U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-266/88021(DRSS); 50-301/88019(DRSS)

Docket Nos. 50-266; 50-301 Licenses No. DPR-24; DPR-27

Licensee: Wisconsin Electric Power Company
231 West Michigan
Milwaukee, WI 53201

Facility Name: Point Beach Nuclear Power Plant, Units 1 and 2

Inspection At: Point Beach Site, Two Creeks, Wisconsin

Inspection Conducted: September 12-16, 1988

Inspectors: J. Foster
J. Foster
Team Leader
10/6/88
Date

T. Ploski
T. Ploski
10/6/88
Date

Approved By: William Snell
William Snell, Chief
Emergency Preparedness
Section
10/6/88
Date

Inspection Summary

Inspection on September 12-16, 1988 (Reports No. 50-266/88021(DRSS); No. 50-301/88019(DRSS))
Areas Inspected: Routine, announced inspection of the Point Beach Power Station emergency preparedness exercise (IP 82301) involving observations by four NRC representatives of key functions and locations during the exercise.
Results: The licensee demonstrated an adequate response to an accident scenario which included multiple equipment failures and the potential for a large release of radioactive material to the environment. Corrective actions for previous Exercise Weaknesses appeared to be effective, but additional program enhancements are still needed in some areas. Although no violations, deficiencies, or deviations were identified, one exercise weakness requiring corrective action was identified in this report and in the Appendix to the report's transmittal letter.

DETAILS

1. Persons Contacted

   a. NRC Observers and Areas Observed

      J. Foster, Control Room, Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF)
      T. Ploski, TSC, EOF, Medical Drill
      R. Leemon, Control Room
      J. Simonds, Field Monitoring Team

   b. Wisconsin Electric Power Company

      *W. Fay, Vice President, Nuclear Power Department
      J. Zach, Plant Manager
      *T. Koehler, General Superintendent
      *D. Stevens, Emergency Planning Coordinator
      *G. Maxfield, Superintendent, Operations
      *R. Chonacki, Quality Specialist, Emergency Planning
      *D. Schoon, Licensing Engineer
      *J. Knorr, Regulatory Engineer
      *F. Flentje, Administrative Specialist
      *R. Chonacki, Quality Specialist, EQRS

   *Denotes those attending the NRC exit interview on September 15, 1988.

2. Licensee Action on Previously Identified Items (IP 92701)

   a. (Closed) Open Item (No. 266/87018-01; 301/87018-01): During the previous exercise, poor coordination of the Health Physics (HP) control stations at the TSC/OSC area and at the Health Physics office (Checkpoint Charlie) led to confusion in the staging, dispatch, return and debriefing of teams. Emergency Plan Implementing Procedure (EPIC) 7.11 now directs actions in this area. During this exercise, no coordination problems were observed. As noted later in this report, EPIP 7.11 may require further enhancement; however, it does correct the coordination deficiencies previously noted. This item is closed.

   b. (Closed) Open Item (No. 266/87018-02; 301/87018-02): During the last exercise, the team responding to the injured man did not take along any medical equipment (first aid kit, trauma kit, stretcher). This item was reviewed by the Resident Inspector and closed in Inspection Report 88007. In addition, no significant problems were identified during the medical portion of this exercise. This item is closed.

c. (Closed) Open Item (No. 266/87018-03; 301/87018-03): During the last exercise, the EOF staff misunderstood plant status and the significance of a fire for more than an hour. They also did not understand why the TSC escalated to a General Emergency condition. These problems appeared to be caused by a lack of information from the TSC. During this exercise, information flow from the TSC to the EOF was adequate. This item is closed.

d. (Closed) Open Item (No. 266/87018-04; 301/87018-04): During the last exercise, various problems in EOF operations were due to inadequate staffing which resulted in the Radcon/Waste Manager, the EOF Communicator, and Assistant Radcon/Waste Manager being significantly overburdened with functions and duties. During this exercise, EOF staffing was adequate. This item is closed.

e. (Closed) Open Item (No. 226/87018-05; 301/87018-05): During the last exercise, status boards in the EOF needed to be redesigned ard corrected. Space or a separate display for offsite monitoring data, corrections in titles and staffing positions on the Emergency Organization Status Boards, separate dose projection information for thyroid and whole-body dose, and meteorological data for both meteorological towers were needed. The status boards in the EOF have been redesigned and updated. Carpeting, new desks, and new telephones have also been added. Licensee personnel indicated that further enhancements/modifications are being considered. This item is closed.

3. General

An exercise of the Point Beach Power Plant Emergency Plan was conducted at the Point Beach station on September 14, 1988. The exercise tested the licensee's emergency support organizations' capabilities to respond to a simulated accident scenario resulting in a major release of radioactive effluent. This was a "full participation" exercise for Manitowoc and Kewaunee counties, and a "partial participation" exercise for the State of Wisconsin. Attachment 1 describes the Scope and Objectives of the exercise. Attachment 2 describes the exercise scenario.

4. General Observations

a. Procedures

This exercise was conducted in accordance with 10 CFR Part 50, Appendix E requirements using the Point Beach Nuclear Plant Emergency Plan and Emergency Plan Implementing Procedures.

b. Coordination

The licensee's response was coordinated, orderly and timely. If the events had been real, the actions taken by the licensee would have been sufficient to permit the State and local authorities to take appropriate actions to protect the public's health and safety.

c. Observers

The licensee's observers monitored and critiqued this exercise along with four NRC observers.

d. Exercise Critiques

A critique was held with the licensee and NRC representatives on September 15, 1988. The NRC also discussed the observed strengths and weaknesses during the exit interview. In Addition, a public critique was held on September 16, 1988 to present the preliminary onsite and offsite findings of the NRC and FEMA evaluators, respectively.

5. Specific Observations (IP 82301)

a. Control Room

The Control Room was simulated in the computer room above the actual Control Room. There was excellent use of IBM Personal Computer programs to provide reactor system parameters and radiation monitoring system displays, and clever use of chart information to partially simulate actual control room readouts. A PPCS terminal in "drill mode" (pre-programmed systems parameters updated at regular intervals) was in use. A detailed drawing of the actual Control Room panels was present to add realism to operator actions.

Control Room personnel reacted well to the accident scenario presented to them. They correctly diagnosed and attempted to mitigate the equipment failures indicated. A good decision was made at one point to shut down one reactor coolant pump to reduce the amount of heat being added to the reactor coolant system. As the exercise progressed, operators correctly attempted to isolate the reactor coolant system leak.

Control room personnel used their procedures extensively, and were aware of which procedure to use and how to properly apply the procedure. During troubleshooting attempts, operators made good use of available procedures, drawings, logic diagrams, and other reference materials.

The Shift Superintendent was obviously in charge in the Control Room. He maintained an orderly and low noise environment. Safety of the operators sent into the plant was obviously of concern to him. He also continued to anticipate the next probable equipment failure by assessing the remaining operable equipment and likely failure paths.

During the initial portion of the exercise, emergency classifications were properly made, per the relevant Emergency Action Level (EAL). Offsite agency notifications were correctly performed, per procedure, on a timely basis.

An exercise Controller was advised that the NRC would request that the failed reactor trip breakers be quarantined so that the team which would later investigate the accident could analyze the cause of failure. This information was passed on to exercise players, who responded appropriately.

