

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-254/84-18(DRSS); 50-265/84-16(DRSS)

Docket Nos. 50-254; 50-265

Licenses No. DPR-29; DPR-30

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

Facility Name: Quad-Cities Nuclear Generating Station, Units 1 and 2

Inspection At: Quad-Cities Station, Cordova, IL

Inspection Conducted: September 24-28, 1984

Inspector: T. Ploski
T. Ploski

10/26/84
Date

Approved By: M. P. Phillips
M. P. Phillips, Chief
Emergency Preparedness Section

10/26/84
Date

Inspection Summary

Inspection on September 24-28, 1984 (Reports No. 50-254/84-18(DRSS); 50-265/84-16(DRSS))

Areas Inspected: Routine, announced inspection of the following areas of the emergency preparedness program: licensee actions on previously-identified items; activation of the emergency plan; emergency detection and classification; protective action decisionmaking; notifications and communications; changes to the emergency preparedness program; shift staffing and augmentation; knowledge and performance of duties (training); licensee audits; and maintenance of emergency preparedness. The inspection involved 115 inspector-hours onsite by one NRC inspector and two consultants.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Commonwealth Edison Company

*N. Kalivianakis, Station Superintendent
*L. Gerner, Assistant Superintendent - Administrative and Support Services
T. Tamlyn, Assistant Superintendent - Operations
*G. Spedl, Tech Staff Supervisor
*D. Gibson, Quality Assurance Supervisor
*R. Dwyer, Lead Emergency Planner, CECO
D. Jessen, GSEP Coordinator
R. Robey, Senior Operating Engineer
F. Geiger, Operating Engineer
B. Strub, Nuclear Engineer
D. McCarthy, Shift Engineer (SE)
C. Kepler, SE
J. Swales, SE
R. Tubbs, Station Control Room Engineer (SCRE)
R. Walsh, SCRE
C. Steffes, SCRE
M. Kooi, SCRE
R. Buss, Procedures Coordinator
G. Price, Lead Mechanic
J. Sirovy, Lead Chemist
J. Neal, Training Supervisor
T. Schares, Training Instructor
R. Petri, Radwaste Engineer
F. Faley, Office Supervisor
R. Wunderlich, Technical Staff Assistant
D. Noe, Engineering Assistant

Non-Commonwealth Edison

D. Weiss, Illinois Emergency Services and Disaster Agency
S. Dumas, Illinois Department of Nuclear Safety
R. Bambsy, Iowa Office of Disaster Services
E. Gordon, Iowa Office of Disaster Services

*Indicates those attending the September 28, 1984 exit interview.

2. Licensee Actions on Previously-Identified Items

(Closed) Open Item Nos. 254/82-02-03 and 265/82-02-03: All QGA and QOA procedures which could conceivably result in an emergency declaration will contain a statement to direct the user to inform the Acting Station Director of the possible need to classify an emergency. This will be implemented as such procedures are revised. In the interim, a note will be put in QGA and QOA procedure manuals which will refer the user to the emergency plan and implementing procedures. The inspector reviewed

appropriate QGA and QOA procedures, procedures manuals, and master copies of these procedures. All QGA and QOA procedures, which could result in an emergency declaration and which have been revised since this Open Item was created, referenced the emergency plan and its implementing procedures. QGA and QOA procedures manuals contained prefaces which listed those procedures which could be associated with the station's Emergency Action Levels (EALs) and had instructions that the user notify the Shift Engineer (Acting Station Director) should any of the listed procedures be utilized. At the time of this inspection two of eight QGA and fourteen of forty-nine QOA procedures related to the EALs had not yet been revised. A note was attached to the master copy of each unrevised procedure to remind the revisor to add a reference to the emergency plan and implementing procedures. This item is considered closed.

(Closed) Open Item Nos. 254/83-10-04 and 265/83-10-04: The licensee shall develop and implement a system for maintaining complete records for all Generating Stations Emergency Plan (GSEP) activations. The inspector reviewed internal correspondence, dated October, 1983, from the Division Vice President and General Manager to all Station Superintendents which addressed records retention for GSEP activations. Retention periods were set and responsibility for maintaining these records was assigned. The inspector determined that the station's GSEP Coordinator maintained copies of the Nuclear Accident Reporting System (NARS) forms associated with GSEP activations, while the station's Document Control Office retained bound logbooks utilized by the Shift Engineers and Station Control Room Engineers (SCREs). These logbooks would contain entries related to GSEP activations and normal Control Room activities. This item is considered closed.

(Closed) Open Item Nos. 254/83-26-02 and 265/83-25-02: Describe the Morrison Emergency Operations Facility (EOF) in the next revision to the Quad-Cities Annex to the GSEP. The inspector reviewed the current revisions to the GSEP, Quad-Cities Annex, and the GSEP Telephone Directory. The Annex has been revised to indicate that the EOF is located in Morrison, Illinois. The directory included a route map to the EOF. The GSEP continued to provide additional information on equipment common to the licensee's EOFs. This item is considered closed.

