

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/89015(DRSS); 50-374/89015(DRSS)

Docket Nos. 50-373; 50-374

Licenses No. NPF-11; NPF-18

Licensee: Commonwealth Edison Company  
Post Office Box 767  
Chicago, IL 60690

Facility Name: LaSalle County Nuclear Generating Station, Units 1 and 2

Inspection At: LaSalle Site, Marseilles, Illinois

Inspection Conducted: August 1-3, 1989

Inspectors:

*J. Foster for*  
J. Patterson  
Team Leader

8/17/89  
Date

J. Hickman

M. Good

Approved By:

*J. Foster for*  
William Snell, Chief  
Radiological Controls and  
Emergency Preparedness Section

8/17/89  
Date

Inspection Summary

Inspection on August 1-3, 1989 (Reports No. 50-373/89015(DRSS);  
Nu. 50-374/89015(DRSS))

Areas Inspected: Routine announced inspection of the annual emergency preparedness exercise (IP 82301) involving observations by three NRC representatives of key functions and locations during the exercise.

Results: The licensee demonstrated a good response to a simulated accident scenario involving tornado damage to certain equipment on the plant site and a small release of liquid effluent. All objectives were demonstrated satisfactorily with the exception of the assembly/accountability drill. An Exercise Weakness was assessed for not meeting this objective.

## DETAILS

### 1. Persons Contacted

#### a. NRC Observers and Areas Observed

- J. Patterson, Control Room (CR), Field Teams and Emergency Operations Facility (EOF)
- J. Hickman, Technical Support Center (TSC) and EOF
- M. Good, CR & TSC

#### b. Licensee Representatives

- G. Diederich, LaSalle Station Manager
- W. Huntington, Technical Superintendent
- J. Walkington, Services Director
- R. Shields, Technical Staff Engineer
- W. Kirchhuff, Operating Engineer
- T. Gilman, Corporate Emergency Planning Supervisor
- T. Lechton, Corporate Emergency Planning, Senior Administrator
- P. Vitalis, Corporate Emergency Planning Administrator
- D. Waldschmidt, Security Representative
- K. Klotz, Emergency Planning Coordinator
- T. Hammerich, Regulatory Assurance Supervisor
- J. Giesecker, Technical Staff Supervisor
- A. Sheldon, Assistant Superintendent, Maintenance
- T. Benoit, Quality Assurance Representative
- W. Friedmann, Health Physicist
- J. Lewis, ALARA Coordinator
- R. Khemp, Radiation Protection Representative
- D. Hieggelke, Health Physics Services Supervisor
- J. Thunstedt, Technical Staff Group Leader

The above listed persons attended the August 3, 1989 exit interview.

### 2. General

An exercise of the licensee's Generating Stations Emergency Plan (GSEP) was conducted at the LaSalle County Station on August 2, 1989. The exercise tested the licensee's capabilities to respond to an accident scenario resulting in a simulated liquid release of radioactive material. This was a utility only exercise without the participation of State and/or County agencies. Attachments to this report describe the exercise scope and objectives and narrative summary.

### 3. General Observations

#### a. Procedures

The exercise was conducted in accordance with 10 CFR Part 50, Appendix E requirements using the GSEP and associated implementing procedures.

b. Coordination

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

c. Observers

Licensee observers monitored and critiqued the exercise along with three NRC observers.

d. Critiques

The licensee held facility critiques following the exercise. The NRC evaluation team discussed the strengths and weaknesses identified during the exercise at the exit interview held on August 3, 1989 at the LaSalle Plant site. Personnel who attended the NRC exit interview are listed in Section 1.

4. Specific Observations (IP 82301)

a. Control Room (CR)

The Shift Engineer, as the initial Station Director, demonstrated good leadership and his crew responded well. The CR staff handled the technical aspects of the scenario exceptionally well. The Shift Control Room Engineer, acting in the capacity of a Shift Technical Advisor (STA), made valuable contributions in confirming Technical Specifications, emergency classifications and procedural requirements.

Notifications to State, local agencies, and to the NRC were made within the required times for both the Unusual Event and the Alert. However, the NRC observer noted a difference in the notification guidance between Procedure LZP-1310-1 and LZP-1110-1.