Late in the scenario, conditions which matched those required for a General Emergency classification were present, for a brief period of six to seven minutes. Control Room personnel did not have classification responsibilities at that time; but it is not clear that they fully recognized that a reclassification was required. This issue is discussed further in Section 5.B.

There was some confusion when health physics personnel, following guidance in Emergency Plan Implementing Procedure (EPIP) 7.11, abandoned the routine health physics control point and established a control point in the vicinity of the Operational Support Center (OSC). Discussion with licensee personnel indicated that health physics personnel had interpreted the procedure correctly, and revision to this procedure is under consideration.

There were several other minor problems noted. There were difficulties with radio communications involving a repair crew in a pipeway. The first public address announcement of plant evacuation was not discernable and had to be repeated. Control Room personnel appeared to lose track of their request for a primary coolant sample, and did not follow up on their request when the sample was delayed. Control Room personnel appeared unaware of when the Technical Support Center was activated.

Based on the above findings, this portion of the license's program was adequate.

b. Technical Support Center (TSC)

Minor changes in the Technical Support Center since the last exercise were noted. A large digital clock and improved plume tracking map had been added.

At approximately 8:00 a.m., a security force captain arrived in the TSC and transmitted the initial notification message to the State and to both counties. He then began responding to verification callbacks from these organizations. At approximately 8:30 a.m., a TSC communicator called the NRC Operations Center with the initial notification message for the Alert classification. A completed copy of the NRC's Event Notification Worksheet was used to adequately document this call.

TSC activation began promptly after the Alert declaration, and the Site Manager assumed command and control of onsite emergency response activities 37 minutes after this declaration. This assumption of lead responsibilities was promptly announced to all TSC staff by the TSC Manager.

Assumption of lead responsibilities by the Site Manager occurred after he had received a final update briefing from the Control Room, and he had assured himself that the TSC was adequately staffed with sufficient personnel who were ready to support him.

The activation of the TSC proceeded efficiently. The Site Manager kept his key aides up to date on scenario events and shared this information with other incoming TSC staff. Status boards were gradually filled in as information was available. A small number of persons were selected to proceed to the Site Boundary Control Center to begin EOF activation. Incoming staff were assigned to specific positions in the TSC organization. The Site Manager notified the corporate offices of the reason for the Alert declaration and other scenario events.

Declaration of a Site Area Emergency at approximately 10:23 a.m. was based on both high offsite dose projections and an ongoing loss of reactor coolant. The high offsite dose projections were caused by an error in the scenario data package, which caused confusion for some time. Later, the difference between displayed values on the radiation monitoring system (PC simulated) and the PPCS system (in drill mode) was noted, and the error was discovered.

Onsite accountability was completed in less than 30 minutes.

Good Health Physics practices were observed in the TSC. Personnel were reminded several times (formally and informally) to check their dosimeters.

Procedures and their related forms were used extensively throughout the exercise. The trend charts used for tracking radiological data were highly visible and well maintained. Radiation monitors of interest were trended.

There were frequent staff meetings with status updates following, which kept the TSC staff coordinated and aware of plant conditions and events throughout the exercise. Care was taken to ensure that the TSC staff meetings were not excessively long, diverting managers from their primary responsibilities.

A copy of the Alert notification, lacking any indication that it was a drill, was telefaxed to NRC Region III. Region III personnel were aware that an exercise was scheduled for the date, and verified that the notification was a part of an exercise.

Plant conditions requiring a classification of a General Emergency per the Emergency Action Levels (EALs) were reached during the latter part of the exercise. These conditions were: (1) primary coolant leak exceeding 1000 gallons per minute, (2) loss of containment integrity, either visually or per control board status lights, and (3) core exit thermocouples exceeding 700 degrees F. These conditions were not recognized and a contingency message was issued by a Controller in the TSC to cause declaration of a General

Emergency. A review of scenario data points indicated that most of the core exit thermocouples exceeded 700 degrees F for approximately 6-7 minutes prior to accumulator discharge to the reactor coolant system, which immediately dropped thermocouple readings. A hypothetical core uncovery would have been of approximately the same duration. Failure to recognize that conditions warranted a General Emergency declaration is an Exercise Weakness (Item No. 266/88021-01).

Based on the above findings, one Exercise Weakness was identified.

c. Operational Support Center (OSC)

The Operational Support Center (OSC) was briefly observed during this exercise.

Status boards in the OSC were improved from last year. Forms contained in EPIP 4.2 were utilized to provide information as to the availability of personnel for inplant teams, and to track the composition, task, allowable doses, time dispatched, and expected time of a team's return.

Observation of a team briefing indicated that the team was adequately briefed as to their assigned task and possible inplant hazards.

Based on the above findings, this portion of the license's program was adequate.

d. Medical Drill

Portions of the medical emergency response activities which occurred late in the exercise were observed. A member of an inplant team had supposedly become injured while performing his assignment in an uncontaminated area of the plant. The simulated injuries were sufficient to require transport to a local hospital.

The ambulance crew arrived at the security gatehouse, where they were issued personal dosimetry and plastic bags containing protective clothing. The ambulance was driven to a plant entrance near the accident scene following completion of required security access procedures. The ambulance crew was directed to the accident scene, which plant staff had already determined was not contaminated. The medical staff expressed confusion as to why the victim and members of the search and rescue team all wore protective clothing if neither they nor their surroundings were contaminated. They were then assured that no contamination had been identified during already completed surveys. Medical response efforts were not delayed by any undue concerns for possible contamination on the victim or at the accident scene. Medical personnel did not waste any time by donning the unnecessary protective clothing articles, most of which they left at the accident scene.

The medical team was briefed on the victim's condition by plant personnel. The medical responders then administered oxygen and attached a cervical collar to the victim. Plant personnel had already covered the victim's trunk and legs with a blanket and had applied a splint to his injured arm. The victim was carefully secured on a backboard, which was then secured to a gurney before being placed in the ambulance. The search and rescue team kept the OSC adequately informed of the progress of the medical responders' activities. The search and rescue team assigned a plant employee to ride in the ambulance to the hospital. This individual was given one of their hand-held radios with which to communicate to OSC supervisory personnel.

Since this was a drill rather than an actual medical emergency, the ambulance crew was subject to standard security procedures upon leaving the Protected Area. The ambulance crew expressed appropriate concern at the prospect of leaving the victim unattended in the ambulance while they exited through the gatehouse, and confusion on how the plant employee roleplaying the victim would also be expected to properly exit the Protected Area.

Based on the above findings, this portion of the licensee's program was acceptable; however, the following item should be considered for improvement:

- The licensee should ensure that security force and local ambulance service personnel are sufficiently aware of the differences in Protected Area ingress and egress procedures relevant to drill and actual emergency situations.

f. Emergency Operations Facility (EOF)

The TSC's Site Manager (SM) dispatched an Acting Emergency Support Manager (ESM) and several aides to begin EOF activation at approximately 8:15 a.m., after the Alert declaration and before the TSC became fully operational. EOF activation proceeded at a gradual, unhurried pace over the next two hours as additional plant staff arrived in response to repeated requests by the Acting ESM. The Acting ESM and his primary assistant briefed incoming plant staff on their EOF responsibilities, monitored changing plant status and the TSC's responses, and occasionally briefed the growing EOF staff on these activities.