(Closed) Open Item Nos. 254/83-26-03 and 265/83-25-03: Reference QEP 110-T2, QEP 360-2, and QEP 360-3 in appropriate sections of the Station Director and Acting Station Director procedures, QEP 110-1 and QEP 110-2, respectively. The inspector reviewed the current revisions of QEP 110-1 and QEP 110-2 and noted that only QEP 360-2 and QEP 360-3 had been referenced adequately. QEP 180-T2, which was a duplicate of QEP 110-T2, was referenced in QEP 110-2, but not in QEP 110-1. As indicated in Paragraph 5 of this report, QEP 350-T1 was also not referenced in QEP 110-1. For tracking purposes, this item is considered closed, and a new item has been generated to track procedure referencing problems in QEP 110-1.

(Closed) Open Item Nos. 254/83-26-04 and 265/83-25-04: Revise procedures QEP 110-1 and 110-2 to incorporate the offsite notification of State and local governmental agencies with the initial notification of the Load

Dispatcher for a General Emergency declaration. The inspector reviewed the licensee's provisions for initial notifications to offsite governmental agencies. The aforementioned procedures referenced QEP 310-1, Initial Notification, which had been revised in August, 1984 to instruct the user to contact the Load Dispatcher using the NARS Code 33 following the declaration of any emergency. This code enables the caller to notify simultaneously the Load Dispatcher and duty officers of emergency response organizations in Illinois and Iowa. The inspectors determined that this dialing code was functional as indicated in QEP 310-1. This item is considered closed.

(Closed) Open Item Nos. 254/83-26-05 and 265/83-25-05: The licensee shall provide copies of the emergency information brochure to the Cordova Dragway. The inspector reviewed excerpts from the August 8, 1984 distribution log for emergency brochures. This log indicated that fifty copies of the brochure had been provided to a representative of the Cordova Dragway on May 10, 1984. This item is considered closed.

(Open) Open Item Nos. 254/83-26-06 and 265/83-25-06: Establish and implement administrative measures for the audit program that will both identify changes in regulatory requirements and ensure that affected procedures and programs have been appropriately adjusted. The inspector examined Quality Assurance (QA) Department records of audits conducted during 1983 and 1984. Audits have been categorized as "onsite" and "offsite," depending on whether QA personnel based at the station or based elsewhere had conducted an audit. While the licensee had expanded the scope of the offsite audits to better ensure that changes in regulatory requirements had been identified and acted upon, the 1984 onsite audit was limited in scope compared to the 1983 onsite audit at this station and 1984 onsite audits already completed at the licensee's other nuclear generating stations. The 1984 onsite audit of this station's emergency preparedness program addressed only the GSEP and its implementing procedures and did not also address applicable Technical Specification or regulatory requirements. The station's QA Department Supervisor has agreed to conduct a supplemental onsite audit in 1984. This item remains open pending review of future onsite and offsite audits.

(Open) Open Item Nos. 50-254/83-26-07 and 265/83-25-07: Institute a formal tracking system, utilized by both corporate and station emergency preparedness staffs, to assure completion of corrective actions taken to resolve weaknesses identified during drills and exercises. The inspector examined the GSEP Coordinator's drills and exercise records dated since the 1983 routine inspection. Although improvement was evident over the time period in question, the inspector was unable to determine from these records what corrective actions had been initiated and completed for all weaknesses, recommendations, and improvements stated in the licensee's own drill and exercise critiques or in the NRC's inspection reports. This item remains open pending review of a tracking system which covers all weaknesses, recommendations, or improvement items identified in the licensee's critiques and NRC inspection reports.

(Closed) Open Item Nos. 254/83-26-08 and 265/83-25-08: Ensure that personnel who participated in the annual emergency preparedness exercise received such credit in their training records. The inspectors examined the station's training records and determined that participants in the 1984 exercise had received appropriate credit in their records. During that exercise, NRC inspectors had observed exercise participants completing training department standardized forms to document their exercise participation. This item is considered closed.

3. Activation of the GSEP

(Closed) Open Items No. 254/83-XX-02; 254/83-XX-03; 254/83-XX-04; 254/84-08-01; 265/83-XX-01; and 265/83-08-XX: Activation of Emergency Plan. During the period September 1, 1983 through September 28, 1984, the on-duty SE activated the GSEP on seven occasions, with all activations classified as Unusual Events. The inspectors reviewed the associated Nuclear Accident Reporting System (NARS) forms and control room logbooks. The inspectors also contacted the Illinois Emergency Services and Disaster Agency (IESDA) and the Iowa Office of Disaster Services (IODS) to ascertain when these organizations were initially notified of these GSEP activations. The following table summarizes relevant information for the Quad-Cities Station GSEP activations:

