

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-373/91006(DRSS); 50-374/91005(DRSS)

Docket Nos. 50-373; 50-374

Licenses No. NPF-11; NPF-18

Licensee: Commonwealth Edison Company
Opus West III
1400 Opus Place
Downers Grove, IL 60515

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

Inspection At: LaSalle Site, Marseilles, Illinois

Inspection Conducted: April 8-11, 1991

Inspector: H. J. Simons *HJ Simons*

4-19-91
Date

D. M. Barss *DM Barss*

4/22/91
Date

T.G. Plaski
T. J. Plaski

4/19/91
Date

Approved By: *W. Snell*
W. Snell, Chief
Radiological Controls and
Emergency Preparedness Section

4/22/91
Date

Inspection Summary

Inspection on April 8-11, 1991 (Report No. 50-373/91006(DRSS); and
No. 50-374/91005(DRSS))

Areas Inspected: Routine, announced inspection of the LaSalle County Nuclear
Generating Station's Emergency Preparedness Program including the following
areas: followup on licensee actions on previously identified items (IP 82701);
followup on actual emergency plan activations (IP 92700); operational status of
the emergency preparedness program (IP 82701); knowledge and performance of
duties (IP 82206); and the onsite meteorological monitoring program (IP 84750).
This inspection involved three inspectors.

Results: No violations of NRC requirements, deficiencies, or deviations were
identified as a result of the inspection. One open item concerning training of
emergency team members will remain open until further corrective action is

taken. The licensee has a well maintained emergency preparedness program which they continue to improve through self-evaluation and making refinements as necessary.

DETAILS

1. Persons Contacted

G.J. Diederich, Station Manager
W.R. Huntington, Technical Superintendent
C.W. Schroeder, Production Superintendent
D.W. Hieggelke, Health Physics Services Supervisor
K. Klotz, Emergency Preparedness Coordinator
R.L. Carson, EP Operations and Onsite Programs Supervisor
J.E. Lockwood, Regulatory Assurance Supervisor
J. Houston, GSEP Trainer
W.R. Betourne, LSCS Nuclear Quality Programs Superintendent
T. Carr, Nuclear Quality Programs Inspector
J.L. Roman, IDNS Resident Engineer
R.M. Ragan, Administrative Engineer

All of the above listed individuals attended the NRC exit interview held on April 11, 1991.

The inspectors also contacted other licensee personnel during the course of the inspection.

2. Licensee Action on Previously Identified Items (IP 92701) (Open) Open Item No. 373/90020-01: Specific specialized training for individuals assigned emergency repair and damage control team responsibilities was not included in the training program.

The licensee developed a new training module for emergency teams. This module has been presented to personnel who would be assigned emergency repair and damage control team responsibilities. These personnel also participated in a special table top drill focused on OSC activities. These actions were adequate to resolve the immediate concerns of this open item.

The licensee has not yet revised the LaSalle Station GSEP training matrix to include specific specialized training requirements for GSEP positions consistent with the requirements of 10 CFR 50, Appendix E, Section IV.F. The licensee has prepared a draft revision of the training matrix which is currently in the review and approval process. This item will remain open pending further review after completion of the revision to the training matrix.

3. Emergency Plan Activations (IP 92700)

At 0630 hrs on November 29, 1990, the licensee declared an Unusual Event (UE) per Emergency Action Level (EAL) 3A due to Division 1 battery charger inoperability.

At 0940 hrs on December 22, 1990, an UE was declared per EAL 6C due to a fire in the 2A turbine driven reactor feedwater pump room lasting more than ten minutes.

The licensee's records for each of the above emergency plan activations were reviewed. For each event an appropriate, conservative classification was made and notifications to State officials and the NRC were accomplished within required time limits.

On March 12-13, 1991, a late winter storm system moved through northern Illinois. Precipitation in the area encompassing the LaSalle, Dresden and Braidwood Nuclear Stations was reported to have been in the form of freezing rain which later changed to snow. Strong winds and large amounts of precipitation were associated with this storm system.

