

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-298/94-11

Operating License: DPR-46

Licensee: Nebraska Public Power District
P.O. Box 499
Columbus, Nebraska 68602-0499

Facility Name: Cooper Nuclear Station

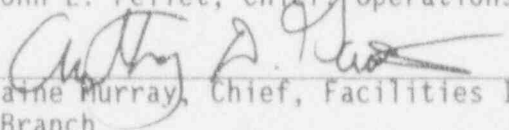
Inspection At: Brownville, Nebraska

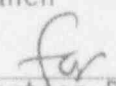
Inspection Conducted: April 4 through 8, 1994

Inspectors: Arthur D. McQueen, Emergency Preparedness Analyst
Facilities Inspection Programs Branch

John L. Pellet, Chief, Operations Branch

Approved:


Blaine Murray, Chief, Facilities Inspection Programs
Branch

 4/19/94
Date

Inspection Summary

Areas Inspected: Routine, announced inspection of the operational status of the Emergency Preparedness Program, including changes to the Emergency Plan and Implementing Procedures; emergency facilities, equipment, and supplies; organization and management control; training; and internal reviews and audits.

Results:

- Changes made to the Emergency Plan were found not to have decreased the effectiveness of emergency planning and had been properly reviewed and submitted to the NRC (Section 1.2).
- The emergency response facilities had been maintained in a state of operational readiness (Section 2.2).
- An adequate number of trained personnel appeared to have been assigned to the Emergency Response Organization. Procedures for call-in of the Emergency Response Organization seemed adequate, although as noted with an exercise weakness identified during the reactor simulator walkthrough exercises, the procedure was not implemented when required by one Control Room operating crew. The Emergency Planning Organization was

staffed with three individuals, one at the corporate headquarters and two at the site. (Section 3.2).

- A prescribed program of emergency response training had been administered to provide personnel with specialized training specific to their response duties and responsibilities. Training records indicated that three individuals listed as qualified for functions requiring respirator training and fitting in the site emergency call-in policy directive were not fully respirator-qualified for use in positions for which they were listed. (Section 4.1.1).
- Operating crews evaluated in the Control Room simulator with the exception of one crew performed well in detecting and classifying simulated emergency conditions. Notifications to offsite authorities were generally accurate and timely. Protective action recommendations were conservative and appropriate. The operating crews generally demonstrated an improved knowledge and performance of duties in areas found to be weak in inspections of emergency preparedness over the past year (Section 4.1.2).
- Quality assurance audits of emergency preparedness appeared comprehensive and appropriate in scope and objectives. Quality assurance surveillances performed of emergency preparedness appeared of proper scope and effectiveness (Section 5.2).
- Two Unusual Events which had been telephonically reported to the NRC Headquarters Operations Officer since the last emergency preparedness inspection at the site had been properly classified. Timely required notifications were made to the appropriate local and state agencies and to the NRC (Section 7.2).

Summary of Inspection Findings:

- Exercise Weakness 298/9411-01 was identified for one Control Room crew's failure to recognize in a timely manner during the dynamic scenario that conditions had been met to require an event classification in accordance with a Site Area Emergency Action Level. (Section 4.1.2).
- Exercise Weakness 298/9411-02 was identified for one crew's failure to conduct an emergency response organization call-in for staffing of emergency response facilities. (Section 4.1.2).
- Violation 298/9303-01 was closed (Section 6.1).
- Violation 298/9303-02 was closed (Section 6.2).
- Exercise Weakness 298/9324-01 was reviewed (Section 6.3).

Attachments:

Attachment 1 - Persons Contacted and Exit Meeting

Attachment 2 - Scenario Narrative Summary

DETAILS

1 EMERGENCY PLAN AND IMPLEMENTING PROCEDURES (82701-02.01)

The inspectors reviewed changes in the licensee's Emergency Plan and Emergency Plan Implementing Procedures to verify that these changes had not decreased the effectiveness of emergency planning and that the changes had been reviewed properly and submitted to NRC.

1.1 Discussion

Since the previous inspection in this functional area, the licensee had made eight revisions to the Emergency Plan. The inspectors determined that these revisions had been reviewed and submitted to NRC in accordance with Emergency Preparedness Department Procedure 06, "Emergency Plan Revisions," and 10 CFR 50.54(q). The Emergency Plan changes were reviewed by the NRC and were found not to have decreased the effectiveness of emergency planning.