Plant staff requested by the Acting ESM included a Duty Technical Advisor (DTA) to perform offsite dose calculations, and three communicators to relieve the TSC staff of only very specific offsite notification responsibilities. The responsibility for initially notifying State and county officials of emergency reclassifications remained in the TSC, as the EOF was not equipped with a NAWAS telephone line. Although the TSC's SM retained responsibility for emergency declarations, responsibility for initially notifying the NRC of these declarations was transferred

to the EOF, since it was equipped with an ENS line. Although the EOF was not yet fully operational, EOF staff assumed the previously described offsite communications responsibilities shortly after 10:00 a.m. Given the SM's decision to activate the EOF during normal work hours after the TSC was adequately staffed, it was unclear why the Acting ESM had to make repeated requests to obtain personnel to fill pre-established EOF positions assigned to plant personnel.

The EOF activation process quickened shortly before corporate personnel began arriving to complete facility staffing. A corporate individual relieved the plant employee of ESM responsibilities and declared the adequately staffed EOF fully operational at 11:15 a.m., 45 minutes after the Site Area Emergency declaration. After a final conference with the SM, the new ESM announced that he had relieved the SM of undelegatable responsibilities with the exception of emergency classification, which the SM retained per the Emergency Plan.

Communicators to the State, counties, and the NRC made good efforts to fulfill their procedural responsibilities, despite exhibiting some initial unfamiliarity with readily available procedural guidance and message forms. The communicators to the State and counties wisely decided that only one of them needed to draft hourly update messages to ensure that all offsite officials were given identical information. However, review of completed "Status Update Forms" revealed several intermittent problems. Not all forms indicated the persons contacted. Not all forms contained information for all topic areas listed, and some entries included technical acronyms whose understanding by offsite individuals would be uncertain. Not all forms had been initialed to indicate prior approval by the individual in charge of EOF activities. To better ensure completeness and accuracy of periodic status updates provided to State and county officials, the individual in charge of the EOF should document his review and approval of hardcopy messages prior to their transmittal. This is an Open Item (No. 266/88021-02).

The dedicated EOF communicator for NRC telecommunications filled out an "Event Notification Worksheet" to document his simulated conversations. Review of completed worksheets revealed only occasional documenting of the times associated with specific events or noteworthy parameter values. Although the Site Area Emergency was declared at 10:29 a.m. by TSC staff and the simulated initial notification of the NRC was completed by 11:00 a.m., the specific reason for this reclassification was uncertain in the EOF until about 11:14 a.m. The associated initial notification message form simply listed an assessment associated with the reclassification among a list of items that had occurred within the last hour. It was not apparent that the individuals in charge of the EOF had reviewed and approved message forms prior to their simulated transmittal to NRC officials. The individual in charge of the EOF should document review and approval of all completed

message forms used to document conversations with NRC officials before these messages are transmitted, and ensure that the reasons for any emergency reclassifications are clearly stated. This is an Open Item (No. 266/88021-03).

EOF staff, just augmented by incoming corporate personnel, repeatedly sought confirmation on the rationale for the Site Area Emergency declaration. The corporate Radiological Control Waste Manager (RCWM) correctly questioned the validity of a TSC offsite dose calculation which resulted in the declaration. He quickly became busy with evaluating this calculation; providing good advice to the Health Physics Director regarding field survey team deployment; responding to several calls from a State official regarding the needs for further offsite dose calculations and possible Protective Action Recommendations (PARs); reviewing EALs for containment radiation levels; and instructing his staff on how to acquire vent stack radiation monitor data. He performed this deluge of tasks very well.

The RCWM also helped identify a discrepancy between vent stack radiation level data bases for the TSC and EOF. The RCWM also ensured that reference to the results of the TSC's dose calculation (discovered to be based on incorrect scenario data) was deleted from a draft press release.

While EOF staff were well aware of increasing radiation levels in containment, they did not relate this as being due to a loss of coolant accident (LOCA) with some fuel damage. This was evident from a status board entry that remained beyond 1:00 p.m. which indicated that there was no radioactive release from the reactor coolant system to the containment. When some EOF staff learned, shortly before noontime, that TSC controllers had issued a contingency message for a General Emergency declaration based on a loss of fission product barriers, they exhibited surprise. However, as evident from the associated initial notification message to the NRC, EOF staff soon gained a fuller understanding of plant conditions that warranted this classification. The message form did not, however, mention that incore thermocouples had previously reached 700 degrees F, which was one of the classification criteria of the relevant EAL. A containment radiation level reading was listed, but not its valid time.

Relevant EALs for the Site Area and General Emergency declarations were never fully explained for the benefit of communicators and other EOF staff, and never posted on an EOF status board for the benefit of persons present or later arriving at the EOF. Such lack of detail was due, in part, to the fact that emergency classification is not an EOF responsibility in the licensee's emergency organization.

The initial offsite PAR for the General Emergency was developed per procedural guidance by TSC staff in a timely manner after issuance of the contingency message to declare a General Emergency. The RCWM and ESM concurred with this recommendation, which the RCWM promptly discussed with his State agency counterpart. The initial recommendation was revised to include evacuation of the two mile radius around the plant, with sheltering to five miles in downwind sectors. As the exercise progressed, the RCWM and ESM were informed of the State's desire to evacuate additional radial areas around the plant and downwind sectors further downwind. EOF staff understood that the State's intentions were based on the need to demonstrate certain exercise objectives. The ESM and RWCM correctly indicated that such additional evacuations were not warranted, based on plant conditions and procedural guidance for developing PARs.

EOF staff adequately demonstrated the capability to remain aware of protective actions implemented by offsite officials for land portions of the Emergency Planning Zone (EPZ). They also recognized that the implemented evacuation for all areas within the two miles of the plant included a portion of Lake Michigan for which the U. S. Coast Guard would be responsible. EOF communicators were instructed by the ESM to ensure that the U. S. Coast Guard had been informed to implement the evacuation of appropriate portions of Lake Michigan. However, since offsite officials were responsible for notifying the Coast Guard rather than the licensee, it was unclear how EOF communicators were to comply with the ESM's request. There were no status board indications that EOF staff were aware of protective actions implemented for Lake Michigan portions of the EPZ.

At about 10:30 a.m., EOf staff demonstrated the capability to acquire a National Weather Service (NWS) forecast, valid for the 24-hour period beginning at 6:40 a.m., prior to being given the scenario's forecast weather conditions. Current weather data were adequately updated. No efforts were made to update this forecast prior to exercise termination, based on status board entries, although the NWS generates updated forecasts at least every six hours.

Based on the above findings, two Open Items were identified. In addition, the following items should be considered for improvement:

- To better ensure a more automatic and efficient staffing of those EOF positions intended to be initially filled by plant personnel, the licensee should develop an EOF callout roster and response time goals for appropriate plant personnel.

- The occurrence times associated with events and parameter values considered important enough to list in initial and status update messages to NRC, State, and local officials should be included.

- TSC staff should ensure that their EOF counterparts are promptly informed of EALs associated with all emergency declarations. This EAL information should be posted in the EOF for the benefit of EOF communicators and later arriving licensee and/or NRC staffs.

- Protective actions implemented for Lake Michigan portions of the EPZ should be promptly posted on EOF status boards.