Procedure LZP-1310-1, which is used for notifications, states that the NRC will be notified immediately after the State and local agencies have been notified. Procedure LZP-1110-1, which provides guidance for the Station Director's duties, includes checklists for notification steps for all four emergency classifications. Each of these checklists states that the NRC is to be notified "as soon as possible, but within one hour of the declaration of the emergency" following State and local notifications. Procedures LZP-1310-1 and LZP-1110-1 should be reviewed to ensure consistency between the procedures as well as with 10 CFR 50.72(a)(3).

Announcements on the Public Address (PA) system couldn't be heard in the Control Room. The NRC observers were told that it was turned down so as not to interfere with CR operations. This condition gave no real assurance that these PA announcements were being heard throughout the plant (without designated individuals within the various plant areas calling back to confirm that the message was heard).

More use should have been made of the PA announcements; for example, more frequent updates on the severe weather and tornado conditions, leaking lake blowdown line, pretreatment tank overflow, and other significant events that could affect the safety of those in the plant as well as emergency workers. There was a PA announcement following a report at 0855 that water was found in a field north of the plant. The SE requested that a Rad/Chem team be dispatched to investigate the condition. However, continued severe weather conditions, followed later by the team being secured in the OSC while assembly/accountability was being completed, prevented them from arriving on the scene until 1120. This is discussed further in Section 4.b.

Objective briefings were held frequently by the SE, who briefed the entire CR crew on each occasion. Logs were maintained by the SE and other key support staff. At 0900 the SE declared an Alert based on the possibility of a release due to the liquid leak reported earlier north of the plant. Before transfer of command and control to the TSC took place, the SE provided a good, detailed status briefing to the incoming Station Director in the TSC.

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

- Some means should be found to assure that PA announcements are being heard in the plant and other site support buildings. Also, the PA should be used more often to inform plant personnel and emergency workers of significant events occurring during an emergency, in addition to emergency classification announcements.
- Procedure LZP-1110-1 and LZP-1301-1 should be reviewed to ensure there is consistency between procedures and with 10 CFR 50.72(a)(3).

b. Technical Support Center (TSC)

At 0950, following a discussion between the SE and the TSC Station Director (SD), a Site Area Emergency (SAE) was declared from the Control Room based on tornado conditions with sustained winds greater than 90 miles per hour. The TSC took over command and control at 0955. To assist the CR, the TSC agreed to complete the NARS Form #3 for the SAE. The TSC was asked to establish an open line on the ENS phone for communicating with the NRC by 1000. The simulated NRC response cell had asked for this earlier at 0948. At 1002 there was a security briefing on the tornado damage. These activities were all well performed. Briefings were held frequently by the SD, and they were satisfactory in content and delivery.

Following the announcement for a site assembly and accountability, the evacuation alarm was actuated at 1003. At 1033 there were 30 people unaccounted for, seven of which were in a trailer and deliberately did not report as part of the scenario. There were 16 in the Training Building who did not hear the siren, and five who did not card in properly. It was 1110 (or 67 minutes) before all were accounted for. A total of 350 people participated in the accountability drill. As a result, the licensee failed to satisfactorily complete Exercise Objective 5g which states, "Demonstrate the capability to assemble and account for all onsite personnel within 30 minutes of sounding the evacuation alarm." This drill resulted in an unsatisfactory performance for assembly/accountability, and an exercise weakness was assessed. (Open Item No. 373/89015-01 and 374/89015-01)

Also related to this assembly/accountability drill was the detainment of a Rad/Chem team which was earlier assigned to investigate the liquid release near the Lake Blowdown Valve House. This delay was still being discussed in the TSC at 1059. At 1140, following the assembly/accountability drill, a simulated NRC Site Team, being briefed in the TSC, remarked that they also were detained by Security at the Main Access Facility due to the drill. These incidents of emergency response personnel being detained until all phases of an assembly/accountability drill were completed is undesirable. Procedure LZF-1170-1 should be reviewed and if appropriate, revised to give priority to the release of emergency response personnel once they are accounted for so they can proceed with their emergency response duties.