GSEP ACTIVATIONS
September 1, 1983 - September 28, 1984

| <u>Date</u> | <u>Declaration Time^a</u> | <u>IESDA Notified^b</u> | <u>Elapsed Time (Minutes)^c</u> | <u>IODS^d Notified</u> | <u>Elapsed Time (Minutes)^e</u> |
|-------------|-------------------------------------|-----------------------------------|---|----------------------------------|---|
| 9/15/83 | 0035 | 0120 | 45 | 0119 | 44 |
| 10/19/83 | 2330 | 0036 | 66 | e | -- |
| 11/1/83 | 1941 | 1949 | 8 | e | -- |
| 12/29/83 | 1405 | 1426 | 21 | e | -- |
| 3/5/84 | 1300 | 1312 | 12 | 1316 | 16 |
| 8/2/84 | 0930 | 0932 | 2 | e | -- |
| 8/16/84 | 0600 | 0622 | 22 | 0640 | 40 |

- ^a Based on licensee records.
- ^b Based on IESDA records.
- ^c Declaration time to initial notification time.
- ^d Based on IODS records.
- ^e Data unavailable from IODS records.

During the entire time period, simultaneous notification of IESDA and IODS was accomplished using the NARS. Prior to August 1984, control room personnel notified the licensee's Load Dispatcher who, in turn, notified the State agencies via the NARS after also notifying the licensee's corporate duty officer. Beginning in August 1984, the NARS equipment was modified to allow the station to simultaneously notify IESDA, IODS, and the Load Dispatcher. These measures were implemented to allow for more timely

notifications. As indicated in the footnotes to the table, IODS records did not always indicate when initial notification messages had been received, due to an incomplete recordkeeping system. For the most recent GSEP activation, the IODS notification time differed from that claimed by IESDA by almost twenty minutes, although the notification via the NARS was simultaneous. For the most recent Unusual Event, the time provided by the IODS appears to be inaccurate based on discussions with IESDA and IODS personnel.

Regarding the timeliness of the initial notifications, the September, 1983 event notification time was substantially in excess of the 15-minute regulatory requirement. However, at that time the licensee was in the final stages of developing and implementing corrective actions, applicable to all its nuclear generating stations, in response to a Notice of Violation regarding initial notification timeliness. Therefore, it is inappropriate to issue a second Notice of Violation for untimely initial notifications during the period allowed by the NRC for accomplishing corrective actions on this generic problem. Effective in October 1, 1983, the licensee began utilizing a simplified NARS form and set time limits for notifying either the load dispatcher or corporate duty officer. These measures were intended to streamline the notification process to better ensure compliance with the regulatory requirement on initial notification timeliness. Nevertheless, the October, 1983 initial notification for the Unusual Event was not received until slightly more than one hour after the event had been declared. The inspector examined control room records regarding this occurrence. At approximately 0820 hours, chemical analysis of sodium pentaborate concentration in the Standby Liquid Control (SBLC) tank indicated that the solution was not within Technical Specification limits. Per specifications 3.4.A,C, and D, the unit would be required to be in cold shutdown within 24-hours unless the sodium pentaborate concentration could be adjusted to be within Technical Specification limits. While station personnel acted to restore compliance with the specifications, station management declared an Unusual Event at about 2330 on October 19. This decision was conservative since sufficient time remained before the unit had to be reduced in power to reach cold shutdown within 24-hours of the discovery of the problem. The Unusual Event was cancelled on October 20 at about 0150 hours when analyses verified that the sodium pentaborate concentration in the tank was now within Technical Specification limits.

The mid-August, 1984 Unusual Event also was declared as a result of one unit being considered to be in a 24-hour Limiting Condition of Operation (LCO). One component of the Recirculation Core Isolation Cooling System (RCIC) would not function properly in the automatic mode when tested. At about 0220 hours, RCIC was declared inoperable and the operability testing of the High Pressure Coolant Injection System (HPCI) was begun per procedures. When one of its valves failed to function normally, HPCI was also declared inoperable. The licensee recognized that Technical Specifications required that the unit be in cold shutdown within 24 hours of declaring both RCIC and HPCI inoperable. At approximately 0555, a conservative decision was made to decrease unit load at about 25 MWe/hour while corrective actions were underway to restore RCIC and/or HPCI to a fully

operable condition. Although the licensee was less than two hours into the 24-hour LCO and could have reached cold shutdown within twelve hours, an Unusual Event was declared at approximately 0600. At approximately 0620 hours, while the on-duty SCRE was in the process of performing the single initial notification call to the States of Illinois and Iowa and to the load dispatcher, the unit's HPCI was successfully tested and was, therefore, declared fully operable. The Unusual Event termination message was given, in essence, during the initial notification call.

In both the October, 1983 and mid-August, 1984 cases, the licensee conservatively declared Unusual Events before these declarations were necessary. Both declarations should only have been made once the licensee was required to immediately begin shutting down the affected units so that cold shutdown would be reached before the 24-hour LCO time limit was exceeded. The emergency declaration is tied to the inability to correct the problem within the specified time period and not to conservative power reduction. Since both Unusual Event declarations were inappropriate, the timeliness of the initial notifications does not constitute an item of noncompliance.