- EOF staff should periodically request updated weather forecasts from the NWS.

g. Field Monitoring Teams

At 8:10 a.m. Health Physics (HP) staff began arriving at the Site Boundary Control Center (SBCC). They established radio communications with the MSC. They proceeded to activate the HP section of the SBCC per EPIP 7.2.1. The first field team arrived at the SBCC with a van at 8:25 a.m. They transferred an emergency kit to the van and proceeded to check contents per the checklist in the kit.

At 9:20 a.m. the HP Supervisor briefed the HP staff, assigned duties, and reminded everyone that the operative procedure was EPIP 7.3.1. He directed two staff members to install step-off pads and friskers at the side door and one front door in the weight room. Security had established a checkpoint in the weight room designated as the main entrance to the SBCC.

The EOF's Health Physics Director and staff quickly formed two field survey teams and one sample shuttle team. The teams were given an adequate initial briefing on scenario events and precautions to minimize their exposures. The teams checked their survey equipment and were ready for dispatch within 45 minutes of the Alert declaration.

Initial deployment of the two survey teams was appropriate. One team was kept downwind one to two miles from the plant to better locate a potential plume. A second team was later dispatched further downwind. As the exercise progressed, the teams repeatedly traversed nearby roadways downwind of the plant. However, since the scenario did not postulate a significant release, neither team reported locating a plume.

Field team No. 2 performed in a professional manner throughout the exercise. They performed inventory and operational checks of the emergency kit per the checklist included in the kit, and also operationally checked the auxiliary power unit (APU), before loading them into the van. They observed proper radio communications procedures throughout the exercise. Both members of the team tested the new earplug speaker/microphone unit designed to be used with the Scott Airpack face mask. This unit allows clear radio communication while wearing a hood and face mask.

After contamination stepoff pads had been established in the EOF, the frisking technique of an incoming member of the HP staff was observed. The individual held the survey instrument too close to his body. The frisker head was allowed to touch his clothing almost continuously. If the person had been contaminated, the frisker head would have also become contaminated.

Based on the above findings, this portion of the licensee's program was acceptable.

6. Exercise Scenario and Control

The licensee's scenario was challenging, and included: multiple equipment failures, an injured man (medical drill), assembly/accountability, meteorological changes, and evacuation of nonessential personnel from the site. The degree of challenge in an exercise scenario is considered when assessing observed exercise weaknesses.

Exercise control was considered adequate.

The exercise objectives did not include any preliminary recovery planning demonstrations by TSC or EOF staffs. The 1989 objectives and scenario should include provisions for TSC and EOF staffs to demonstrate their capabilities to develop a coordinated, preliminary action plan for addressing onsite and offsite recovery issues.

7. Licensee Critiques

The Licensee held two levels of exercise critiques, one at each facility immediately following the exercise (mini-critique), and a large critique for controllers/observers. NRC personnel attended each of the critiques, and determined that exercise deficiencies of significance had been correctly identified by licensee personnel.

8. TMI Safety Issues Management System (SIMS) Items

On October 31, 1980, the NRC issued NUREG-0737, which incorporated into one document all TMI-related items approved for implementation by the Commission at that time. On December 17, 1982, the NRC issued Supplement 1 to NUREG-0737 to provide additional clarification regarding Regulatory Guide 1.97 (Revision 2) - Application to Emergency Response Facilities, Emergency Response Facilities, and Meteorological Data, as well as other areas. The status of the completion of these TMI SIMS items are internally tracked by the NRC.

The below listing provides the status of the SIMS items related to emergency preparedness. The listing indicates how the item was tracked as of August 22, 1988 on SIMS, as well as what we have determined to be the correct and current status of the item. In some cases the status of items tracked by SIMS are incorrect and/or should be updated based on recent inspection findings. The comments provide a background and basis for the current status.

III.A SIMS Status: Open
Current Status: Open

This item refers to implementation of Chapter 8 of Supplement 1 to NUREG-0737, and should be closed upon completion of the yet to be scheduled ERF Appraisal.

III.A.1.1 SIMS Status: N/A
Current Status: Closed

This item involved short term improvements to the emergency preparedness program and was closed at the conclusion of the Emergency Preparedness Implementation Appraisal: Report Nos. 50-266/82-02; 50-301/82-02 dated February 11, 1982.

III.A.1.2.1 SIMS Status: Closed
Current Status: Closed

This item involved interim upgrades to the ERF's and was closed at the conclusion of the Emergency Preparedness Implementation Appraisal: Report Nos. 50-266/82-02; 50-301/82-02 dated February 11, 1982.

III.A.1.2.2 SIMS Status: Not Listed
Current Status: N/A

This item involved design criteria for upgraded ERF's, but was subsequently determined to be not applicable (N/A).

III.A.1.2.3 SIMS Status: Closed
Current Status: Closed

Because this item involved ERF modifications that were incorporated into MPA-F-63, 64 and 65, this item was closed based on the Emergency Preparedness Implementation Appraisal: Report Nos. 50-266/82-02; 50-301/82-02 dated February 11, 1982.

III.A.2.1 SIMS Status: N/A
Current Status: Closed

This item involved the submittal of upgraded emergency plans. This item was closed with the issuance of the SER: Report Nos. 50-266/83-25; 50-301/83-23 dated February 2, 1984.

III.A.2.2 SIMS Status: N/A
Current Status: Closed

This item involved the submittal of emergency procedures. This item was closed at the conclusion of the Emergency Preparedness Implementation Appraisal: Report Nos. 50-266/82-02; 50-301/82-02 dated February 11, 1982.

III.A.2.3 SIMS Status: Not Listed
Current Status: Closed

This item involved an acceptable interim meteorological program. This item was closed at the conclusion of the Emergency Preparedness Implementation Appraisal: Report Nos. 50-266/82-02; 50-301/82-02 dated February 11, 1982.

III.A.2.4 SIMS Status: Open
Current Status: Open

This item involves an acceptable final meteorological program and will not be closed until completion of the as yet unscheduled ERF Appraisal.

III.A.2.5 SIMS Status: Open
Current Status: Open

This item involves an acceptable Class A meteorological model and will not be closed until completion of the as yet unscheduled ERF Appraisal.

III.A.2.6 SIMS Status: Open
Current Status: Open

This item involves a licensee's review of their Class A meteorological model and will not be closed until completion of the as yet unscheduled ERF Appraisal.

III.A.2.7 SIMS Status: Not Listed
Current Status: N/A

This item required the licensee to provide a description of the Class B meteorological model to the NRC. Based on the current structure of the ERF Appraisal program, the NRC is not reviewing submittals of the Class B model. Therefore this item is not applicable (N/A).

III.A.2.8 SIMS Status: Open
Current Status: Open

This item involves an acceptable Class B meteorological model and will not be closed until completion of the as yet unscheduled ERF Appraisal.

MPA-F-63 SIMS Status: N/A
Current Status: Open

This item involves a review of the TSC during the ERF Appraisal and should be closed upon completion of the as yet unscheduled ERF Appraisal.

MPA-F-64 SIMS Status: N/A
Current Status: Closed

This item involved a review of the OSC, which was completed during the September 15, 1987 exercise: Report Nos. 50-266/87018(DRSS); 50-301/87018(DRSS) dated October 14, 1987.