Status boards in the TSC were not always updated and on occasion incorrect information was listed. An example of incorrect information was the Plant Status Board listing Unit 1 as being in Mode 1 throughout the exercise. At 1158, this board listed the last update as 0950. The NARS Status Board was blank until the Site Area Emergency Declaration. Most of this information was available in message form and/or on computer terminal displays. However, since status boards are considered to be a vital part of the emergency response effort they should be kept current. Overall, the information flow in the TSC was very good between individuals, support groups to the SD, and with the Control Room and EOF.

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

- A means should be found for a faster release of emergency response workers after they have been accounted for during assembly/accountability so that they may pursue their emergency response functions without delay. This may require a revision to Procedure LZF-1170-1.

c. Field Teams

At 0854 the initial message relating to a liquid release was received in the Control Room. A local farmer walked into the Main Access Facility and reported that water was coming out of the ground and flooding his corn field at the blacktop road straight north of the plant. At 0915, 15 minutes after the Alert declaration; the SE requested a Rad/Chem analysis of the discharge to more specifically identify the radioactive content of the water. As previously discussed, the Rad/Chem Team was initially delayed by the strong winds and tornado conditions. Then there was another delay due to being sequestered in the OSC until the assembly/accountability drill was reconciled. It was 1120 before the "Gold" team, consisting of three members, arrived at the blacktop road near the Blowdown Valve House.

Earlier, at 1018, a Commonwealth Edison Division representative from the Streator Office arrived. If the scenario were on schedule he was to receive a briefing from the Gold Team. Instead, an exercise controller briefed him on the downed electrical wire and the probable contaminated area near the Blowdown Valve House. The Division representative, after surveying the conditions, described what he would have done with the overhead lines to restore power and remove the hanging wires. He called his findings into his office on his car phone and then left. Thus, the goal to get input and coordination from a local division office through this participation was accomplished satisfactorily.

The Gold Team arrived at 1120 and immediately put on double plastic boots and gloves. A designated bag for contaminated gloves and booties or other waste materials was made available immediately. When properly dressed and with radiation survey meter in hand, three vegetation samples were taken. Sample bags were pre-labeled. A sample bottle for liquid was provided but the sample had to be simulated, since there was no real water standing on the ground. Surveys were made from the road to around the concrete block house or Blowdown Valve House. Surveys were made on the road at either end of the simulated water and smears were taken from both lanes. This team demonstrated good radiation safety practices, avoided cross contamination of the samples, and labeled all samples adequately. The third team member stayed with the vehicle as a radio operator, helped in preparation of sample taking, and storage of equipment/samples in the vehicle.

A second team arrived at 1142. This team consisted of one Maintenance Operator and a Chemistry Technician (CT). The CT had little to do since the Gold Team had done all the required sampling. The Maintenance Operator, with guidance of a Gold Team member, donned plastic boots and gloves and with a Rad/Chem Technician was led to the blowdown valve house. His mission was to manually close the blowdown valve to stop the release to the river and shut off the

makeup line. He accomplished this successfully and then waited the 20-25 minutes it would actually have taken to do this, before informing the OSC that the task was completed. He also brought the key along to open the door to the blowdown valve house. Without the key the venture would have failed.

In summary, both field teams performed well and took what preventative measures were necessary in performing field surveys, posting an area and making protective action recommendations for personnel in controlling a contaminated spill.

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

d. Emergency Operations Facility (EOF)

At 1047 the EOF took over command and control from the TSC in an orderly transfer. The Site Area Emergency had been declared at 0950 by the SE in the CR after discussion with the TSC. Status boards in the EOF were well maintained. The abnormal conditions status board was used to track items being repaired and/or corrected. Good coordination was demonstrated at the EOF with the simulated NRC Site Team and the State representatives. Briefings by the Manager of Emergency Operations (MEO) to his support groups were meaningful and objective. The support groups worked well together to support the MEO and clarify issues for his decision-making.

The EOF Environs Group confirmed through calculations that 59 curies had been released as liquid effluent on the ground adjacent to the blowdown valve house. Good planning was demonstrated for control and sampling of the river should the release spread there. The EOF management contacted the Illinois Radiological Control Team to assist by providing additional sampling of river water in the area and controlling river access. These actions and others made up the content of the Protective Action Recommendations (PARs) for the public. The EOF staff did a good job of analyzing the liquid release and the potential dose to the public, both in milliroentgens and in maximum permissible concentration (MPC). Based on isotopic concentration, the Protective Measures Group concluded that this release exceeded the NRC allowable MPC and had the probability of resulting in a violation of NRC requirements.