4. Emergency Detection and Classification (82201)

The inspectors reviewed the Quad-Cities Station's Emergency Action Levels (EALs) as contained in implementing procedure QEP 200-T1 and in Table QCA 5-1 of the Quad-Cities Annex to the GSEP. These EALs were also compared to the guidance found in NUREG-0654, Revision 1. Emergency classifications described in the GSEP, Quad-Cities Annex, and QEP 200-T1 were the Transportation Accident, Unusual Event, Alert, Site Area Emergency, and General Emergency. All but the Transportation Accident class were consistent with the four classes described in 10 CFR 50, Appendix E, Part IV.C and NUREG-0654, Revision 1. The Station's EALs included inplant conditions corresponding to the guidance in NUREG-0654, Revision 1. As indicated in Paragraph 2 of this report, the licensee has implemented adequate measures to direct an implementor of certain QGA and QOA series procedures to inform the SE of the possibility of having to make an emergency declaration. Under EAL Condition 17, Radiation Releases from the Plant, Site Area Emergency and General Emergency EALs were based only on dose projections. Also, these EALs did not provide for accident classification based on actual measurements per NUREG-0654 guidance found in initiating conditions 13.b and 1.b for Site Area and General Emergencies, respectively. The licensee needs to revise the Site Area and General Emergency EALs for Condition 17 (Radiation Releases from the Plant) to provide adequate guidance for classifying an emergency based either on dose projections or on actual field measurements. This is an Open Item (254/84-18-01 and 265/84-16-01).

The Shift Engineer (SE), who is on shift 24-hours per day, is the Acting Station Director and, as such, has the responsibility for classifying the event, notifying offsite authorities, and making protection action recommendations. Should the SE become incapacitated, the GSEP has established the line of succession as the Shift Foreman, Station Control Room Engineer (SCRE), and the senior Nuclear Station Operator. The SCRE's responsibilities included assisting the SE in diagnosing abnormal conditions. Based

on observations made during in-depth walkthroughs with SEs and SCREs, the SCREs were very involved in assisting the SE in emergency classification, offsite notification, and protective action decisionmaking.

The inspectors conducted "open book" walkthroughs with three, two-person shift crews consisting of a SE and a SCRE. Another SCRE was interviewed separately. Overview questions were asked regarding the GSEP and procedures, followed by a hypothetical plant-specific scenario culminating either in a Site Area or General Emergency requiring an offsite protection action recommendation. The purposes of these walkthroughs included: ascertaining abilities to classify an emergency, accomplishing initial and followup offsite notifications, formulating appropriate protective action recommendations, and, in the individual SCRE interview, performing steps necessary to classify a gaseous effluent release as either a Site Area or General Emergency per EAL Condition 17. As indicated in this and the following two paragraphs of this report, the inspectors' overall evaluations of performances were that only two of the three sets of SEs and SCREs demonstrated an adequate capability to perform all required tasks in a timely manner. The single SCRE was unable to complete the steps needed to classify a gaseous release in a timely manner after being given a main chimney effluent monitor value. The steps involved utilizing an available graph to convert counts per second to equivalent concentration in uCi/cc per procedure QCP 100-S20; obtaining chimney flowrate in cubic feet per minute; converting these values into a release rate expressed in uCi/second; and utilizing QCP 400-S8 and the EALs to classify the release as a Site Area or General Emergency. The inspector concluded that the individual's difficulties were due to an apparent unfamiliarity with the steps needed to make the determination and were not due to an unavailability of appropriate graphs, control room instrumentation, or an inadequate procedure. The inspector was assured that the SCRE would perform this calculation pending relief by an appropriate member of the onsite or offsite emergency organization. The licensee needs to provide additional training to control room personnel on the methodology used to classify gaseous effluent releases per EAL Condition 17. This is an Open Item (254/84-18-02 and 265/84-16-02).

5. Protective Action Decisionmaking (82202)

The inspectors interviewed SEs, SCREs, and various station group directors regarding onsite and offsite protective action decisionmaking. As Acting Station Director, the SE has the authority and responsibility for issuing offsite protective action recommendations until properly relieved by a Station Director. All SEs and SCREs who were interviewed were aware of the requirement to issue a recommendation within about 15 minutes of any General Emergency declaration. However, most SEs and SCREs were uncertain about what was the minimum recommendation per current regulatory guidance either for Illinois or for Iowa. This guidance was available from the Flowchart for Rapid Offsite Protective Decisions, which was duplicated as both QEP 110-T2 and 180-T2. Most SCREs and SEs had difficulty locating these flowcharts, neither of which were tabbed in the manuals used by the SEs and SCREs. The inspectors also noted that the Station Director procedure (QEP 110-1) did not refer the user to QEP 110-T2, QEP 180-T2,

or to additional protective action guidance found in QEP 350-T1, which duplicated the guidance in GSEP Table 6.3-1. Instead, QEP 110-1 referenced the GSEP's Tables 6.3-1 and 6.3-2 and Section 7.3.3. The Acting Station Director procedure (QEP 110-2) referenced QEP 180-T2 and QEP 350-T1. The licensee needs to revise QEP 110-1 to reference the flowchart for Rapid Offsite Protective Decisions (QEP 110-T2 or QEP 180-T2) and QEP 350-T1. This is an Open Item (254/84-18-03 and 265/84-16-03).

