feeding livestock have been developed.

When the sheltering and evacuation protective actions were lifted, residents of the area that had been evacuated were advised not to eat garden produce until samples could be tested. This precaution was communicated to the public in a news release. An orderly reentry process was discussed which included closing of the congregate care center, transportation coordination, and traffic control.

Both shifts of the Pierce County EOC staff demonstrated a positive cooperative attitude and accomplished their tasks in a professional manner. An open dialogue between the agency representatives was maintained throughout the exercise.

Joint Public Information Center (JPIC)

The Joint Public Information Center (JPIC) was established and activated in two locations in the State Capitol Building. One, the primary working JPIC was collocated with the State EOC, and two, the press briefing area was in the Senate Hearing Room. The center was activated and staffed in accordance with the plan with all representatives present in the JPIC within 1 hour of alert, with the exception of a Dakota County representative.

The JPIC staff included representatives from Northern States Power (NSP), States of Minnesota and Wisconsin and from Goodhue County. Dakota County did not send a representative to the JPIC. The Press Briefing room was equipped and staffed to assist the media during periods between briefings.

The JPIC immediately began operations following activation,

collecting information on the situation and scheduling briefings for the media to make them aware of the situation.

Throughout the exercise, timely briefings were held and information was distributed to the media to keep the public informed as to actions taken to protect lives and property. Conditions at the plant were described in detail by NSP representatives and measures taken to protect the public were discussed and described by state and local officials. Press briefings were videotaped to provide a permanent record of the proceedings and to be available for review for media who were not at the briefings.

The purpose of the JPIC is to provide a central point for the media to receive information about a Nuclear Power Plant accident or in this case, an exercise. Although the JPIC met the required objectives for the exercise, there are a number of problems relating to the location, operations and staff training that should be addressed to improve the overall functioning of the JPIC.

The Dakota County representative did not attend the exercise. His attendance at this exercise was the solution to an Area Requiring Corrective Action raised in a past exercise.

The JPIC is physically located in EOC space and among the EOC staff. Because of this physical location, the DEM Director assumes a measure of control over JPIC activities even though he is not a member of the JPIC. Finally, the location of the JPIC causes operational and organizational problems that would not occur if the JPIC were in a separate location from the EOC.

Arrangements for the media should be improved to provide better facilities for their coverage of future events. These improvements should include sufficient telephones, adequate work space for interviews and taping sessions, as well as better lighting and a minimum number of desks and/or tables and chairs.

The present rumor control operations of both Wisconsin and Minnesota cannot begin to handle the types or number of calls that can reasonably be expected in a real emergency. One man for the Minnesota JPIC and an answering machine for Wisconsin in the JPIC would be overwhelmed by the calls that can be expected. Additional training and facilities will have to be made available for future events in order to provide a credible resource.

EXERCISE REPORT

Introduction

1. Exercise Background

This was the sixth exercise resulting from a simulated accident at the Prairie Island Nuclear Generating Plant, operated by Northern States Power Company. The first exercise was October 14, 1980. The second exercise was December 8, 1981, with full participation by the State of Minnesota, Goodhue County/City of Red Wing, Dakota County and Pierce County. The State of Wisconsin chose partial participation in the second exercise because they had demonstrated full activity in an earlier exercise involving a different power plant. The third exercise was conducted October 14, 1982, with partial participation for the States of Minnesota and Wisconsin and full participation for Goodhue County/City of Red Wing, Dakota County and Pierce County. The fourth exercise was conducted March 13, 1984, with the two States again partially participating and the three local jurisdictions fully participating. The fifth exercise was conducted June 17, 1986, with partial participation for the State of Wisconsin and full participation for the State of Minnesota, Goodhue County/City of Red Wing, Dakota County and Pierce County. Exercises have been conducted during each of the four seasons.

2. Participating and Non-participating State and Local Governments

The 10-mile Plume Exposure Emergency Planning Zone (EPZ) of the Prairie Island Nuclear Generating Plant impacts on Goodhue County/City of Red Wing and Dakota County in the State of Minnesota and Pierce County in the State of Wisconsin. The June 22, 1988, exercise was a full-participation exercise for the States of Minnesota and Wisconsin and the Counties of Goodhue/ Red Wing, Dakota and Pierce.