The dose to the public, if all the release went to the river and was taken in at the nearest water supply intake, was calculated to be 0.05 mR. In a meeting with his support directors at 1312, the MEO got an update on the major events of the exercise. A decision was made to go to Recovery when the tornado watch was lifted. This tornado watch was lifted at 1330. Recovery discussions started at that time.

Recovery activities were discussed in conjunction with the TSC by speaker phone. The MEO followed closely the recovery plan as specified in the GSEP. He asked for input from his support directors and encouraged them to make comments. Among other topics discussed were the disposition of the fuel assembly, including repair for the refueling bridge and a fix on miscellaneous equipment. Selective staffing of the EOF and TSC for the recovery period was addressed. In general, recovery activities were thorough, and concentrated on the key events and related equipment which were highlighted as action items by the MEO.

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

#### 5. Scenario

The exercise scope and objectives and the complete scenario packages were submitted in accordance with the established schedule. The licensee was responsive to the one scenario related question regarding the liquid effluent release.

The participants were confronted with several challenges throughout the scenario. The worsening weather conditions culminated with a tornado damaging certain station equipment and the Protective Area Security fence. The lake blowdown air release and vent valve damage resulted in spraying water on the ground which spread to a farmer's corn field. The challenge to confirm the extent of this contamination and cordon off the immediate area to prevent spreading of contamination was perhaps the highest priority event in the scenario. Loss of power to the refueling bridge crane was also a major concern since a fuel assembly was suspended in the Fuel Transfer Chute. This refueling crane failure was a chief concern in the TSC. Spill of the Precoat Tank and loss of the Post LOCA Oxygen Monitor were two other events that required response in this simulated emergency.

In summary, the challenges provided in the scenario satisfactorily tested the technical skills and coordinated efforts of plant management and staff. These scenario events kept the staff busy determining the best corrective actions available.

#### 6. Exit Interview

The inspection team met on August 31, 1989, with the licensee representatives denoted in Section 1 of this report. The team leader discussed the scope and evaluation of the exercise, including preliminary inspection findings which identified one exercise weakness.

This exercise weakness, which resulted in the failure of Exercise Objective 5.g., was the assembly/accountability drill. This drill took approximately 67 minutes to account for all individuals onsite, with the goal being 30 minutes. Related to the assembly/accountability drill was the licensee's lack of a means to give priority to the release of any

emergency response personnel who were held up by the reconciliation of the drill's accountability. Any emergency response individual should be given priority for accountability in the particular assembly area and be released to complete his or her emergency related assignments as soon as possible.

The licensee agreed to consider the recommendations discussed by the NRC evaluation team at this meeting. The licensee indicated that none of the items discussed during the meeting were proprietary.

Attachments:

1. Exercise Scope  
and Objectives
2. Narrative Summary

LASALLE COUNTY NUCLEAR POWER STATION  
1989 GSEP EXERCISE

August 2, 1989

OBJECTIVES

PRIMARY OBJECTIVE:

Demonstrate the capability to implement the Commonwealth Edison Generating Station Emergency Plan (GSEP) to protect the public in the event of a major accident at the LaSalle County Nuclear Power Station. Demonstrate this capability during the hours to qualify as a daytime Exercise in accordance with NRC guidelines.

SUPPORTING OBJECTIVES:

1) Incident Assessment and Classification

- a. Demonstrate the capability to assess the accident conditions, to determine which Emergency Action Level (EAL) has been reached and to classify the accident level correctly in accordance with GSEP within 30 minutes of plant conditions warranting classification.  
- (CR, TDC)