Approximately 42 Emergency Plan Implementing Procedure revisions had been made since the last routine emergency preparedness inspection at the site. Documentation indicated all revisions were processed in accordance with Cooper Nuclear Station Procedure 0.4, "Procedure Change Process," and had been reviewed by the Station Operations Review Committee. The revisions had been submitted to NRC within the required submission time frame. Five of the revisions were randomly selected and reviewed to ensure no degradation had occurred in the emergency preparedness program as a result of the marked changes.

1.2 Conclusions

The inspectors determined by review that changes to the emergency preparedness program had not adversely affected the licensee's overall state of emergency preparedness and were appropriately incorporated into the licensee's emergency plan and implementing procedures. Changes since the last inspection had been appropriately reviewed, approved, and distributed in accordance with approved licensee procedures and NRC requirements before implementation.

2 EMERGENCY FACILITIES, EQUIPMENT, INSTRUMENTATION, AND SUPPLIES (82701-02.02)

The inspectors toured onsite emergency facilities including the Control Room, Operational Support Center, Technical Support Center, and the Emergency Operations Facility and reviewed the licensee's emergency equipment inventories and maintenance to determine whether facilities and equipment were being kept in a state of operational readiness for activation.

2.1 Discussion

No changes had been made in key emergency facilities and equipment since the last routine emergency preparedness inspection. All primary nearsite Emergency Response Facilities were inspected and appeared to be operationally ready for rapid activation. The Operational Support Center is co-located with

the Technical Support Center. The licensee indicated this arrangement functioned effectively in the most recent annual emergency exercise. Emergency Response Facilities were noted to have current controlled copies of the Emergency Plan and Emergency Plan Implementing Procedures.

Emergency equipment lockers located in the principle nearsite emergency response facilities were secured with intact plastic seals. Spot checks indicated the lockers and kits were stocked with the equipment and supplies listed in Emergency Plan Implementing Procedure 5.7.21, "Emergency Equipment Inventory." The licensee indicated there were no outstanding work or maintenance requests pertaining to emergency response equipment. While the emergency preparedness staff makes frequent inspections of the emergency response facilities' equipment and supplies, the maintenance of the equipment in the centers is performed by a cognizant site sponsor (i.e., radiation monitoring equipment and supplies by the Health Physics organization, communications equipment by Telecommunications, etc.).

2.2 Conclusions

Key facilities have been adequately maintained, and no changes to the facilities were noted since the last emergency preparedness inspection. Equipment items checked or tested were found to be in working order. Random inventories of emergency lockers and kits against required supplies and equipment lists verified that required items were on hand.

3 ORGANIZATION AND MANAGEMENT CONTROL (82701-02.03)

The inspectors reviewed the Emergency Response Organization's staffing levels to determine whether sufficient personnel resources were available for emergency response. The Emergency Planning Organization was reviewed to ensure that an effective programmatic management system was in place.

3.1 Discussion

A current listing of the Emergency Response Organization's positions and staff assignments was reviewed by the inspectors. No significant changes in the Emergency Response Organization's position responsibilities or management had occurred since the previous inspection in this functional area. An adequate level of staffing depth was assigned to the Emergency Response Organization to ensure that trained personnel would be available to respond initially, and that staff augmentation could occur for prolonged responses.

The inspectors reviewed procedures and mechanisms for an Emergency Response Organization call-in to ensure that prompt activation could occur. The Emergency Response Organization call-in capability was described in the licensee's Policy Directive 10. This process called for designated departmental personnel to carry pagers on a rotating basis. Upon receiving a coded page for Emergency Response Organization activation, these on-call individuals were then assigned to telephone other designated Emergency Response Organization personnel within their departments until the minimum staffing levels specified in NUREG 0654 were filled.

The inspectors reviewed the Emergency Planning Organization and determined that no changes in personnel or management had occurred since the previous inspection. The Emergency Planning Organization consisted of two onsite planning professionals, an Emergency Preparedness Coordinator, and an Emergency Preparedness Specialist reporting to an emergency planning supervisor based at the corporate office. Another Emergency Preparedness Specialist position at the corporate headquarters is currently vacant due to a reassignment in February 1994. Emergency planning continues to report directly to the Division Manager of Nuclear Support. The Emergency Planning Organization was indicated by the licensee to be adequately staffed by qualified individuals to perform presently required tasks.

3.2 Conclusions

No significant changes have occurred in the emergency preparedness staff or the emergency response organization since the last emergency preparedness inspection. An adequate number of trained personnel had been assigned to the Emergency Response Organization. Procedures for call-in of the Emergency Response Organization were adequate. The Emergency Planning Organization was adequately staffed with qualified individuals for currently assigned functions.