MPA-F-65 SIMS Status: N/A
Current Status: Open

This item involves a review of the EOF during the ERF Appraisal and should be closed upon completion of the as yet unscheduled ERF Appraisal.

MPA-F-66 SIMS Status: N/A
Current Status: N/A

This item involved the Nuclear Data Link, which has been superseded by the Emergency Response Data System (ERDS). Therefore this item is not applicable (N/A).

9. Exit Interview

The inspectors held an exit interview on September 15, 1988, with the licensee representatives denoted in Section 1. The NRC Team Leader discussed the scope and findings of the inspection. The licensee indicated that none of the information discussed was proprietary.

Attachments:
1. Point Beach 1988
   Exercise Scope
   and Objectives
2. Point Beach 1988
   Exercise Scenario
   Outline

4.0 EMERGENCY EXERCISE SCOPE

4.1 Overview

4.1.1 The 1988 Point Beach Nuclear Plant emergency plan exercise scenario will require activation of the Wisconsin Electric TSC, OSC, EOF, JPIC and various corporate support facilities. State and local Emergency Operations Centers (EOCs) will be established in response to scenario events.

4.1.2 The scenario will provide exercise participants at the plant with several opportunities to identify, classify and mitigate emergency events.

4.1.3 Although scenario events do not lead to a significant release of radioactivity to the environment, declaration of a General Emergency classification is ultimately warranted due to a potential loss of three fission product barriers. Field monitoring activities by utility and state teams will verify that no significant radioactive release has occurred. Offsite protective measures will be required due to the General Emergency declaration, specifically the degraded core condition.

4.1.4 The scenario will require a medical emergency response to an injured plant employee. The injury may not be complicated by radioactive contamination. Participation of the ambulance service and hospital may be simulated.

4.2 Sequence of Events

4.2.1 The scenario begins with PBNP Units 1 and 2 at 100% power. A Unit 1 turbine trip/reactor trip initiates in response to a failed condensate pump. Control rods fail to drop into the core. Operator actions, however, successfully insert rods into the core and result in the reactor becoming subcritical. This Anticipated Transient Without Scram (ATWS), requires an "Alert" declaration (category 10).

4.2.2 The transient results in a brief overpressure condition in the reactor coolant system (RCS). A pressurizer power operated relief valve (PORV) lifts to release RCS pressure to the pressurizer relief tank (PRT). Although the PORV reseats, the valve spring is damaged.

4.2.3 Sometime later, the damaged PORV spring allows the PORV to lift resulting in a brief loss of reactor coolant to the PRT. The PORV block valve fails on thermal overload and operator attempts to secure the PORV leak are unsuccessful. The PRT retains its integrity and prevents a release of reactor coolant to the containment.

4.2.4 The broken spring on the PORV ultimately gives way and the PORV fails open. When the PRT rupture disk fails, a leak of reactor coolant to the containment results. Because of the failed PORV block valve, operators are unable to secure the leak.

4.2.5 The RCS leak rate results in a rapid depressurization of the RCS. Pressurizer low-pressure initiates a safety injection actuation. One high-head safety injection pump fails to start due to a breaker problem.

4.2.6 A few moments after safety injection actuation, a welding rig in the number one pipeway is knocked over. A gas bottle is damaged and is propelled through the number one pipeway toward containment. The projectile causes a safety injection line and charging line valve to be broken. The damaged safety injection line is the one supplied by the operating pump. This damage results in a loss of all high-head safety injection. The operable safety injection pump delivers boric acid and refueling water to the number one pipeway and the auxiliary building floor via the broken safety injection line. Injection to the primary system never occurs.

4.2.7 In addition, the projectile in the number one pipeway damages several containment isolation valves and containment penetrations. Although the damage is considerable, and some containment isolation valve indicator lights in the control room are dim, the containment is not actually breached.

4.2.8 The spill of refueling water to the auxiliary building results in slightly elevated radiation levels as monitored at the auxiliary building vent stack. The atmospheric release of radioactivity is not significant from an offsite dose standpoint.

4.2.9 A site emergency (Category 1) may be declared as a result of an RCS leak rate in excess of available pump capacity.

4.2.10 At this point, the plant is in hot shut down, cooling down on the atmospheric steam dumps, with an in-containment RCS leak in excess of available charging capacity. Because high-head safety injection is not available, core uncovery ultimately results. Temperature at the core exit thermocouples increases to greater than 700°F.

4.2.11 A primary leak rate exceeding pump capacity, an apparent loss of containment integrity, and core temperatures exceeding 700°F together warrant declaration of a General Emergency (Category 1).

4.2.12 The General Emergency declaration will require a recommendation of protective actions to offsite agencies. The minimum recommendation is sheltering in all sectors from zero to two miles and at least four downwind sectors out to five miles.

4.2.13 Because of the degraded core conditions, protective action recommendations (PARs) will later include evacuation of at least all sectors out to two miles.

4.2.14 The offsite health physics facility (OSHPF) and emergency operation facility (EOF) will implement and coordinate offsite monitoring. Protective action recommendations developed at the EOF will be based upon plant conditions. The absence of a significant offsite radiological release will be verified by a coordinated OSHPF and EOF effort.

4.2.15 Plant maintenance activities will focus upon restoration of the failed safety injection pump or piping. While involved in repair or damage assessment activities, one team member becomes injured and requires response by an on-site first aid team. Offsite medical response (ambulance and hospital) may be simulated.

4.2.16 Scenario events will require Manitowoc County, Kewaunee County, and the State of Wisconsin to issue protective action orders, activate emergency operation centers, reception centers and congregate care facilities.

4.2.17 The scenario will be terminated at the discretion of the main exercise controller.

4.2.18 The scenario will not provide for demonstration of on-site or off-site recovery and reentry.

3.0 OBJECTIVES

3.1 Wisconsin Electric Power Company

3.1.1 General

3.1.2 Control Room

3.1.3 Technical Support Center

3.1.4 Operations Support Center

3.1.5 Emergency Operation Facility

3.1.6 Offsite Health Physics Facility

3.1.7 Security

3.1.8 Joint Public Information Center

3.2 State of Wisconsin

3.3 Kewaunee County

3.4 Manitowoc County

EMERGENCY PLAN OBJECTIVES - SEPTEMBER EXERCISE

3.0 OBJECTIVES

3.1 Wisconsin Electric Power Company

3.1.1 General

a. Demonstrate timely notification of on-site emergency response personnel of an emergency plan activation.

b. Demonstrate timely notification of key corporate emergency support personnel:

1. Emergency support manager

2. Rad/Con waste manager

3. Emergency director

4. Vice President communications (or designee)

c. Demonstrate the ability to fully alert, mobilize and activate personnel for both facility and field-based emergency functions based upon specified emergency action levels.

d. Demonstrate the ability to direct, coordinate and control emergency activities.

e. Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

f. Demonstrate the ability of all elements of the emergency response organization to communicate using the following equipment:

1. Direct lines between plant emergency response facilities (ERFs). Plant emergency response facilities include: Control room, TSC, EOF, SBCC, extension building, and JPIC.