2) Notification and Communication

- a. Demonstrate the capability to notify the applicable offsite State and local organizations within fifteen (15) minutes of declaring an accident classification.  
- (CR, TSC)
- b. Demonstrate the capability to notify the NRC as soon as possible and within one (1) hour of the initial incident.  
- (CR)
- c. Demonstrate the capability to contact pertinent organizations that would normally assist in an emergency, but are not participating in this Exercise (e.g., Murray and Trettel, General Electric, INPO, Ambulance Service, Hospital, etc.)  
- (TSC, EOF)
- d. Demonstrate the ability to provide follow-up information/updates to the State and NRC within thirty (30) minutes of major plant condition changes or at least hourly.  
- (TSC, EOF)
- e. Demonstrate the ability to maintain an open-line of communication with the NRC upon request.  
- (CR, TSC, EOF)
- f. Demonstrate the ability of the ERF Communicators to accurately transmit information and provide timely response to questions.  
- (CR, TSC, EOF)

3) Radiological Assessment

- a. Demonstrate the ability to collect, document and trend plant radiological survey information and make appropriate recommendations concerning protective actions for personnel.  
- (OSC, TSC, EOF)
- b. Demonstrate the capability of the Operations Support Center (OSC) to implement proper Health Physics practices and dosimetry issuance for OSC personnel and Maintenance Teams dispatched to radiologically controlled areas in-plant.  
- (OSC)
- c. Demonstrate the capability of the Operations Support Center (OSC) to track and document personnel exposures for OSC personnel and Maintenance Teams dispatched from the OSC.  
- (OSC)
- d. Demonstrate the capability to calculate offsite dose projections.  
- (TSC, EOF)
- e. Demonstrate the ability to make Protective Action Recommendations (PARs).  
- (CR, TSC, EOF)
- f. Demonstrate the ability of the Field Teams to collect and assess environmental samples in accordance with procedures and proper contamination control techniques using sampling equipment and communication methods under the conditions of the scenario.  
- (TSC, OSC, EOF)
- g. Demonstrate the ability to share and compare survey results from CECO and State Field Survey Teams.  
- (EOF)
- h. Demonstrate the ability of plant personnel to perform field surveys, post an area and make protective action recommendations for personnel controlling a contaminated spill.  
- (CR, OSC, TSC)

4) Emergency Facilities

- a. Demonstrate the capability to activate and staff the on-site Emergency Response Facilities within sixty (60) minutes and in accordance with procedures.  
- (CR, TSC, OSC)
- b. Demonstrate the capability to activate and staff the Emergency Operations Facility in a timely manner.  
- (EOF)
- c. Demonstrate the capability to record and track major plant status information relative to Exercise events using Plant Status Boards.  
- (TSC, OSC, EOF)

- d. Demonstrate the capability to track and document, on status boards and logs, all dispatched Operations and Maintenance Team activities and in-plant job statuses.  
- (CR, TSC, OSC)
- e. Demonstrate the ability of the Emergency Response Organization to interface with Division personnel during a GSEP event.  
- (TSC, EOF)

5) Emergency Direction and Control

- a. Demonstrate the ability of the individuals in the GSEP Organization to perform their assigned duties and responsibilities as specified in Generic GSEP and position-specific procedures.  
- (CR, TSC, OSC, EOF)
- b. Demonstrate the ability of the Managers and Directors to exert command and control in their respective facilities according to the duties and responsibilities specified in Generic GSEP and position-specific procedures.  
- (CR, TSC, OSC, EOF)
- c. Demonstrate the ability of the Shift Engineer and the OSC Director to coordinate and prioritize Operations and Maintenance activities during abnormal and emergency situations.  
- (CR, OSC)
- d. Demonstrate the ability of the Shift Engineer to track operations and maintenance activities prior to TSC and OSC activation of the TSC and OSC.  
- (CR)
- e. Demonstrate the ability of the Shift Engineer to turnover operations and maintenance activities in progress upon activation of the TSC and OSC.  
- (CR)
- f. Demonstrate the ability to requisition, acquire and transport emergency equipment and supplies necessary to mitigate or control unsafe or abnormal plant conditions.  
- (CR, TSC, EOF)
- g. Demonstrate the capability to assemble and account for all on-site personnel within thirty (30) minutes of sounding the evacuation alarm.  
- (TSC)
- h. Demonstrate the ability of each Facility Director/Manager to conduct appropriate periodic briefings/updates covering plant status, event classification and plant activities in progress.  
- (CR, TSC, OSC, EOF)
- i. Demonstrate the ability to provide access for and interface with the NRC Site Team.  
- (TSC, EOF)