3. List of Evaluators

For this exercise, there was a total of nineteen evaluators observing offsite exercise activities. Onsite activities were evaluated by a separate team from the Nuclear Regulatory Commission (NRC). Of the offsite evaluators, six, including the offsite Exercise Director, were Federal Emergency Management Agency (FEMA) Region V staff. RAC member agencies were represented by one evaluator from the Department of Energy (DOE) two from the Environmental Protection Agency (EPA), one from the Federal Highway Administration and one from the Department of Health and Human Services (FDA). The balance of the team was composed of three contract evaluators from the Argonne National Laboratory (ANL) and five contract evaluators from the Center for Planning and Research

(CPR). The evaluator assignments were as follows:

Exercise Director	Wallace Weaver (FEMA)
State of Minnesota	Dan Bement, Team Leader (FEMA) Paul Fudacz (FEMA) Ken O'Brien (DOE) Jim Benetti (EPA) Debra Arenberg (EPA)
Dakota County	Sue Ann Curtis, Team Leader (ANL) Jonnathon Elias (ANL)
Goodhue County/City of Red Wing	Woodie Curtis, Team Leader (FEMA) Bill Knoerzer (ANL) Roger Stokes (DOT)
State of Wisconsin	Gordon Wenger, Team Leader (FEMA) Martha Willis (CPR) Edward Sears (CPR) Jim Kraeger (FDA)
Pierce County	Janet Quissell, Team Leader (FEMA) George Barber (CPR)
Joint Public Information Center	James Sutch, Team Leader (CPR) Bill Small (CPR)

4. Evaluation Criteria

The State and County plans being evaluated during this exercise were developed using the "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (NUREG-0654, FEMA REP-1, Revision 1). Therefore, these criteria, and the modules based on these criteria, "Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluation", dated June 1983, were used for exercise evaluation.

5. Exercise Objectives

Objectives for this exercise were selected from among the thirty-six (36) identified in the FEMA Guidance Memorandum EX-3 dated February 26, 1988. The State of Minnesota, Goodhue County/City of Red Wing and Dakota County selected objectives are listed in ATTACHMENT 1. The State of Wisconsin and Pierce County selected objectives are listed in ATTACHMENT 2.

In addition, objectives 23 and 24 refer to Emergency Medical Drills. In both Minnesota and Wisconsin, Emergency Medical Drills are conducted separate from the exercise. Objectives 23 and 24 were demonstrated during the annual Emergency Medical Drill

conducted and federally evaluated on July 19, 1988.

6. Summary of the Scenario

The Prairie Island Nuclear Generating Plant Radiological emergency preparedness exercise objectives and scenario for the June 22, 1988, joint exercise were developed by exercise planners from the Northern States Power Company, the State of Minnesota Division of Emergency Management and the State of Wisconsin Division of Emergency Government. FEMA Region V reviewed and approved the objectives selected by each governmental jurisdiction prior to scenario development. The utility scenario primarily addressed activities within the plant. A separate scenario developed by the Minnesota DEM, included as ATTACHMENT 3, and a scenario timeline developed by Wisconsin DEG, included as ATTACHMENT 4, complimented the basic scenario to encompass offsite activities.

Submission of the scenario was according to deadlines outlined in NRC and FEMA guidelines. Westinghouse Idaho Nuclear Company Incorporated reviewed the scenario for FEMA and found it to be adequate to exercise the objectives selected by the two States and three Counties. It was recognized that exercise radiation intensities offsite would be low and that downwind evacuation actions would have to be driven by conservative interpretations of field data or upon plant status.

Synopsis of Exercise Events

During the June 22, 1988, Prairie Island Nuclear Generating Plant Exercise the following emergency classification levels (ECLs) were declared by the plant: Alert at 0901, Site Area at 0944 and General Emergency at 1106. At 1331, a 24-hour time step was implemented that gave the current status of the plant as in a Site Area ECL with releases terminated and plant stable. The plant lifted their emergency classification and entered the recovery phase at 1405. The exercise was terminated at 1530.