During the Control Room walkthroughs, SEs and SCREs were asked to complete a Nuclear Accident Reporting System (NARS) form. Personnel were readily able to locate sufficient copies of the current NARS form revision. However, none of the persons interviewed could explain the meaning of the "2- (R) miles" found in section 9C of the NARS form. "R" was defined on the form as the range equal to the PAG dose. QEP 110-2 and QEP 301-1, Initial Notification, further defined "R" as follows: "In Wisconsin and Iowa, protective actions beyond two miles in the three downwind sectors are taken, not to a fixed five or ten miles as in Illinois, but to a distance R - where R is the range, to the next whole mile, at which the projected dose is 1 Rem whole body or 5 Rem thyroid." The aforementioned Flowchart for Rapid Offsite Protective Decisions provided minimum offsite protective action recommendation guidance in the absence of dose projection information. It did not, however, indicate whether or not this guidance was applicable for Iowa, where offsite recommendations beyond two miles would normally be determined from dose projections for some distance R rather than for a fixed distance of five or ten miles from the Station. The licensee needs to reference, in QEP 110-1, 110-2, and 310-1, the methodology used to compute the distance "R", as used in section 9C of the NARS form. Also, the licensee needs to clarify in these procedures that, in the absence of dose projection information, distance "R" is defined as 5 miles per the guidance in the licensee's Flowchart for Rapid Offsite Protective Decisions. This is an Open Item (254/84-18-04 and 265/84-16-04).

The inspectors interviewed some SEs, SCREs, Security Directors, and Operations Directors regarding various aspects of protective action decision-making for onsite personnel. Those interviewed were aware of their responsibilities and interfaces regarding personnel assembly and accountability, plus the evacuation of nonessentials. However, Paragraph 4 of QEP 360-2, Plant Evacuation and Assembly, stated that the SE was responsible for selecting a site evacuation route and an offsite re-assembly area. Those asked correctly stated that the individual in charge of the emergency response would make this decision after consultation with Rad/Chem and Security Directors. Personnel were uncertain regarding the manner in which onsite search and rescue activities would be accomplished. Per QEP 120-1, the Operations Director was tasked with organizing rescue teams to aid injured personnel and performing rescue operations for injured personnel using the "Rescue Implementing Procedure". However, neither the inspectors nor those interviewed regarding search and rescue could locate the Rescue Implementing Procedure, which had apparently been deleted sometime in the past. After some discussion and/or minutes of consideration, most interviewees arrived at similar conclusions that a search and rescue team should consist of more than one person; that radio-

logical hazards and persons' exposure histories must be considered; and that an individual must be given responsibility for maintaining frequent communication and providing adequate direction to the team. Several persons stated that a bomb search procedure could be adapted as a personnel search and rescue procedure. The licensee needs to provide adequate procedural guidance regarding the planning and execution of onsite search and rescue activities, to address team composition, consideration of radiological hazards, personnel exposure histories versus the risks to the team and those being sought, and the control of deployed teams. Reference to nonexistent procedural guidance needs to also be deleted. This is an Open Item (254/84-18-05 and 265/84-16-05).

In addition to the aforementioned Open Items, the following items should be considered for improvement:

- . The licensee should tab procedural guidance for offsite and onsite protective action decisionmaking to improve the user's ability to locate such guidance.
- . QEP 350-T1, a duplicate of GSEP Table 6.3-1, should be referenced in QEP 110-1 in lieu of this GSEP Table to expedite finding and utilizing this protective action guidance.
- . QEP 110-T2 and QEP 180-T2 provide identical information. One of these two sources of information should be eliminated to avoid confusion and needless duplication. The remaining table should be referenced adequately in all appropriate implementing procedures.
- . Paragraph 4 of QEP 360-2 should be revised to state that the individual in charge of the licensee's response to the emergency (Acting Station Director, Station Director, or Recovery Manager, depending on circumstances) and not the SE is responsible for designating the site evacuation route and offsite re-assembly area.

6. Notifications and Communications (82203)

The licensee's emergency communications equipment was in place as described in the GSEP, Quad-Cities Annex, and the following procedures: QEP 310-T5, 6, and 7, Simplified Emergency Notification Schedules; QEP 440-1, Emergency Communications Facilities; QEP 440-T1, Communications for Command and Control; QEP 440-T2, Environmental Assessment Communications; and QEP 440-T3, NRC Communications. The inspectors tested a sampling of onsite dedicated telephone devices and found them to be functional. The inspectors also examined detailed records of communications equipment tests conducted since the 1983 routine inspection, and determined that all had been completed in accordance with regulatory requirements and GSEP commitments.

The NARS has been the primary means of notifying Illinois ESDA, Illinois DNS, and Iowa ODS of an emergency plan activation at the Quad-Cities Station. As indicated in Paragraph 3 of this report, the licensee implemented refinements to the NARS in October, 1983 and in July, 1984.