- j. Demonstrate the ability of the EOF Environs Group to direct and track Environs Teams at monitor locations.  
- (TSC, EOF)

6) Recovery

- a. Demonstrate the capability of the Emergency Response Organization to identify the requirements, criteria and implementing procedures for recovery.  
- (TSC, EOF)
- b. Demonstrate the capability to identify work priorities, procedures and programs which are required to return the plant to a normal operating status.  
- (TSC, EOF)

LASALLE COUNTY NUCLEAR POWER STATION  
1989 GSEP EXERCISE  
August 2, 1989

NARRATIVE SUMMARY

INITIAL CONDITIONS

(0700 - 0730)

UNIT 1 - Operating Condition One for the last 195 days maintaining power at 100% except for load following. B Reactor Recirc Pump Seal #2 shows indication of a slow failure; pressure currently at 390 psig. On shift one, the B Reactor Recirc Flow Control Valve (FCV) indicated servo error oscillations during performance of LOS-AA-W1. A 24-hour timeclock for Tech. Spec. 3.6.6.2 was started at 0215 to inert the Drywell per LOP-VQ-11 to reduce Oxygen concentration from 5.1% as noted during the surveillance. Division II, Post LOCA Containment Oxygen Monitor, was determined to be inoperable during LOS-AA-W1 which placed the Unit on a 7-day clock per Tech. Spec. 3.3.7.5 Action Statement. (Per I.M Department/Storeroom parts are on order to replace the Division II Oxygen Pressure Regulator). Inerting operations were started at 0500. The Reactor Core Isolation Cooling (RCIC) System is Out-of Service for scheduled lubrication. OCS Cards were hung at 0530 with no work authorized or started.

UNIT 2 - Operational Condition Five in day 12 of a planned 15 week refueling outage. Core unload is in progress with 509 assemblies transferred to spent fuel storage. High Pressure Core Spray System and Diesel Generator are inoperable due to refueling maintenance and testing. Six assemblies have been identified as leakers through sipping operations. Suppression Pool cleanup put the outage schedule behind by two days due to higher than expected activities.

COMMON- At 0545, the SPSO issued a Severe Storm Warning and Tornado Watch until 1400 today. Winds are currently sustained at 30 to 40 mph gusting to 55 mph. Both Units are in day 8 of a 30 day timeclock for inoperable Lake Blowdown Flow indication per Tech. Spec. 3.3.7.10. Dilution Flow is being estimated every three hours by local valve position indication. Radwaste has been discharging tanks for the last two weeks with the most recent discharge started at 0535.

UNUSUAL EVENT

(0730 - 0900)

At 0730, the Unit 1 Rounds Equipment Attendant reports water spraying out of 1E22-F012 (High Pressure Core Spray Minimum Flow Valve) packing gland. At 0730, MCC 143-1 Cubicle 3B breaker indicated tripped. At 0800, Tornado Warnings came in affect for the western portion of Illinois, southeastern Iowa and northeastern Missouri. Quad Cities Station is keeping both Units shutdown due to tornados in the area. At 0750, the Production Superintendent orders a power reduction per the Tech. Spec. as a precautionary measure in conjunction with the worsening weather conditions. Indicated Drywell Oxygen concentration does not change due to instrument failure. At 0815, an overflow of the Precoat Tank is reported by the Unit 1 EA.

0129L/1/wjm  
LSCS '89 GSEP Ex.

UNUSUAL EVENT  
(0700 - 0900)  
(cont'd)

EXPECTED  
ACTIONS:

The Operating crew will determine the HPCS operability condition through Control Board indications and enter Tech Spec. 3.0.3. This will require commencing shutdown within one hour. The Shift Engineer will send the Shift Foreman to verify the 1E22-F012 valve position closed per Tech. Spec. 3.6.3. An Operator and EM crew will be dispatched to the MCC to investigate the tripped breaker. An Instrument Maintenance crew will be dispatched to investigate the Oxygen Monitor when it is noticed that oxygen concentration is not decreasing. The shutdown will commence at 0800 per orders and the Unusual Event classified per EAL #3A and #6A (Equipment described in Tech. Specs is degraded such that an Action Statement requires a shutdown AND power decrease for shutdown has commenced.) The Unit 1 EA will report the spill to the Control Room and a team will be dispatched to control the area.