2. Direct lines between the TSC/EOF and the corporate emergency center (CEC).

3. Direct lines between the TSC/EOF and the State of Wisconsin EOC.

4. Direct lines between the TSC/EOF and the county EOCs in Manitowoc and Algoma

5. Radio communications between the offsite health physics facility and utility offsite radiological monitoring teams.

g. Demonstrate the ability to staff the following emergency response facilities:

1. Control room (CR)

2. Operations support center (OSC)

3. Technical support center (TSC)

4. Emergency operations facility (EOF)

5. Offsite health physics facility (OSHPF)

6. Joint public information center (JPIC)

3.1.2 Control Room

a. Demonstrate the ability of the control room staff to provide data in a timely fashion to the TSC.

b. Demonstrate the ability to notify on-site personnel of emergency classifications using the plant Gai-tronics system.

c. Demonstrate the ability to notify [illegible] personnel of an evacuation using the plant Gai-t[illegible] alarm system. (This objective may, in part, be [illegible]ted from the TSC.)

d. Demonstrate the ability to notify the NRC within one hour of event classification using EPIP 2.2. (This objective may be demonstrated from the TSC.)

e. Demonstrate the ability to notify the State DEG and both counties of event classification within 15 minutes using EPIP 2.1. (This objective may be demonstrated from the TSC.)

f. Demonstrate the ability of control room staff to correctly classify an emergency event using the EPIPs.

g. Demonstrate the ability upon receiving a request for an ambulance to call 911 for the dispatch of same. (This objective may be demonstrated from the TSC.)

h. Demonstrate the ability to perform:

1. An evacuation of plant personnel to predesignated on-site assembly areas. (This objective may be demonstrated from the TSC.)

2. An evacuation of contractor personnel to the SBCC. (This objective may be demonstrated from the TSC.)

3. Personnel accountability within about 30 minutes of sounding a plant evacuation alarm. (This objective may be demonstrated from the TSC.)

NOTE: FOLLOWING COMPLETION OF PERSONNEL ACCOUNTABILITY, CONTRACTORS AND PLANT EMPLOYEES NOT DIRECTLY INVOLVED IN THE EXERCISE WILL RETURN TO THEIR WORK STATIONS AND WILL BE CONSIDERED INVISIBLE TO THE REMAINDER OF THE EXERCISE.

i. Demonstrate the ability to provide regular (e.g., hourly) status reports to appropriate state and county agencies. (This objective may be demonstrated from the TSC or EOF.)

j. Demonstrate the ability to provide regular (e.g., hourly) status reports to the NRC. (This objective may be demonstrated from the TSC or EOF.)

3.1.3 Technical Support Center

a. Demonstrate the ability of TSC staff to correctly classify an emergency event using the EPIPs.

b. Demonstrate the ability to notify on-site personnel of emergency classification using the plant Gai-tronics system. (This objective may be demonstrated from the control room).

[illegible] the ability to maintain meteorological status [illegible] current data (e.g., not more than 30 minutes

d. Demonstrate the ability to announce the activation of the TSC and the assumption of TSC responsibilities to appropriate personnel.

e. Demonstrate the ability to notify the NRC within one hour of event classification using EPIP 2.2. (This objective may be demonstrated from the EOF.)

f. Demonstrate the ability to notify the State DEG and both counties of event classification within 15 minutes.

g. Demonstrate the ability to provide regular (e.g. hourly) status reports to appropriate state and county agencies. (This objective may be demonstrated from the EOF.)

h. Demonstrate the ability to provide regular (e.g., hourly) status reports to the NRC. (This objective may be demonstrated from the EOF.)

i. Demonstrate the ability to develop appropriate offsite protective action recommendations using the EPIPs. (This objective may be demonstrated from the EOF.)

j. Demonstrate the ability to conduct a plant evacuation to on-site assembly areas. (This objective may be demonstrated from the control room.)

k. Demonstrate the ability to assure contamination control in the TSC/OSC.

l. Demonstrate the ability of TSC personnel to maintain an emergency reentry team status board.

m. Demonstrate the ability of TSC staff to provide accurate and timely information regarding plant and emergency event status to the EOF.

n. Demonstrate the ability to monitor and control exposure of all persons assigned to the TSC.

o. Demonstrate the adequacy of facilities and displays to support emergency operations.

p. Demonstrate the ability of the POM to manipulate TSC and turbine building ventilation systems to assure an air flow FROM the TSC.

q. Demonstrate the ability to call 911 for the dispatch of an ambulance following notification of a personnel injury requiring offsite response. (This objective may be demonstrated from the control room.)

r. Demonstrate the ability of personnel using radios to communicate effectively.

3.1.4 Operations Support Center

a. Demonstrate the ability to organize, dispatch, and manage a rescue team from the OSC.

b. Demonstrate the ability of TSC/OSC personnel to make a timely request for an ambulance if the initial report of a serious injury is received in the OSC.

c. Demonstrate the ability to dispatch and control all inplant reentry teams following formal activation of the OSC.

d. Demonstrate the ability to announce the activation of the OSC and the assumption of the OSC responsibilities to appropriate personnel.

e. Demonstrate the ability to assure contamination control in the TSC/OSC.

f. Demonstrate the ability to organize, dispatch, and manage a damage assessment or repair team in accordance with the EPIPs.

g. Demonstrate the ability of OSC personnel to maintain an emergency reentry team status board.

h. Demonstrate the ability to monitor and control exposure of all persons assigned to the OSC.

i. Demonstrate the ability of personnel using radios to communicate effectively.

j. Demonstrate the ability and resources necessary to properly outfit reentry teams with protective clothing based upon anticipated environmental conditions.

k. Demonstrate the equipment and procedures required to direct in-plant rescue operations.

l. Demonstrate the ability of on-site personnel to administer appropriate emergency first aid to an injured person.

m. Demonstrate the ability of the Health Physics director to direct on-site radiological monitoring teams.

3.1.5 Emergency Operations Facility

a. Demonstrate the adequacy of facilities and displays to support emergency operations.

b. Demonstrate the ability to adequately staff the EOF to support emergency operations.

c. Demonstrate the ability to provide regular (e.g., hourly) status reports to state and county offices of emergency government.

d. Demonstrate the ability to provide regular (e.g., hourly) status reports to the NRC.

e. Demonstrate the ability to perform computer calculation of offsite radiological consequences based upon a monitored release path.

f. Demonstrate the ability to announce the activation of the EOF and the assumption of EOF responsibilities to appropriate personnel.

g. Demonstrate the ability to monitor and control exposure of all persons assigned to the EOF.

h. Demonstrate the ability to estimate total population exposure.

i. Demonstrate the ability to provide accurate and timely information to the JPIC.

j. Demonstrate the ability to evaluate radiological survey information and recommend appropriate protective actions based on PAGs and plant conditions.

3.1.6 Offsite Health Physics Facility

a. Demonstrate the ability to maintain meteorological status boards with recent data.

b. Demonstrate the ability of personnel using radios to communicate effectively.

c. Demonstrate the ability to mobilize and deploy field monitoring teams in a timely fashion.

d. Demonstrate the ability to routinely inform offsite survey teams of changes in plant conditions and/or emergency classifications.

e. Demonstrate the ability of monitoring teams to perform radiological surveys and report results.

f. Demonstrate the ability of the offsite Health Physics director to direct offsite radiological monitoring teams to:

1. Perform radiological surveys

2. Report survey results to appropriate emergency response facilities.

3. Collect ambient air samples.

4. Transport air, soil, or vegetation samples to the appropriate laboratory facility.

g. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as E-07 μCi/cc in the presence of noble gases.