The current NARS form retained sufficient information to satisfy the initial message content criteria of NUREG-0654, Revision 1. The form did not, however, contain provisions for specifying the affected unit(s), or for a brief clarifying description of the event to supplement the EAL number and emergency class information. Although the NARS has been modified to enable the caller to notify simultaneously the load dispatcher and duty officers of appropriate states' agencies, the NARS form did not provide space for the licensee's caller to document all persons who would be notified simultaneously.

During walkthroughs, SEs and SCREs were asked how they would formulate a follow-up message to state officials for transmittal by the NARS. Most indicated that they would utilize the NARS form to structure and document the follow-up message. No one referred to Section 6.1 of the GSEP, which provided guidance on follow-up message content in accordance with NUREG-0654, Revision 1. The current NARS form did not contain provisions for all categories of follow-up message information per the GSEP or this NUREG. No QEP series procedure referenced or restated Section 6.1 of the GSEP as guidance for preparing a follow-up message. The licensee has not developed and implemented a standardized form to better ensure that follow-up message content conforms to the GSEP commitment. The licensee needs to develop and implement adequate guidance for formulating follow-up messages to governmental agencies to better ensure that message content conforms to the commitment of Section 6.1 of the GSEP and the guidance in NUREG-0654, Revision 1. This is an Open Item (254/84-18-06 and 265/84-16-06).

The inspector reviewed a detailed report, prepared by the licensee's contractor, of preventive and emergency maintenance performed on the station's prompt notification (siren) system for the period November 29, 1983 through September 7, 1984. The report contained summary information on maintenance activities as well as maintenance reports on individual sirens and control boards. The inspector concluded from this report that the licensee has taken adequate steps to maintain the siren system in good repair and to respond to reported component malfunctions within an acceptable time period. The contractor has had authorization to initiate emergency repair actions without the licensee's prior approval.

In addition to the Open Item the following item should be considered for improvement:

- . The NARS form should be modified to provide for: indicating the affected unit(s); stating a brief, clarifying description of the event to supplement the EAL number and emergency class information; and documenting all individuals contacted by the simultaneous call to the load dispatcher and duty officers of appropriate state agencies.

7. Changes to the Emergency Preparedness Program (82204)

The GSEP and Quad-Cities Annex have been revised since issuance of the Safety Evaluation Report (Inspection Report Nos. 50-254/82-22 and 50-265/

82-24). Revision 4 to the Annex was submitted to NRC Region III by letter dated January 13, 1984. In correspondence dated April 11, 1984, Region III formally notified the licensee that this revision was acceptable. Revisions to the generic GSEP are currently under NRC review. Review results will be documented separately from this inspection report.

The licensee's provisions for preparing, reviewing, approving, and distributing new or revised emergency plan implementing (QEP series) procedures have been established by administrative (QAP series) procedures. The originator of a new or revised procedure would submit it for draft review by the affected department head and technical staff supervisor. A safety evaluation checklist would also be completed to determine whether a procedure revision would constitute a change in procedures as described in the FSAR or Technical Specifications. If such is the case, the checklist would alert the user of what additional approvals would be required prior to the procedure becoming effective. Final procedure approval must be obtained from the appropriate department head, technical staff supervisor, and assistant superintendent for administrative services. The procedure would become effective upon authorization by the Station Superintendent. During this entire process, a cover sheet would be utilized to document the various approvals and approval dates.

A procedures distribution clerk maintained a log for each authorized QEP series procedure which documented distributions and acknowledgements that distributions had been received. The inspector reviewed portions of this log and determined that receipt of authorized procedures had been logged for all but one holder of a controlled procedures manual. In such cases, the procedures clerk indicated that an onsite manual holder would be contacted to resolve the problem, while an offsite manual holder would be informed in writing, within about six months of procedure distribution, of the failure to acknowledge receipt of a procedure.

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

8. Shift Staffing and Augmentation (82205)

The minimum shift staff, outlined in Table 4.2.2 of Revision 3 to the GSEP, met the criteria of Table B-1 of NUREG-0654, Revision 1. Minimum shift staffing provisions contained in Revisions 4 and 4A to the GSEP are under NRC review and will be addressed separately from this inspection report.

At the Quad-Cities Station, augmentation of the onsite emergency organization has been accomplished by implementing the following procedures: QEP 320-1, Activation of the Emergency Organization; QEP 310-1, Initial Notification; QEP 310-T1, Guidance for Augmentation of the Onsite Emergency Organization; and QEP 310-T3, Prioritized Notification Listing. QEP 310-1 outlined the station's responses for each emergency class, including staff augmentation. QEP 310-T1 indicated which station group personnel were required or might be required to respond following declaration of a specific emergency class. QEP 310-T3 identified adequate

numbers of personnel for each station group director position as well as individuals capable of functioning as staff members for certain directors, radiation chemistry technicians, mechanical or electrical maintenance technicians, and radioactive waste handling technicians. Personnel listed in QEP 310-T3 have generally been prioritized by estimated travel times from their residences to the station, with the exception of the primary individual for the Maintenance Director position. QEP 310-T3 and 320-1 indicated clearly that this individual should be notified first and that an alternate must also be notified to ensure timely filling of this key position. QEP 320-1 also indicated that if no director for a specific responsibility could be reached by a designated caller, an alternate caller or an alternate for the Station Director position would function in that responsibility on an interim basis.