Between about 0245 hrs and 0250 hrs on March 13, the Shift Engineers (SEs) at these three stations conservatively and correctly declared Unusual Events due to the loss of the means to make offsite dose assessments. Required notifications to State and NRC officials were completed within the regulatory time limits. Dose assessment capability was considered to have been lost due to the adverse affects of icing on each station's wind speed and/or wind direction sensors. (Wind speed, wind direction and atmospheric stability are three of the input parameters to the licensee's offsite dose calculation methodologies.) Each station's meteorological monitoring tower has several sets of wind sensors, each set mounted at different tower elevations. Temperature difference measurements on each instrumented tower, which constitute a measure of atmospheric stability, remained in service during the time period when reliable onsite wind measurements were unavailable.

Based on discussions with the three stations' GSEP Coordinators and a review of records associated with the LaSalle Station's Unusual Event declaration, it was determined that each SE had concluded that the wind speed and/or wind direction measurements from his station's meteorological monitoring system were either invalid or were unreliable due to the apparent affects of ice buildup on these sensors, even though these sensors were equipped with heater elements to reduce the potential for ice buildup. Precipitation rates and temperature conditions were apparently sufficient to overcome the performance of the heater elements. While the heater elements provided by the sensors' vendors would reduce icing affects on the sensors' shaft and transmitter components, their heating affects on the anemometers' cups and wind vanes would be relatively less. Ice buildup on the cups or vanes would decrease the sensors' response capabilities.

The three SEs conferred and had satisfied themselves that all three monitoring sites' wind sensors had been degraded prior to the Unusual Event declarations. If one had wind speed, one wind direction, and a reliable measurement of atmospheric stability at one of the three station's monitoring sites, then offsite dose assessment capability would not have been considered to have been lost at any of these stations, and the Unusual Events would likely not have been declared. Personnel in the Control Room apparently contacted the nearest National Weather Service (NWS) station, located near Marseilles, Illinois and were informed that location's wind sensors' performance had also been degraded by the current

other measured parameters. The Second Proposed Revision 1 to Regulatory Guide 1.23 (1986), which has not yet been issued in final form, references ANSI/ANS 2.5 (1984). ANSI/ANS 2.5 includes the same annual data recovery rate criteria as found in proposed Revision 1 to Regulatory Guide 1.23 (1980). In the absence of other regulatory acceptance criteria, the safety significance of an unavailability of representative meteorological data could be assessed using the annual criterion stated in ANSI/ANS 2.5 (1984). The unavailability of reliable wind speed and/or wind direction measurements at any of the three stations' monitoring sites for a period of roughly 12 to 18 hours on March 13, 1991 would not constitute a significant safety concern based on the ANSI/ANS 2.5 criterion.

The LaSalle Station's Technical Specifications includes an action statement regarding the unavailability of certain onsite meteorological data. In the event that specific types of onsite meteorological data are unavailable at LaSalle Station for seven days, the licensee is required to notify the NRC of the situation and the planned corrective action. The data unavailability on March 13, 1991 would not constitute a significant safety concern based on this Technical Specification.

The licensee conducted a GSEP event review for each of the above three GSEP activations. This review included gathering copies of applicable documents such as Shift Engineer's Logs, Nuclear Accident Reporting System (NARS) forms, Emergency Notification System (ENS) notification worksheets, Deviation Reports and Licensee Event Reports. An evaluation was then made to determine if the classification was pertinent, notification timely and if the GSEP and associated procedures were properly implemented.

No violations of deviations were identified.

4. Operational Status of the Emergency Preparedness Program (IP 82701)

a. Emergency Plan and Implementing Procedures

On March 1, 1991, the licensee implemented Revision 7 of the generic Generating Station Emergency Plan (GSEP). This revision included many changes to the structure of the plan, clarification of commitments and policies, new forms and enhancements to the structure of the response organization in both the Technical Support Center (TSC) and the Emergency Operations Facility (EOF). The location and name of the Corporate EOF was changed and response organization titles revised to be consistent with site EOFs. Enhancements were also made to the structure and responsibilities of the Emergency News Center response organization. None of these changes appear to downgrade the effectiveness of the licensee's emergency response capabilities. A complete review of the changes implemented with Revision 7 of the generic GSEP was completed by NRC Region III staff. Revision 7 was determined to be acceptable.