3.1.7 Security

a. Demonstrate the ability to accomplish personnel accountability within 30 minutes of a plant or limited plant evacuation.

b. Demonstrate the ability to control access to the plant site.

c. Demonstrate the implementation of appropriate emergency response procedures.

3.1.8 Joint Public Information Center (Communications Dept.)

a. Demonstrate the ability to staff the Corporate Emergency Response-Public Information Center (CERPIC).

b. Demonstrate the ability to provide accurate and timely information to the public.

c. Demonstrate the ability to mobilize JPIC staff and activate facilities promptly.

d. Demonstrate the ability to brief the media in a clear, accurate and timely manner.

e. Demonstrate the ability to establish and operate a utility rumor control program at the JPIC.

f. Demonstrate the ability to provide advance coordination with offsite agencies of information released to the public.

g. Demonstrate the adequacy of facilities and displays to support emergency operations.

h. Demonstrate the ability to communicate with all appropriate company locations and offsite organizations.

3.2 State of Wisconsin

3.2.1 Demonstrate the ability to monitor, understand and use emergency classification levels (ECL) through the appropriate implementation of emergency functions and activities corresponding to ECLs as required by the scenario. The four ECLs are: Notification of unusual event, alert, site area emergency and general emergency. (FEMA #1)

3.2.2 Demonstrate the ability to fully alert, mobilize and activate personnel for both facility and field-based emergency functions. (FEMA #2)

3.2.3 Demonstrate the ability to direct, coordinate and control emergency activities. (FEMA #3)

3.2.4 Demonstrate the ability to communicate with all appropriate locations, organizations and field personnel. (FEMA #4)

3.2.5 Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations. (FEMA #5)

3.2.6 Demonstrate the ability to continuously monitor and control emergency worker exposure. (FEMA #6)

3.2.7 Demonstrate the appropriate equipment and procedures for determining field radiation measurements. (FEMA #7)

3.2.8 Demonstrate the appropriate equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} microcuries per cc in the presence of noble gases. (FEMA #8)

3.2.9 Demonstrate the ability to obtain samples of particulate activity in the airborne plume and promptly perform laboratory analyses. (FEMA #9)

3.2.10 Demonstrate the ability, within the plume exposure pathway, to project dosage to the public via plume exposure, based on plant and field data. (FEMA #10)

3.2.11 Demonstrate the ability to make appropriate protective action decisions, based on projected or actual dosage, EPA PAGs, availability of adequate shelter, evacuation time estimates and other relevant factors. (FEMA #11)

3.2.12 Demonstrate the ability to initially alert the public within the 10-mile EPZ and begin dissemination of an instructional message within 15 minutes of a decision by appropriate state and/or local official(s). (FEMA #12)

3.2.13 Demonstrate the ability to coordinate the formulation and dissemination of accurate information and instructions to the public in a timely fashion after the initial alert and notification has occurred. (FEMA #13)

3.2.14 Demonstrate the ability to brief the media in an accurate, coordinated and timely manner. (FEMA #14)

3.2.15 Demonstrate the ability to establish and operate rumor control in a coordinated and timely fashion. (FEMA #15)

3.2.16 Demonstrate the ability to make the decision to recommend the use of KI to emergency workers and institutionalized persons, based on predetermined criteria, as well as to distribute and administer it once the decision is made, if necessitated by radioiodine releases. (FEMA #16)

3.2.17 Demonstrate the ability and resources necessary to implement appropriate protective actions for the impacted permanent and transient plume EPZ population (including transit-dependent persons, special needs populations, handicapped persons and institutionalized persons). (FEMA #18)

3.2.18 Demonstrate the ability to identify the need for and call upon federal and other outside support agencies' assistance. (FEMA #26)

3.2.19 Demonstrate the ability to estimate total population exposure. (FEMA #31)

3.2.20 Demonstrate the ability to maintain staffing on a continuous 24-hour basis by an actual shift change. (FEMA #34)

3.3 Kewaunee County

3.3.1 Demonstrate the ability to monitor, understand and use emergency classification levels (ECL) through the appropriate implementation of emergency functions and activities corresponding to ECLs as required by the scenario. The four ECLs are: Notification of unusual event, alert, site area emergency and general emergency. (FEMA #1)

3.3.2 Demonstrate the ability to fully alert, mobilize and activate personnel for both facility and field-based emergency functions. (FEMA #2)

3.3.3 Demonstrate the ability to direct, coordinate and control emergency activities. (FEMA #3)

3.3.4 Demonstrate the ability to communicate with all appropriate locations, organizations and field personnel. (FEMA #4)

3.3.5 Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations. (FEMA #5)

3.3.6 Demonstrate the ability to continuously monitor and control emergency worker exposure. (FEMA #6)

3.3.7 Demonstrate the ability to initially alert the public within the 10-mile EPZ and begin dissemination of an instructional message within 15 minutes of a decision by appropriate state and/or local official(s). (FEMA #12)

3.3.8 Demonstrate the ability to coordinate the formulation and dissemination of accurate information and instructions to the public in a timely fashion after the initial alert and notification has occurred. (FEMA #13)

3.3.9 Demonstrate the ability to brief the media in an accurate, coordinated and timely manner. (FEMA #14)

3.3.10 Demonstrate the ability to establish and operate rumor control in a coordinated and timely fashion. (FEMA #15)

3.3.11 Demonstrate the ability to make the decision to recommend the use of KI to emergency workers and institutionalized persons, based on predetermined criteria, as well as to distribute and administer it once the decision is made, if necessitated by radioiodine releases. (FEMA #16)

3.3.12 Demonstrate the ability and resources necessary to implement appropriate protective actions for the impacted permanent and transient plume EPZ populations (including transit-dependent persons, special needs populations, handicapped persons and institutionalized persons). (FEMA #18)

3.3.13 Demonstrate the organizational ability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas. (FEMA #20)

3.3.14 Demonstrate the adequacy of procedures, facilities, equipment and personnel for the registration, radiological monitoring and decontamination of evacuees. (FEMA #21)

3.3.15 Demonstrate the adequacy of facilities, equipment and personnel for congregate care of evacuees. (FEMA #22)

3.3.16 Demonstrate the ability to maintain staffing on a continuous 24-hour basis by an actual shift change. (FEMA #34)

3.4 Manitowoc County

3.4.1 Demonstrate the ability to monitor, understand and use emergency classification levels (ECL) through the appropriate implementation of emergency functions and activities corresponding to ECLs as required by the scenario. The four ECLs are: Notification of unusual event, alert, site area emergency and general emergency. (FEMA #1)

3.4.2 Demonstrate the ability to fully alert, mobilize and activate personnel for both facility and field-based emergency functions. (FEMA #2)

3.4.3 Demonstrate the ability to direct, coordinate and control emergency activities. (FEMA #3)

3.4.4 Demonstrate the ability to communicate with all appropriate locations, organizations and field personnel. (FEMA #4)

3.4.5 Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations. (FEMA #5)

3.4.6 Demonstrate the ability to continuously monitor and control emergency worker exposure. (FEMA #6)

3.4.7 Demonstrate the ability to initially alert the public within the 10-mile EPZ and begin dissemination of an instructional message within 15 minutes of a decision by appropriate state and/or local official(s). (FEMA #12)