4 TRAINING (82701-02.04)

The inspectors reviewed the emergency response training program and interviewed selected individuals to determine whether emergency response personnel were receiving the required training to be in compliance with the requirements of 10 CFR 50.47(b)(15), 10 CFR Part 50, Appendix E.IV.F, and the emergency plan.

4.1 Discussion

4.1.1 Training Program

The inspectors reviewed the site emergency training program with licensee staff responsible for this training. The inspectors also reviewed two lesson plans incorporating industry events. The lesson plans were adequate, although learning objectives were stated generally to apply to all industry events rather than being specifically developed for each event.

The training program tracking system student progress report was also reviewed by the inspectors. This report indicated that individuals on the emergency roster were current except for three individual emergency responders who had not completed supplemental respiratory qualification. Only one of these individuals had training more than 30 days overdue. Based on discussions with facility staff, staff practice was to review a student progress report monthly and suspend individuals in writing from the emergency response organization who were not current with copies to the individual's supervisor and department. However, the system relied upon a suspended individual to decline to respond in an emergency, since the suspension or emergency response organization revision was not included in the emergency telephone directory or in Cooper Nuclear Station Policy Directive 10.

4.1.2 Walkthroughs with Operating Crews

The inspectors conducted a series of emergency response walkthroughs with operating crews to evaluate the adequacy and retention of skills obtained from the emergency response training program. A single walkthrough scenario was developed by the inspectors and administered to the crews to determine whether Control Room personnel were proficient in their duties and responsibilities during a simulated accident scenario. Attachment 2 to this inspection report contains a narrative summary of the walkthrough scenario.

The inspectors observed three crews during the walkthroughs using the Control Room simulator in the dynamic mode. The scenario consisted of a sequence of events requiring an escalation of emergency classifications, culminating in a General Emergency. Each walkthrough lasted approximately 60 minutes. During the walkthroughs, the inspectors were able to observe the interaction of the response crews to verify that duties and responsibilities were clearly defined and understood. The walkthroughs also allowed the evaluation of the crews' abilities to assess and classify accident conditions, perform dose assessments, develop protective action recommendations, and make timely and complete notifications to off-site authorities.

The crews were generally effective in responding to abnormal events and implementing the appropriate procedurally driven corrective actions. The Control Room supervisor and shift supervisor consistently provided adequate crew guidance and command and control. Communications were generally effective, although informal, and single-ended in some instances. With the exceptions noted below, classification and notifications were correct and timely. Where required, protective action recommendations were appropriate for the conditions in the scenario.

One of the three crews performed at less than the expected level overall with respect to both mitigation of the event and emergency plan implementation. The facility staff present detected the same performance issues as did the inspectors with this crew. The facility staff discussed the planned remediation actions with the inspectors during the course of the inspection. The corrective remedial actions identified by the facility staff appeared to adequately address the performance problems observed.

Only one crew completed release rate calculations during the dynamic scenario. Given the loss of power and equipment with the release pathway created in the scenario, an accurate release rate or dose assessment would have required restoration of power and equipment or data from monitoring teams which was outside the scope of the scenario and was not available to the crews. The crew which completed a release rate estimate did so to confirm that their protective action recommendations were conservative, using Procedure 5.7.16, "Release Rate Determination," Attachment 3, adjusting the formula for the data available. The only nonconservative assumption in the crew's use of Attachment 3 was conversion of main steam line flow in pounds-mass per hour to cubic feet per minute by use of the specific gravity of liquid rather than steam at the steam header pressure. This reduced the release rate by about a factor of twenty. The inspectors concluded that for this scenario, the Control Room staff could not quickly arrive at a valid dose assessment and

that under such conditions the use of baseline protective action recommendations was appropriate. The inspectors also concluded that use of available data to attempt a bounding estimate was appropriate, as long as resources permit, which was the case for the one crew that completed a release rate.

One of the three crews failed to recognize immediately during the dynamic scenario that the failure of two rods to fully insert after a reactor scram constituted inability to demonstrate that shutdown margin could be maintained for all plant conditions. As a result, this crew transmitted a followup Notification of Unusual Event message to state and local authorities and NRC. Approximately 5 minutes after transmitting the erroneous followup message, the shift supervisor upgraded the event classification to a Site Area Emergency, more than 25 minutes after the conditions requiring the upgrade occurred. Failure to make the proper event classification is an exercise weakness (298/9407-01).