The GSEP LaSalle Annex is currently under review and revision to incorporate changes implemented with Revision 7 of the generic GSEP as well as many other changes and enhancements made to the station's emergency preparedness program since the last revision to the annex. The implementation of Revision 7 of the generic GSEP has necessitated a major effort to review and revise LaSalle's Emergency Plan Implementing Procedures (EPIPs). Virtually all of the station's EPIPs are being revised as well as the development of new procedures to support Revision 7 changes. The inspector reviewed documentation that indicated this effort was being conducted in a systematic manner and in accordance with approved administrative procedures. Independent reviewer, verifier and subject expert reviews are included in the revision process.

Current copies of the emergency plan and implementing procedures were found to be maintained and readily available in the emergency response facilities and the control room.

The Corporate emergency planning staff was aware of minor errors in the LaSalle Public Information Brochure, as identified by the Federal Emergency Management Agency (FEMA). Considering the minor nature of the errors, corrections to the brochure will appropriately be made in the next revision.

No violations or deviations were identified.

b. Emergency Facilities, Equipment, Instrumentation and Supplies

An inspection tour was conducted through the technical support center (TSC), operational support center (OSC), control room (CR), Mazon emergency operations facility (EOF) and the environmental monitoring van. These facilities were found to be as described in the LaSalle Annex of the Generating Station Emergency Plan (GSEP).

The TSC is a dedicated facility and was found to be clean, orderly and ready for use. Radiological survey meters stored in the TSC were found to be calibrated and ready for use. A check source is also available to verify meter operability. Each meter was checked and found to be satisfactory. The emergency notification system (ENS) phone was tested from the TSC and found to have an echo. This problem was reported. One of the phones dedicated for NRC use was also found to be inoperable and was repaired promptly.

In the CR, telephones dedicated for emergency use were clearly labeled and positioned to be readily accessible. The ENS was tested from the CR and found to have an annoying echo on the plant's end of the phone. Communications could still be understood. The echo problem was reported to the NRC Headquarters Duty Officer. Appropriate procedures and notification forms were also found to be readily accessible and sufficiently stocked for use in the CR.

The OSC is established when necessary in the Auxiliary Building, elevation 768, adjacent to the Shift Engineer's office area. This area is used on a daily basis by operations personnel and emergency supplies are stored in lockers in an adjacent hallway. The inventory of these emergency lockers were checked and found to be as described by procedures. Two dosimeter charges were found to have dead batteries. This was quickly corrected by the licensee.

The environmental van was also found to be in a state of operational readiness. There is a new portable generator for environmental sampling use. This generator was actually test operated under full load for a normal air sample duration of 10 minutes and it performed satisfactory.

One common problem was noted in the TSC, OSC, and the environmental monitoring van. Virtually all the rubber gloves included in the sets of protective clothing either had holes in them or they were gummy and stuck together. All the gloves were replaced before the end of the inspection. The licensee does not have a method of periodically checking the quality or replacing the gloves. The licensee is evaluating methods to prevent this problem from reoccurring.

A brief tour of the EOF was conducted. This facility also appeared to be in a state of operational readiness. Remodeling of the EOF is in progress to create the executive management conference room. Plant drawing aperture cards were selected at random. All were found to be the current revision.

Emergency communications systems surveillance records for the emergency response facilities were reviewed and found to be complete and thorough. These surveillances are conducted monthly and includes the Nuclear Accident Reporting System (NARS) phones, GSEP radios, GSEP microwave phone system connections, NRC ENS and Health Physics Network (HPN) phones and other inplant phone system extensions maintained for emergency use and not used in normal work activities.

The licensee's inventory records for emergency supplies were reviewed and found to have been completed as detailed in appropriate procedures. The inventories reviewed included supplies for environmental sampling, the TSC and OSC.

No violations or deviations were identified.

c. Organization and Management Control

Overall organization and management control of the Emergency Preparedness (EP) program is unchanged from the last routine inspection. The EP Coordinator reports to the Health Physics Services Supervisor who reports to the Technical Superintendent who reports to the Station Manager. No major changes have been made in the responsibilities and authorities of onsite EP program personnel.