3.4.8 Demonstrate the ability to coordinate the formulation and dissemination of accurate information and instructions to the public in a timely fashion after the initial alert and notification has occurred. (FEMA #13)

3.4.9 Demonstrate the ability to brief the media in an accurate, coordinated and timely manner. (FEMA #14)

3.4.10 Demonstrate the ability to establish and operate rumor control in a coordinated and timely fashion. (FEMA #15)

3.4.11 Demonstrate the ability to make the decision to recommend the use of KI to emergency workers and institutionalized persons, based on predetermined criteria, as well as to distribute and administer it once the decision is made, if necessitated by radioiodine releases. (FEMA #16)

3.4.12 Demonstrate the ability and resources necessary to implement appropriate actions for the impacted permanent and transient plume EPZ population (including transit-dependent persons, special needs populations, handicapped persons and institutionalized persons). (FEMA #18)

3.4.13 Demonstrate the ability and resources necessary to implement appropriate protective actions for school children within the plume EPZ. (FEMA #19)

3.4.14 Demonstrate the organizational ability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas. (FEMA #20)

3.4.15 Demonstrate the adequacy of procedures, facilities, equipment and personnel for the registration, radiological monitoring and decontamination of evacuees. (FEMA #21)

3.4.16 Demonstrate the adequacy of facilities, equipment and personnel for congregate care of evacuees. (FEMA #22)

3.4.17 Demonstrate the ability to maintain staffing on a continuous 24-hour basis by an actual shift change. (FEMA #34)

3.4.18 Demonstrate the ability to coordinate the evacuation of on-site personnel. (FEMA #35)

6.0 TIME SCHEDULE OF REAL AND SIMULATED SCENARIO EVENTS

06:30 Exercise is initiated in the control room with a shift turnover.

07:40 A series of events result in a Unit 1 reactor trip signal

- Condensate pump (1P25A) fails
- Both main feed pumps trip on low suction pressure
- Turbine trips
- Reactor trip signal (steam flow/feed flow mismatch)

07:40:05 Reactor fails to trip

- Reactor trip breakers are jammed closed
- Control rods fail to drop
- Manual reactor trip is unsuccessful
- ALERT declaration required (Category 10)

07:40:15 An overpressure condition develops in the reactor coolant system

- Pressurizer vents through PORV (430) to the pressurizer relief tank (PRT)
- PORV spring is damaged

07:41 Operators successfully trip the reactor by deenergizing supply breakers for B01 and B02.

07:42 Safety injection actuation, no injection.

*(07:56) Plant operations manager declares an ALERT based upon Category 10, "Failure of reactor protection system to complete a trip which brings reactor subcritical."

*(08:11) Offsite agencies notified of ALERT

*(08:24) Technical Support Center manned

*(08:56) Manitowoc County, Kewaunee County and Wisconsin Emergency Operations Centers (EOCs) activated.

09:19 PORV-430 lifts briefly venting reactor coolant to the PRT. Attempts to close corresponding block valve (516) are unsuccessful.

* Times shown in parentheses are approximate and are dependent upon player actions.

10:10 PORV-430 lifts and fails open

- PRT rupture disc fails and a leak from the reactor coolant system (RCS) to containment is initiated.

- Containment monitors (1RE-211, 1RE-212) alarm.

- A safety injection (SI) actuation occurs on a pressurizer/low pressure signal.

- SI pump (1P15A) fails to start due to a breaker problem.

10:10+ A welding rig in the #1 pipeway is knocked over. A gas bottle is damaged and propelled through the pipeway. The projectile damages the following:

- Several containment isolation valves

- Several containment penetrations

- "B" safety injection line. This is the line fed by the operable SI pump.

- Valve stem on 1-HCV-142 on the charging line

Although damage is considerable, containment integrity is not actually breached.

A SITE EMERGENCY declaration is warranted.

Boric acid and refueling water (RWST) spill into the pipeway and the auxiliary building.

- The spill initiates a small release through the auxiliary building vent.

10:12+ Maintenance and Operations efforts are directed toward damage assessment and restoration of the safety injection system. Teams may be controlled from the Operations Support Center (OSC).

10.15 Charging pump area monitor (1RE-104) alarms.

10:17 Containment monitor (1RE-102) and Auxiliary Building Vent monitor (RE-214) alarm.

10:25 Containment monitor (1RE-107) alarms.

* Times shown in parentheses are approximate and are dependent upon player actions.

*(10:27) Plant operation manager may declare a SITE EMERGENCY based upon Category 1, "Leak Rate in Excess of Available Pump Capacity."

*(10:30) PBNP offsite monitoring teams are dispatched.

*(10:35) Evacuation of plant personnel to on-site assembly areas.

10:48 Auxiliary Building Vent monitor (RE-214) alarm clears.

11:07 RCS leak results in core uncovery. Core temperatures exceed 700°F. A GENERAL EMERGENCY declaration is warranted.

11:07+ Fuel failure occurs and gap activity is released to the reactor coolant system and containment via the PORV and PRT.

Containment radiation monitors (1RE-102, 1RE-107) peg offscale high.

Containment high range monitors RM-126, 127, and 128 alarm and show increased levels of radiation in containment.

11:13 Injection from accumulators to the reactor coolant system occurs.

*(11:22) Plant operations manager declares a GENERAL EMERGENCY based upon Category 1, "Loss of primary system integrity and containment with the potential for fuel damage."

Protective actions include, at a minimum:

Shelter	All sectors	0 - 2 miles
Shelter	Downwind Sectors	2 - 5 miles

*(11:25) Various activities are initiated by the County and State EOCs to evaluate and/or implement protective action recommendations.

Implementation includes:

- Preparation of EBS messages
- Sounding of sirens
- Broadcast of EBS messages
- Establishing traffic control points
- Implementation of protective measures for school children
- Establishment of relocation and congregate care centers

* Times shown in parentheses are approximate and are dependent upon player actions.

*(11:25+) Two sirens in Manitowoc County do not provide run verification upon being polled.

*(11:30) Emergency Operations Facility (EOF) manned by site personnel.

11:40 The 22nd Street drawbridge in Two Rivers fails in the open position. Repairs are expected to take three to four hours.

*(12:00) Evacuation of nonessential personnel from onsite to offsite.

*(12:30) Emergency Operations Facility (EOF) manned by corporate support personnel.

Joint Public Information Center (JPIC) manned by utility and county personnel.

*(12:40) If earlier protective action recommendations from the utility did not include evacuation, the PARs will be escalated to include, at a minimum, evacuation out to two miles.

*(12:45) State of Wisconsin field monitoring teams are dispatched.

12:50 A house fire is reported to the Manitowoc County sheriff's dispatcher. The burning home is located inside the zone for which evacuation was recommended.

13:25+ A plant employee is injured while involved in Maintenance, Health Physics, Chemistry or other damage assessment activities. An on-site first aid team responds to the scene.

*(13:40) Manitowoc sheriff, Mishicot ambulance and Two Rivers Hospital are notified of and respond to the on-site injury. If the injury occurs on the plant controlled side, the Two Rivers Community Hospital nuclear first aid room will be utilized for the victim.

*(17:00) Exercise is terminated by main exercise controller.

* Times shown in parentheses are approximate and are dependent upon player actions.