In addition, during the dynamic scenario, one of the three crews never activated the Cooper Nuclear Station Pager System. Activation of the pager system is required by Cooper Nuclear Station Operations Manual Emergency Plan Implementing Procedure 5.7.6, "Notification," for Alert or higher classifications to ensure adequate staffing during off-hours events. Since the scenario specified off-hours conditions, failure to activate the pager system could result in failure to activate the Technical Support Center, the Operational Support Center, and the Emergency Operations Facility (required at the Site Area or General Emergency levels) within the allowed 1 hour time. Failure to initiate actions required to ensure minimum staffing is an exercise weakness (298/9407-02).

The inspectors further noted that the governing procedures were not completely consistent. Procedures 5.7.2, 5.7.3, 5.7.4, and 5.7.5 for the four event classifications require the Emergency Director to (using 5.7.4 as an example):

- 8.2.1 Determine the need for additional personnel. Direct the Operations Communicator to call in additional personnel per licensee's Policy Directive 10.

This indicates that calling in additional personnel is at the discretion of the Emergency Director. This interpretation is less restrictive than Procedure 5.7.6, "Notification," Section 8.1.2, titled "Personnel Call-In/Notification," which states, in part:

- 8.1.2.1 For an ALERT or higher classification, or as conditions warrant, the Emergency Director shall direct the Shift Communicator to activate the CNS Pager System per CNS Policy Directive 10. Activation of the Pager System ensures minimum staffing per NUREG 0654/FEMA-REP-1, Table B-1.

Also, the inspectors observed that Procedures 5.7.2, 5.7.3, 5.7.4, and 5.7.5 refer to the communicator as the, "Operations Communicator," while Procedure 5.7.6 refers to the same individual as the, "Shift Communicator."

These potential inconsistencies were discussed with the licensee for action as appropriate.

4.1.3 Emergency Preparedness Drills and Exercises

The inspectors reviewed documentation of emergency response training drills and exercises to determine compliance with 10 CFR Part 50, Appendix E.IV.F, and the Emergency Plan. A total of seven drills or exercises had been documented during 1993. Additionally, there was a tabletop discussion for the security organization based on the security emergency event at Three Mile Island in February 1993. The following were the dates of the other drills and exercises conducted in 1993:

June 15, 1993	Mini-drill
August 11, 1993	Accountability drill
August 17, 1993	Mini-drill
September 3, 1993	Onsite Medical drill
September 21, 1993	Mini-drill
December 3, 1993	Exercise dress rehearsal
December 15, 1993	Annual graded exercise

The drill reports and critiques for these drills and exercises were reviewed by the inspectors including findings by the licensee and actions resulting from the findings. The licensee had identified one weakness, eleven items for improvement, and several observations. Corrective and improvement actions for the weakness and the improvement items had been initiated and were appropriate.

4.2 Conclusion

In general, the licensee's emergency response personnel had been properly trained as required and understood their emergency responsibilities. However, exercise weaknesses were identified in the areas of classification and initiation of the pager system to assure adequate staffing.

5 INDEPENDENT AND INTERNAL REVIEWS AND AUDITS (82701-02.05)

The inspectors met with quality assurance personnel and reviewed independent and internal audits of the Emergency Preparedness Program performed since the last inspection to determine compliance with the requirements of 10 CFR 50.54(t).

5.1 Discussion

The last audit performed of emergency preparedness pursuant to 10 CFR 50.54(t) was reviewed (Audit 94-02). The audit was conducted from January 24 through

February 4, 1994, by a four-person team. The team included an external technical expert in the field of emergency preparedness. The audit checklists had received management review and approval prior to the audit. The audit plan included an appropriate scope which was adhered to during the audit. The lead auditor was certified to meet lead auditor qualifications specified in ANSI N45.2. The audit was found to have been of appropriate scope and depth and evaluated the adequacy of interfaces with state and local governments as required by 10 CFR 50.54(t). The audit resulted in findings of two observations and seven recommendations. The observations described what the audit team felt were program weaknesses and warranted response, whereas, recommendations were offered for potential program improvement and did not require response to quality assurance.

The inspectors reviewed the licensee's program of emergency preparedness surveillances performed by the quality assurance organization. The surveillances were included as elements of the annual audit report. Approximately 22 surveillances were performed during 1993. The documentation of these surveillances was reviewed, and it was determined that they had been performed by qualified individuals using approved checklists. One finding had been made during the surveillances. Appropriate followup action was taken and the finding was subsequently closed. The surveillance strategy was found to be well targeted and effective.

