

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-254/900015(DRSS); 50-265/900015(DRSS)

Dockets No. 50-254; 50-265

Licenses No. DPR-29; DPR-30

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

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

Inspection At: Quad Cities Station, Cordova, Illinois

Inspection Conducted: August 27-31, 1990

Inspectors: T. Ploski

T. Ploski

9/7/90
Date

J. Foster
J. Foster

9/11/90
Date

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

9/14/90
Date

Inspection Summary

Inspection on August 27-31, 1990 (Report Nos. 50-254/90015(DRSS); 50-265/90015(DRSS))

Areas Inspected: Routine, announced inspection of the following areas of the Quad Cities Nuclear Generating Station emergency preparedness program: licensee action on previously-identified items (IP 82701); followup on actual emergency plan activations (IP 92700); operational status of the emergency preparedness program (IP 82701); shift staffing and augmentation (IP 82205), and meteorological monitoring program (IP 84750). The inspection involved two NRC inspectors.

Results: One violation, regarding the overdue requalification training of six communicators, was identified during this inspection. This Violation satisfied the criteria of 10 CFR Part 2, Appendix C, and is considered to be a non-cited Violation. With the exception of the need to repair several emergency lights in the Emergency Operations Facility and Joint Public Information Center, the emergency response facilities have been well maintained, with several enhancements in progress. Management support for the emergency preparedness program remains good. The emergency response organization remains well staffed, with aspects of the onsite organization's training being in excess of the emergency plan's commitments. Quality

assurance audits and numerous surveillances of the program have been well done. Annual self-assessments (peer reviews) of the onsite program have been thorough. The onsite meteorological monitoring program has been well maintained and has provided greater than 95 percent valid data. However, the incomplete description of the monitoring program found in the emergency plan requires upgrading.

DETAILS

1. Persons Contacted

R. Robey, Technical Superintendent
J. Sirovy, Services Director
J. Swales, Operations Assistant Superintendent
D. Hoogheem, Emergency Planning Coordinator
K. Schmidt, Emergency Planning Instructor
G. Powell, Health Physics
D. McConaughay, Quality Assurance Staff
T. Barber, Regulatory Assurance Staff
E. Cole, Training Department Staff

The above personnel attended the August 31, 1990 exit interview. The inspectors also contacted other members of the licensee's staff during the course of the inspection.

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

(Open) Open Items No. 265/38019-03 and No. 265/89019-05: During the August 1988 exercise, Emergency Operations Facility (EOF) staff did not adequately demonstrate several aspects of offsite protective action decisionmaking and evaluation of simulated offsite radiological measurements. These aspects involved interfacing with State officials. These items will remain open pending evaluation of the licensee's completed corrective actions during the December 1990 exercise, which will involve the participation of Illinois and Iowa officials.

3. Emergency Plan Activations (IP 92700)

Licensee and NRC records of actual emergency plan activations for the period January 1989 through August 1990 were reviewed. These records included (as applicable): summaries generated by NRC Duty Officers; Licensee Event Reports (LERs); Control Room logs; initial notification message forms to State and NRC officials; followup message forms prepared by onsite personnel; and the licensee's self-evaluations of records for each event.

During this time period, the licensee declared nine Unusual Events. Except as noted below, these situations were correctly classified per the licensee's Emergency Action Levels (EALs). Emergency declarations were made in a timely manner. Records generated by onsite personnel for each declaration were sufficiently detailed to facilitate later reconstruction of their emergency response activities. Initial notifications of State and NRC officials were completed within the regulatory time limits following each declaration.

On April 17, 1989, an Unusual Event was declared at 0331 hours due to the failure of the Unit 1 electromatic relief valve to close. Operators manually scrammed the reactor. The valve had opened during routine pressurizing of the reactor vessel during startup and would not close. The event was terminated at 0753 hours on the same date.

On May 24, 1989, an Unusual Event was declared at 0600 hours, upon initiation of a Technical Specification required reactor shutdown due to unidentified reactor coolant system (RCS) leakage. Following containment de-inerting, a containment entry was made, the source of the leakage was identified and the leak was halted. The event was terminated at 2017 hours.

On August 25, 1989, an Unusual Event was declared at 1045 hours, upon initiation of a Technical Specification required load reduction due to a loss of power to the turbine control valve fast acting solenoids. The event was terminated at 1220 hours.

On October 17, 1989, an Unusual Event was declared in response to an "event light" on the station seismograph, checked subsequent to an earthquake which occurred in California. The Unusual Event was declared at 2150 hours. Seismograph data was further evaluated. It was found that the event light was on due to a previous activation. The Unusual Event was terminated at 0018 hours on October 18, 1989.

On February 4, 1990, an Unusual Event was declared at 0754 hours, upon initiation of a reactor shutdown being performed as required by Technical Specifications (3.7.C.1.a, related to failure of a secondary containment capability test). The Unusual Event was terminated at 1642 hours on the same date.