ALERT  
(0900 - 0945)

At 0845, the Outside Rounds Equipment Attendant reports that a Lake Blowdown air release and vent valve is spraying water onto the ground and also notes the high wind conditions. A farmer reports to Security at the Gatehouse that water is flowing into his corn field.

When the blowdown valve is checked, the EA reports the position is the same as the last check but visual flow seems to be less than expected. Flow is decreased due to corn stalks and debris clogging the Blowdown inlet gate. The Radwaste Discharge PERM sample line is plugged with resin. The low sample flow alarm has not annunciated due to a failed time delay relay. At 0900, it is discovered that the samples of the Radwaste Discharge Tanks were reversed. At 0930, Transmission Substation 061 senses a fault on Line 6102 and trips it off, deenergizing the Liver Screen House. A static wire on the line breaks from a lightning strike and falls across the phases of Line 6102. A 12KV feeder is also shorted which deenergizes residential customers. Wind speed increases to sustained wind speed of 60 mph at 0930. The Refuel Bridge Crane will stop moving (due to a failure to be determined) at the time when the decision is made to suspend fuel movement. A fuel assembly will be suspended in the Transfer Chute.

EXPECTED  
ACTIONS:

The EA will investigate the air release and vent valve and the diminished dilution flow. When the sample tank calculation error is reported the release will be terminated. Based on the calculations and referencing LZF-1200-4, Classification of Liquid Release, an Alert will be classified per EAL #1L (Estimated liquid release greater than OR equal to 40 Ci but less than 2000 Ci total in 24 hours). Teams will be dispatched to collect samples and assess actual contamination in the environment.

0129L/2/wjm  
LSCS '89 GSEP Ex.

EXPECTED  
ACTIONS:

The Radwaste Discharge PRM will be investigated locally to verify remote indication. When power is lost to the River Screen House, the blowdown valve will fail as is and must be manually closed to stop the release to the river. The Control Room will notify the Load Dispatcher of the loss of Line 6102 who will in turn notify the Streater Dispatcher. Customers will call in to Streater District and Southern Division to report the loss of power.

SITE EMERGENCY  
(0945 - 1330)

At 0945, the sustained wind speed increases to greater than 90 mph and a tornado touches down at the station. Damage at the station includes a trailer, the A Control Room Ventilation outside air intake structure is partially plugged and two Rad Monitors are damaged, one Met Tower guy line is snapped and a second is frayed, a fire hydrant is sheared off and hits the Demin. Regen. Solution Tank, and part of the Protective Area security fence and monitoring system (camera and card reader) are damaged due to the flying debris. The Unit SCRAMs due to Transformer 1 west differential overcurrent phase A to C (caused by a lightning strike). The Refuel Bridge Crane will stop moving due to an electrical failure of the power cable connector at the time when the decision is made to suspend fuel movement. A fuel assembly will be suspended in the Transfer Chute until repairs or manual movement of the crane is accomplished. When the Assembly for personnel accountability occurs, not all personnel will be accounted for.

EXPECTED  
ACTIONS:

The Site Emergency will be declared when sustained wind speed is greater than 90 mph per EAL #6X (Sustained winds of 90 mph with a Unit not in Cold Shutdown or Refuel). After the Assembly, crews will be sent to assess the damage to the Station and to search for the unaccounted for personnel. After the initial damage assessment is made, crews will be assigned to begin restoration of priority areas and equipment. When the decision is made to suspend fuel movement, per LOA-AA-02, Operations during Tornado Warning, the Refuel Crane will be repaired or manually moved to place the assembly in safe storage.

RECOVERY  
(1330 - 1430)

After 1330, plant conditions will need to be assessed for consideration of entry into a Recovery Phase. The TSC and EOF will generate a prioritization plan for restoration of the failed/damaged equipment and systems. Conditions for Recovery will be met.

EXPECTED  
ACTIONS:

The TSC and EOF will generate a prioritized plan for restoration of the systems and equipment and enter into a Recovery Phase.

0129L/3/wjm  
LSCS '89 GSEP Ex.