The inspectors reviewed licensee's records of offhours staff augmentation drills, which were required on a semi-annual basis per the GSEP. Since the August, 1983 routine inspection, these offhours drills have been successfully conducted on November 16, 1983 and March 12, 1984, to satisfy the semi-annual commitment. The station's GSEP coordinator maintained adequate records of these drills and was responsible for maintaining the Prioritized Notification Listing up to date.

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

9. Knowledge and Performance of Duties (Training) (82206)

The inspectors reviewed the licensee's program, including lesson plans and training completion records. The Production Training Center (PTC) had overall responsibility for ensuring that badged personnel received basic annual training on the GSEP and Annex, and ensuring that emergency response personnel completed more detailed training on the GSEP and their specific emergency assignments. Actual training of persons in the onsite emergency organization was conducted by the station's Training Department. Training consisted of classroom sessions on the GSEP and required reading of QEPs relevant to each person's emergency assignment(s). Classroom sessions have been videotaped for reuse and to facilitate accomplishing make-up sessions. The required reading program for SEs (Acting Station Directors) and station group directors has, with the exception of Operational Support Center (OSC) Directors, been conducted in accordance with QEP 520-1 and the matrix in QEP 520-T5. During an annual QEP requalification period, an appropriately marked copy of the matrix was sent to each person holding one or more director positions on the matrix. Upon completion, the matrix copy would be signed and returned. The inspector reviewed hardcopy and computerized training records and determined that all station group directors listed in QEP 310-T3 and all SEs had completed their annual required readings. Computerized training histories were available through two programs, called the "Individual Training Record" and "Browse". The former did not always provide as complete or as current a history as did the latter program. Department staff were aware that this inconsistency was due to

software problems beyond their control, rather than being due to data entry errors. Hardcopy records were, however, complete and readily available to provide clarifications to computerized training records.

Recent GSEP revisions included listing the SCRE in the line of succession to the SE (Acting Station Director) and formalizing the OSC Director position. The licensee was in the process of re-evaluating the SCREs QEP training assignments in light of this GSEP revision. However, the matrix did not indicate the QEP training requirements for: Shift Foremen, as first in line of succession to the SE, and the OSC Director. The licensee had, however, implemented an OSC Director procedure, QEP 190-1. The licensee needs to revise the annual QEP training program and matrix as necessary to incorporate the Shift Foremen and SCREs, as potential Acting Station Directors, and the OSC Directors. This is an Open Item (254/84-18-07 and 265/84-16-07).

Besides the Control Room walkthroughs, the inspectors interviewed a sampling of station group directors and several persons having offsite emergency organization duties. Not all of the latter also had onsite emergency organization positions. Interviewees included Station, Operations, Rad/Chem, Technical, Security, Stores, Administrative, Advisory Support, Radwaste, and Training Directors. Except as noted in previous paragraphs, all persons exhibited adequate understandings of their emergency duties.

The inspector reviewed correspondence, dated March, 1984, from the Supervisor of Emergency Planning to all GSEP participants which transmitted directives NSDD-504 and -505. The former distributed and implemented the GSEP. NSDD-505 described the GSEP training program. "Qualified GSEP Participants" were defined as those holding titled, rather than staff level positions in the onsite or offsite emergency organizations. Staff training requirements were under development. To become qualified, personnel must be selected by the Technical Services Manager, Station Superintendent, and Department Head. Selectees must then complete PTC-prescribed GSEP training and/or field lectures, and must participate in one drill, exercise, or GSEP event. Annual retraining must be accomplished, including future drill and exercise participation at an undetermined frequency. Based on interviews with available station personnel having titled positions in the EOF organization, all had at least completed self-reading tasks on their specific positions.

The inspectors reviewed the GSEP Coordinator's records on training provided offsite support organizations. Topics covered by station personnel at these training sessions were summarized in QEP 520-2, while a sample invitation letter and listing of persons and groups offered such training were found in QEP 520-T2 and QEP 520-T1, respectively. A review of 1983 records indicated that appropriate persons and groups had been invited; however, adverse weather conditions apparently caused a lower than expected attendance. The inspector verified that a member of the licensee's corporate staff did conduct a portion of the training program dealing with

EALs. The 1984 training session has been scheduled for the fall. The licensee indicated that presentations would again be made by both station and corporate representatives.

Based on the above findings, in addition to the Open Item, the following items should also be considered for improvement:

- . The inconsistencies in information retrieval using the "Individual Training Record" and "Browse" programs should be eliminated.
- . Station personnel having only offsite emergency organization positions should complete all steps needed to become "Qualified GSEP Participants."