5.2 Conclusion

Quality assurance audits of emergency preparedness were ambitious and of proper scope and depth. Quality assurance surveillances performed of emergency preparedness were well targeted, well conceived, and effective.

6 FOLLOWUP ON PREVIOUS INSPECTION FINDINGS (92702)

6.1 (Closed) Violation 50-298/9303-01: Failure to Conduct Required Tests of Pagers of Emergency Responders.

The inspectors reviewed revised Emergency Preparedness Department Procedure 13, titled "Pager/Call-in Test Procedure." The procedure requires a monthly operability test of the system. The procedure had been properly implemented and the test documentation for the past quarter was reviewed to verify that required tests were conducted. Preventive Maintenance records for the "Monthly Pager Call-in Test" indicated the tests had been performed on January 1, February 18, and March 23, 1994.

6.2 (Closed) Violation 298/9303-02: Failure to Conduct Drill Critique and Followup.

The inspectors reviewed Surveillance Procedure 6.3.11.1, "CNS Emergency Drill and Exercise Plan," dated March 25, 1994. The procedure had been changed to identify the Division Manager of Nuclear Support as responsible for assigning "follow-up actions items (sic) and due dates based on the recommendations in the Drill Evaluation Report." The document was designed to provide specific guidance on the planning, conduct, review, and critique of drills and exercises performed at the Cooper Nuclear Station (See also Section 4.1.3

above.). Reports and critiques for all 1993 drills and exercises were reviewed and appeared appropriate.

6.3 (Open) Weakness 298/9324-01: Failure to Ensure Respiratory Protection Qualification.

The licensee committed by letter, dated February 1, 1994, to the NRC that the necessary emergency plan implementing procedure revision and the necessary training would be completed by April 1994. During this inspection, the licensee indicated that the procedure change was in final review and would go to the Station Operations Review Committee during the week of April 11, 1994. The licensee still intends to meet this commitment before the end of April. This open item will be reviewed in a future emergency preparedness inspection.

7 ONSITE FOLLOWUP OF EVENTS AT OPERATING POWER REACTORS (93702)

Two licensee events were reviewed during the inspection wherein the licensee had declared unusual events since the last routine inspection.

7.1 Event Number One

On December 14, 1993, the licensee telephonically notified the NRC Headquarters Operations Officer that an unusual event had been declared at the site due to emergency core cooling system injection in response to a feedwater demand signal loss at about 1:34 a.m. (CST). The licensee terminated the unusual event at 4:15 a.m. (CST) (NRC Event Number 26502).

7.2 Event Number Two

On March 2, 1994, the licensee telephonically notified the NRC Headquarters Operations Officer that an unusual event had been declared at about 5:47 p.m. (CST) due to actual injection of emergency core cooling system water into the reactor coolant system. The event was terminated at 9:21 p.m. (CST) because the reactor was stable in Mode 3, and all emergency procedures had been exited (NRC Event Number 26868).

7.3 Conclusions

A review of these events and documentation pertaining thereto indicated that the event classifications appeared appropriate and that timely notifications and followup notifications were made to the county, state, and NRC in accordance with approved procedures.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

- *M. Armstrong, Secretary, Nebraska Public Power District
- R. Black, Operations Supervisor
- *J. Boyd, Lead Licensed Instructor
- *L. Bray, Regulatory Compliance Specialist
- *R. Creason, Supervisor, Licensed Operator Training
- *M. Dean, Supervisor, Licensing and Safety
- *R. Gardner, Plant Manager
- R. Gibson, Quality Assurance Programs Supervisor
- *M. Gillan, Nuclear Training Supervisor
- *R. Hayden, Coordinator, Emergency Preparedness
- *T. Hottovy, Quality Assurance Audit Supervisor
- *S. Jobe, Assistant Manager, Nuclear Training
- *J. Kelsay, Emergency Preparedness Specialist
- *M. Krumland, Supervisor, Emergency Preparedness
- *D. Montgomery, Lead Instructor
- *T. Ratzlaff, Shift Supervisor/Senior Reactor Operator Instructor
- *D. Robinson, Quality Assessment Manager
- J. Roup, Quality Assurance Emergency Program Audit Team Member
- *D. Shellenberger, Lead Licensed Instructor
- V. Stairs, Assistant Operations Manager
- *D. Whitman, Division Manager, Nuclear Support
- *V. Wolstenholm, Division Manager of Quality Assurance

1.2 NRC Personnel

- *A. McQueen, Emergency Preparedness Analyst
- *J. Pellet, Chief, Operations Branch

The inspectors also held discussions with and observed the actions of other members of the licensee's station and corporate emergency preparedness, administrative, operations, and technical staff during the course of the inspection.