7. Description of State and Local Resources Planned To Be Used In The Exercise

During the exercise the State of Minnesota planned to activate and staff their EOC in the State Capitol Building in St. Paul; the Joint Public Information Center, which is also in the State Capitol Building, the analytical laboratory in the Department of Health Building and; prepositioned field monitoring teams in Hastings, Minnesota. The reception center at the State Fair Grounds was to be simulated as open.

In Dakota County, the EOC was to be activated and one traffic and access control point actually staffed. Sirens were to be simulated being sounded.

In Goodhue County/City of Red Wing, the joint EOC was to be activated and one traffic and access control point actually staffed. Sirens within the County were to be simulated but actually sounded within the City of Red Wing. Route alerting was to be partially demonstrated.

The State of Wisconsin planned to fully activate and staff their EOC in the DEG's offices, spokespersons were to participate at the JPIC. The State radiological function was to be exercised through the Department of Health and Social Services, Section of Radiation Protection accident assessment in the State EOC, the mobile laboratory located in Ellsworth, Wisconsin and the prepositioned field teams.

Pierce County was to activate and staff their EOC for participation in the exercise. Sirens were to be simulated being sounded.

8. Findings Noted In Past Exercises

There were two deficiencies identified in the area of public alerting during the June 17, 1986, exercise. One of these was for Goodhue County/City of Red Wing and the other for Pierce County. As corrective action for these deficiencies, the two States and the three EPZ Counties (including the City of Red Wing) met and established coordinated alerting procedures to preclude the disjointed public alerting which occurred during the 1986 exercise. On February 10, 1987, a joint meeting to review the procedures and to conduct a remedial table top session was held which corrected the deficiencies.

The State of Minnesota received eleven (11) areas requiring corrective action during the June 17, 1986, exercise, six (6) addressing ingestion pathway and recovery/reentry planning, procedures and training. These were corrected the following year during the September 29, 1987, Monticello full scale ingestion exercise.

The Goodhue County/City of Red Wing two areas requiring corrective action identified in the June 17, 1986, exercise involved coordination of EBS messages and representation at the JPIC. These were corrected during this exercise.

The Dakota County area requiring corrective action of providing a representative to the JPIC was not demonstrated during this exercise and remains. Emergency worker decontamination was not an objective for this exercise. Demonstration of this remains as an area requiring corrective action.

The State of Wisconsin two areas requiring corrective action included demonstration of rumor control and consistent protective actions. These were successfully corrected during the June 26, 1987, Zion exercise.

The Pierce County previous area requiring correction of logging and disseminating the PIO messages was corrected this exercise. Although a school evacuation demonstration was not an objective there was a procedural discussion during the exercise. This corrects the past area requiring corrective action.

9. Exercise Objectives Still to be Effectively Achieved

Six Year Exercise Cycle

The FEMA Guidance Memorandum PR-1: POLICY ON NUREG-0654/FEMA-REP-1 AND 44 CFR 350 PERIODIC REQUIREMENTS dated October 1, 1985 established a six-year biennial exercise cycle and revised and/or clarified exercise requirements. Applying PR-1, the June 22, 1988, Prairie Island Exercise was the first exercise of the second six (6) year exercise cycle for all affected political jurisdictions. This is also the first exercise using the revised objectives as issued in FEMA GM EX-3, dated February 26, 1988.

The following Table A depicts the objectives demonstrated this exercise by the State of Minnesota, Goodhue County/City of Red Wing and Dakota County. Table B depicts the objectives demonstrated this exercise by the State of Wisconsin and Pierce County. With the exception of the previously identified remaining areas to be corrected all jurisdictions have met the first six year cycle objective requirements. The new objective 36 involves the periodic requirement of off-hours/unannounced drills or exercises. By conducting off-hours/unannounced drills in October 1988, all periodic requirements for the first six year cycle were accomplished by the jurisdictions in the Prairie Island area. This objective will need to be demonstrated again in the current six year cycle.