With the implementation of Revision 7 of the generic GSEP several emergency response organization (ERO) positions have changed. The transition to this new structure is the result an effort to standardize and improve efficiency of the ERO from lessons learned through extensive drill and exercise experience at all of the licensee's sites.

In the TSC, the following positions were added: Assistant Station Director, Technical Communicator to the EOF, Technical Status Board Recorder, Offsite Dose Calculation System (ODCS) Specialist, and ENS, HPN and CR Communicators. The Rad/Chem Director position duties have been split into a Radiation Protection Director and a Chemistry Director.

In the EOF, the following positions were added: Assistant Manager of Emergency Operations, Technical Status Board Recorder, HPN Communicator, Computer Specialist and a Station Senior Reactor Operator. Protective Measures has been made an independent group with the Health Physic Director assigned to it. The Administrative Support Director position has been renamed Manpower and Logistics Director. Also, State Governmental and Department of Nuclear Safety Communicator duties have been combined into a State Environs Coordinator's position.

Adequate numbers of personnel have been identified for specific lead and support positions in the onsite ERO. The licensee maintains at least three qualified individuals to fill each ERO position.

No violations or deviations were identified.

d. Emergency Preparedness Training and Knowledge and Performance of Duties (IP 82206)

The current GSEP onsite training program was reviewed with a GSEP Training Instructor and the GSEP Coordinator including a review of the training matrix requirements, lesson plans, training records and recent improvements to the program.

The inspector reviewed the matrix of training requirements and the lesson plans. They both were acceptable in scope and depth. The initial training of emergency response personnel consists of required reading of applicable emergency plan implementing procedures (EPIPs), appropriate classroom training modules, and an examination which they are required to pass. Annual retraining consists of required reading of revised procedures and other applicable EPIPs and a retest covering the material in the initial training modules. The training records of thirty-five randomly chosen individuals were reviewed. From the records reviewed, it was determined that training requirements have been met, including a drill proficiency which is required for most positions, in accordance with the established training matrix.

During the review of the training matrix an inconsistency was identified in the drill proficiency requirements for the Station Director's Communicator position. Under continuing training requirements in the training matrix, drill proficiency is listed as a requirement. Then under drill proficiency, the matrix states that drill proficiency is not required according to Nuclear Operations Directive NOD-EP.2. This inconsistency was resolved by the licensee during the course of the inspection. This same inconsistency was determined to exist in the training matrix guidelines established by the corporate office in Emergency Preparedness Guidance Recommendation - Training 0201, (EPGR-TR 0201), Revision 1 dated April 1990, page 11. This guidance document could be revised to clarify drill proficiency requirements. It was noted by the inspector that there is an ongoing company wide effort to revise and consolidate EP training program requirements into an Administrative Course Management Information (ACMI) document.

Records of the 1990 emergency preparedness drills were reviewed. All 1990 health physics, medical, post-accident sampling and shift augmentation drill requirements were successfully met. There were a few minor findings associated with the drills and these problems were corrected in a timely manner. Drill records were complete and indicated that critiques were conducted and performance was evaluated. Relevant findings originating from drill and exercise critiques are included in the annual retraining program.

Interviews were conducted with ten individuals assigned GESP responsibilities by the current revision of procedure LZF-1320-1, "Augmentation of Plant Staffing". Individuals assigned to fill the following positions were interviewed: Station Control Room Engineer (SCRE), Chemistry Director, Environs Field Team Leader, OSC Supervisor, Radiation Protection Technician, Mechanical Maintenance Personnel, Electrical Maintenance Personnel, Instrument Maintenance Personnel and Radwaste Personnel. The individuals interviewed were well aware of their respective responsibilities under emergency plan activations.

Records were reviewed which indicated that appropriate training had been conducted to support the recent implementation of Revision 7 of the licensee's generic GSEP. This included new training courses for personnel assigned to the new positions created and reading packages for other personnel assigned to the ERO.

The licensee has voluntarily implemented the Emergency Response Data System (ERDS). Control room (CR) personnel have been trained on the procedures for activation of ERDS. During a tour of the CR the SCRE successfully demonstrated the ERDS activation procedure.