*Denotes those present at the exit interview

2 EXIT MEETING

An exit meeting was conducted on April 8, 1994. During this meeting, the inspectors reviewed the scope and findings of the inspection as presented in this report. The two exercise weaknesses discussed in Section 4.1.2 above were reviewed as were status and closure of inspection followup items. The licensee did not identify as proprietary any of the materials provided to, or reviewed by, the inspection team during the inspection.

ATTACHMENT 2

EMERGENCY PREPAREDNESS INSPECTION SCENARIO NARRATIVE SUMMARY

Simulation Facility: Cooper Nuclear Station

Initial Conditions: 100% power, EOL, HPCI out of service for preventative maintenance & all TS-req'd actions completed. Expected back within 1-2 hours. Raining with severe thunderstorm & tornado warnings in effect for next hour and have been reported in area. Severe weather actions are completed. Easter Sunday with minimum required weekend staffing.

Sequence of Events: A tornado is reported from Brownville, moving toward the site, with heavy rain and localized flooding. Shortly thereafter, a tornado is reported within the owner controlled area, presumably the cause of the loss of the emergency transformer and 69KV offsite power. Tornado touchdown requires reporting as a Notification of Unusual Event (7.1.3).

After initial classification and notifications are completed, a total loss of load occurs. This results in a turbine trip with reactor pressure increasing rapidly due to failure of the scram pilot solenoids (backup valves & ARI still work). Two control rods stick out when the reactor scrams. The two stuck rods requires upgrading the event to Site Area Emergency due to the scram failure (3.3.4).

After responding to the initial reactor trip and reclassification activities, the last offsite power feed is lost, resulting in emergency diesel generator start and load. This does not change the emergency classification. MSIV's receive a closure signal on loss of RPS power.

A steam line leak (6E5 #/hr) in the turbine building initiates after notifications are complete for the Site Area Emergency. One steam line fails to isolate both its MSIVs when required. The emergency director must upgrade to a General Emergency since failure of both MSIVs is considered failure of two fission product barriers and failure of the automatic scram is potential third.

At the same time as the steam line leak, fuel failure, presumably due to the stuck control rods, is detected. This results in direct release of fission products to the turbine building. This does not affect the classification but will affect the dose assessment. The scenario should be terminated after classification and notification of the General Emergency.

EMERGENCY PREPAREDNESS INSPECTION SCENARIO EVENTS

Simulation Facility: Cooper Nuclear Station

Initial Conditions: IC18, 100% power, EOL, HPCI out of service for preventative maintenance & all TS-req'd actions completed. Expected back within 1-2 hours. Raining with severe thunderstorm & tornado warnings in effect for next hour and have been reported in area. Severe weather actions are completed. Easter Sunday with required weekend staffing.

Event	Time	Malf.	Description
IC		RP01	All 4 RPS group scram pilot solenoids fail to deenergize. ARI still works as do backup scram valves.
		RD12	2 central control rods stuck at current position.
		HP02	HPCI turbine trip (to support OOS declaration).
		MS07	MSL a AOV-80A & 86A failed open (to mid-position on closure if possible).
1	05	-	Tornado sighted @ Brownville, moving south.
2	10	ED06	Loss of emergency transformer (69KV feed). Security reports tornado touchdown in owner controlled area. NOUE required due to tornado touchdown (7.1.3).
3	20'	EG08	Total loss of load. Reactor pressure increases to ARI initiation since automatic scram defeated by IC. Site Area Emergency upgrade required due to scram failure (3.3.4).
4	25	ED05	Loss of Startup transformer results in loss of all offsite power. MSIV's try to close on loss of RPS power.
5	30'	CR03 MS10	5% (6E5 #/hr) main steam line leak occurs simultaneous with turbine trip. When MSIV closure required, MSL A MSIVs failure apparent. With both MSIVs open & scram failure, this requires classification as General Emergency. 50% (1/2% fuel) fuel cladding failure ramped in to become apparent in 5-8 minutes - affects dose assessment but not classification.
6	40'	-	Terminate scenario after notifications completed for upgrade to General Emergency required.

*After prior classification notifications are completed.