10. Licensee Audits (82210)

The inspector reviewed Quality Assurance (QA) Department audit records related to the emergency preparedness program for 1983 and 1984 and QA Department Memorandum No. 3, dated May 1984, which contained guidance to ensure that audits met regulatory and departmental requirements. The licensee has conducted two annual audits of the station's emergency preparedness program. Onsite audits have been performed by QA personnel based at the station, while offsite audits were done by QA personnel based elsewhere. In apparent response to a 1983 NRC concern regarding the scope of audits, Memorandum No. 3 indicated that the scope of offsite audits had been expanded beginning in 1983 to reference: 10 CFR 50, Appendix F; relevant Technical Specifications; the GSEP; Quad-Cities Annex; and the GSEP Audit Matrix, which addressed interface with State and local governments, drills, exercises, capabilities, and procedures. Offsite Audit No. 4-83-II, conducted August 30 - September 2, 1983, was adequate in scope. Records were complete and indicated that all findings and observations had been closed. The 1984 offsite Audit No. 4-84-II, was performed on September 11 - 14, 1984. Although responses to audit questions were not yet available, review of the question list indicated that the audit was adequate in scope.

Onsite audits of the program have been conducted during May of 1983 and 1984. All findings and observations resulting from the former audit had been closed, while the latter had no findings or observations. In comparing both audits, the inspector concluded that the 1984 audit lacked the scope and the depth of questions of the previous onsite audit. The 1984 onsite audit referenced only the GSEP and implementing procedures, implying that both had been assumed to be in full compliance with regulatory requirements. While most of the questions in the 1984 audit were typical in depth and category, several were very basic - addressing, for example, whether current copies of the GSEP and its Telephone Directory were onsite. The station's QA Supervisor agreed that the 1984 onsite audit was not on a par with other recent audits of the program, and has committed to conduct a supplementary audit during 1984. As indicated in Paragraph 2 of this report, a previous Open Item regarding audit scope will remain open pending the next review of onsite and offsite audit records.

Based on the above findings, this portion of the licensee's program is acceptable, with the exception of the aforementioned Open Item.

11. Maintaining Emergency Preparedness

The inspectors examined records maintained by the GSEP Coordinator of emergency preparedness drills and exercises that were dated since the August, 1983 routine inspection. With the exception of one drill involving the actual or potential offsite release of radioactivity, all GSEP drills and exercises had taken place in accordance with 10 CFR 50, Technical Specifications 6.2.A.4 and 6.2.E, and GSEP Section 8.3.2 requirements.

During an early 1984 routine inspection at the licensee's Dresden Station (Inspection Report Nos. 50-10/84-04; 50-237/84-05; and 50-249/84-04) the aforementioned Technical Specifications were identified as requiring that drills involving the actual or potential offsite release of radioactivity be conducted on a quarterly basis. The same requirement existed in the Quad-Cities Station's Technical Specifications. During the fourth quarter of 1983, no GSEP drill had taken place which also satisfied the Technical Specifications requirement. In early 1984, however, the station's GSEP Coordinator had implemented corrective action to satisfy the Technical Specification requirement by scheduling additional drills of appropriate type.

Regarding the adequacy of drill and exercise critiques, the inspectors determined that all had been critiqued, but that final critique reports for several early 1984 drills and the 1983 exercise had not been issued by corporate staff until approximately six to seven months afterwards. Timely final critique reports are needed so that any corrective actions can be decided upon and implemented prior to the next similar drill or exercise. The licensee has also recognized this need, as indicated in a January, 1984 response from Technical Services Nuclear (TSN) staff to a finding of internal Audit No. CE-84-01. TSN has established goals of 30 and 60 days for issuing final critiques following GSEP drills and exercises, respectively.

Regarding the completeness of drill records, offhours augmentation and the various communications drill were well documented, including notations to indicate whether the drills were considered successful. While the completeness of the drill and exercise documentation improved noticeably during the period under review, not all records of Health Physics, Environmental, and Medical Drills and the 1983 exercise records contained all of the following types of information: drill scenario; scope and objectives; participants; actual sequence of events; comments from all observers; and indications of what corrective actions had been decided upon, implemented, and completed. The inspector did note that action items had been written to correct several recent drill weaknesses. As indicated in Paragraph 2, the need for implementation of a comprehensive tracking system to ensure that corrective actions taken on drill or exercise weaknesses was identified during the previous routine inspection and remains an Open Item. The need for all GSEP drill records to include,

as appropriate to drill type, a scenario, statement of goals and objectives, listing of participants, sequence of events, and critique comments is an Open Item (254/84-18-08 and 265/84-16-08).

12. Exit Interview

The inspectors met with licensee representatives denoted in Paragraph 1 at the conclusion of the inspection to present and discuss the preliminary inspection findings. The licensee agreed to consider the items discussed. The QA Department representative at this meeting committed to conduct a supplementary onsite audit of the station's emergency preparedness program prior to January, 1985.