No violations or deviations were identified.

e. Independent Reviews/Audits

The inspector reviewed the 1991 audit of the Facility Emergency Plan, QAA-01-91-13 performed by the Quality Assurance (QA) Department. This audit fulfilled the requirements of 10 CFR 50.54(t). All records were readily available and complete. The auditor's checklists for the annual audit was reviewed. This checklist had been revised to include NRC findings and each year continues to have more scope and depth for a better evaluation of the program. The audit checklists were completely filled out and had informative supporting evidence. This audit included an evaluation of the adequacies of the interface between State and local governments. The auditors checked letters of agreement, verified that letters of invitation were issued to support organizations for discussion of emergency planning issues, and in one audit it was noted that emergency action levels were reviewed with the State at a meeting. This audit included interviews with St. Mary's Hospital, ambulance services, and State and local governments. All interviews provided positive feedback regarding the interface between LaSalle and the offsite agencies.

No violations or deviations were identified.

5. Onsite Meteorological Monitoring Program (IP 84750)

The onsite meteorological monitoring program was well described in Revision 7 to the Updated Final Safety Analysis Report (UFSAR) and in the draft revision to the LaSalle Annex to the Generating Stations Emergency Plan. The inspector accompanied the vendor's technician during a weekly visit to the monitoring site. Program records from January 1989 through January 1991 were reviewed and discussed with the GSEP Coordinator. Onsite meteorological data availability in the Control Room, TSC and EOF was determined. As indicated in the following paragraphs, there is reasonable assurance that, in the event of an emergency at the LaSalle Station, the onsite meteorological monitoring system will be operable and capable of providing good quality data to licensee, State and Federal emergency response organizations.

The instrumented tower's location was apparently unchanged since 1975. The tower was located on a flat dirt and gravel field in the southern portion of the Protected Area, south and west from the Turbine Building. Wind speed and direction sensors were mounted at the 33, 200 and 375 foot tower elevations. Dewpoint temperature sensors were at the 33 and 200 foot elevations, while ambient temperature was measured at the 33 foot elevation. The tower was also instrumented to provide temperature difference measurements between the 33 and 375 foot elevations and the 33 to 200 foot elevations. A precipitation gauge was located near the tower. Monitoring program software included the capability to compute the standard deviation of wind direction fluctuation (sigma theta) as another means of categorizing atmospheric stability. Several microwave antennas were also mounted on the tower between the 200 and 375 foot elevations.

Their locations would not adversely affect the meteorological measurements. Monitoring program records indicated that the accuracies of wind speed, wind direction, temperature and temperature difference measurement systems satisfied the criteria of ANSI/ANS 2.5 (1984) and Regulatory Guide 1.23.

The distances from the tower to existing plant structures, as well as the heights of these structures, were described in the UFSAR and the draft revision to the LaSalle Annex to the GSEP. The tower was about five building heights from both the Reactor Building and the Turbine Building. Regulatory Guide 1.23 (1972) states that the tower should be in an area where plant structures will have little or no influence on the measurements. ANSI/ANS 2.5 (1984) quantifies this statement in the Regulatory Guide by stating that, where practical, obstructions to air movement should be no higher than the measurement level and with a horizontal separation of ten times the obstruction height. The tower's location does not satisfy this criterion of ANSI/ANS 2.5. However, in order to satisfy this criterion, a meteorological measurements tower would probably have to be located well beyond the protected Area. The tower's location was approved prior to the issuance of ANSI/ANS 2.5 (1984). While the tower's location is not ideal, it is adequate based on its relationship to existing onsite structures.

The licensee indicated that a Service Building addition was planned for construction to the south and east of the Unit 1 portion of the Turbine Building. A single story warehouse was also being planned somewhere to the north and west of the monitoring tower. Exact building height and distance information regarding these planned structures were not reviewed during this inspection. No above ground construction activities were evident during this inspection. The licensee should evaluate the locations of these planned structures with respect to the current meteorological monitoring tower to determine whether meteorological measurements could be adversely affected by these planned structures. Adverse effects on wind and temperature measurements should be avoided. This may involve relocation of the equipment used to make meteorological measurements representative of conditions within the 10 mile EPZ.

The tower was equipped with a lightning rod and was grounded. The licensee indicated that offsite power was the monitoring systems' primary power source, while backup power would be available from one of the plant's emergency diesel generators. The wind sensors were provided with heater elements to reduce the potential for the sensors being adversely affected by the combined effects of moisture and low temperature. However, the vendor's records indicated several instances during 1990 when one or more wind sensors had been affected by icing even though the heater element(s) had apparently functioned properly. January 1991 records indicated that the vendor was investigating how to reduce the occurrences of icing effects on the wind sensors.

The same vendor has been responsible for maintaining the monitoring program for many years and for providing site-specific meteorological forecasts upon licensee request. The vendor's contract for these services was in effect through 1992. The contract included provisions for weekly

inspections of the monitoring site, six system calibrations per year, periodic replacement of wind sensors, emergency repair and calibration services, and daily remote interrogation of the meteorological data by qualified staff. Calibration frequency was in excess of the semiannual frequency stated in Regulatory Guide 1.23. Revision 7 to the UFSAR indicated that the monitoring system was also being periodically polled by a computer in the corporate offices, and that the computer's software included tests to help identify potentially invalid data. The contract allowed the vendor to initiate investigative and repair activities prior to receiving authorization from the licensee.

Onsite meteorological data were available as a one minute average or as a fifteen minute running average using computer terminals in the Control Room, TSC and EOF. These data were also available on analog strip charts in the instrument shelter located near the monitoring tower. Instantaneous values for the 33 to 375 foot temperature difference measurement and the 375 foot wind speed and direction measurements were also available on individual dials in the Control Room. A switch was operable so that the 200 foot instantaneous wind speed and direction data could be displayed on two of these dials instead of the 375 foot wind data. In the event of a monitored release exceeding the setpoint values in the Station's Emergency Action Levels, automatic output in the Control Room from the "A-Model" would include time averaged onsite meteorological data. In the event of an actual or potential abnormal release, the licensee should utilize time averaged meteorological data instead of instantaneous data, and should provide only the time averaged values to State and Federal responders.

Monitoring program records for the period from January 1989 through January 1991 were reviewed. The vendor had met contractual obligations regarding periodic calibrations and had performed non-scheduled maintenance and calibration activities in a timely manner. Maintenance and calibration records included in the vendor's periodic reports to the licensee were adequately detailed. Infrequent component failures were failures were noted involving one or several wind sensors, the dewpoint sensors, or the data recording equipment. During December 1990 and January 1991, the vendor had moved the wind sensors' mounting arms to the ends of their booms to comply with ANSI/ANS 2.5 guidance regarding the distance between the tower and these sensors. Maintenance on the wind sensors' heating system was also done at that time. The wind sensors and other sensors were adequately mounted on the tower at the time of this inspection.

The vendor's periodic reports included data recovery rate statistics for individual parameters following completion of the vendor's data validation activities. The validated data recovery rate for any parameter which could be utilized in offsite dose calculations was at least 98.2 percent in 1989 and at least 97.3 percent in 1990. These recovery rate statistics exceed the 90 percent recovery rate criteria stated in ANSI/ANS 2.5 and Regulatory Guide 1.23. Based on the existing provisions for maintaining

and calibrating the monitoring system, the valid data recovery rates achieved in 1989 and 1990, and the provisions for frequent remote interrogations of the system by vendor and licensee staffs, the inspector concluded that there is reasonable assurance that the onsite meteorological monitoring system would be operable and capable of providing good quality measurements of local conditions in the event that such data were needed by licensee, State and Federal emergency response organizations.

No violations or deviations were identified.

6. Exit Interview

The inspectors met with licensee representatives denoted in Paragraph 1, on April 11, 1991. The inspectors reviewed the scope and findings of the inspection and indicated that the licensee continues to have a well maintained emergency plan. The licensee was informed that the open item identified in Section 2 of this report will remain open pending further licensee action.

The licensee indicated that the information discussed was not of a proprietary nature.