On February 12, 1990, with the the 1/2 diesel generator (DG) out of service for scheduled maintenance, the unit one diesel was required to be verified operable on a daily basis. On February 13, 1990 at 1945 hours, the unit one diesel failed this operability test due to an overspeed trip, and was considered inoperable. In accordance with EAL 3.e, the loss of all DGs (with a unit not in cold Shutdown) should be classified as an Unusual Event. However, no classification was made. The speed control was adjusted and, at 2048 hours, the unit 1 DG was started successfully. At 2305 hours, an Emergency Notification System (ENS) call was made per the requirements of 10 CFR 50.72, but no emergency classification was made. On February 15, 1990, licensee review indicated that the Unusual Event declaration had been missed. It was subsequently determined that the EAL related to Technical Specification shutdowns (3.a) had been considered during the event; however, since no shutdown was required, EAL 3.e was inadvertently overlooked.

The licensee then determined that an emergency notification was not necessary, since an emergency condition no longer existed. On February 20, 1990, further discussion determined that the appropriate agencies should be advised of the missed notification. NRC and offsite agencies were notified of the oversight during February 20-22, 1990. The missed notification was then made the subject of Licensee Event Report No. 254/90-003, dated March 15, 1990.

As part of the licensee's investigation, a review of past Deviation Reports was also performed to determine if similar classifiable events had been inadvertently overlooked. This review indicated that on October 7, 1989, another situation involving loss of both diesel generators had not been classified as an Unusual Event. A number of

"lessons learned" were developed from the licensee's review. As detailed in NRC Inspection Report Nos. 50-254/90002(DRP); 50-265/90002(DRP), the failure to properly classify the February 12, 1990 event was considered as a Severity Level IV Violation; however, the circumstances surrounding the event and its' identification met the criteria of 10 CFR Part 2, Appendix C, Section V.G.1, and no Notice of Violation was issued.

On March 13, 1990, an Unusual Event was declared at 1708 hours, based on sighting of a tornado South of the plant site at 1704 hours. The tornado then passed through the Protected Area. A decision was made to man the Technical Support Center at 1752 hours, with the TSC taking command and control of the event response at 1808 hours. Accountability was initiated at 1842 hours, and was completed at 1909 hours. This was done to further insure that no one had been injured besides one onsite contractor who was taken to a local hospital. The event was terminated at 2236 hours on the same date.

On April 4, 1990, an Unusual Event was declared at 0930 hours when all commercial offsite telephone lines were lost due to telephone company maintenance on a local telephone fiber optics terminal. The event was terminated on the same date. Documentation for this event was being further evaluated by the licensee.

On April 19, 1990, at 0915 hours, a "transportation accident" was declared due to a leak being detected in a truck transporting potentially contaminated asbestos containing materials. Responding teams were dispatched from the Braidwood and Quad Cities stations. No contamination was found, and the event was terminated at 1610 hours.

Procedure QEP 500-1, "Recovery Operations," describes the process for operations during the Recovery phase, and provides for documentation and review of actual emergency plan activations. The procedure provides for an "Event Investigation Report" (QEP 500-S4) for each activation, with a more complete "Emergency Response Summary" (QEP 500-T1) required for classifications above the Alert level. The procedure provides guidance on copies of documentation to be attached to the finalized report. Evaluations of records associated with actual emergency plan activations were thorough, including documentation, event critiques, any identified problems and associated corrective actions.

No violations or deviations were identified.

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

a. Emergency Plan and Implementing Procedures

By letter dated August 1989, NRC Region III staff approved Revision 6B to the generic Generating Stations Emergency Plan (GSEP). Region III staff approved Revision 7D to the Emergency Plan Annex for the Quad Cities Nuclear Generating Station in April 1990. The licensee indicated that Revision 7 to the GSEP was in the latter stages of onsite review at the six nuclear stations and would be submitted for NRC review upon completion of the onsite review process. Proposed Revision 7 included changes which would require revision of the Quad Cities Annex and the Station's Emergency Plan Implementing Procedures (EPIPs).

The GSEP Coordinator has remained in the review chain for all proposed EPIP changes to better ensure their consistency with the approved emergency plan and with other EIPs. Procedure changes have been reviewed following receipt by the NRC Region III Emergency Preparedness Analyst assigned to evaluate this Station's program. No inappropriate procedure revisions have been identified during the NRC's review process.

Licensee personnel were aware that changes to the Emergency Plan determined to decrease the effectiveness of the plan could not be implemented without prior NRC approval.

No violations or deviations were identified.

b. Emergency Response Facilities (ERFs), Equipment, and Supplies

The Control Room (CR), Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF) and Joint Public Information Center (JPIC) were toured. Controlled copies of the emergency plan and related implementing procedures were readily available in the CR, TSC, and EOF. A sample of telephones and computer terminals within the Emergency Response Facilities (ERFs) and JPIC were successfully tested for operability or were observed to be operable during the inspection.

The licensee indicated that work was in progress to improve the quality of the labeling on certain TSC and OSC status boards. Some preliminary plans were also being formulated to modify the internal layout of the TSC due to Emergency Response Organization (ERO) changes included in the proposed Revision 7 to the GSEP, which would be reflected in the Station's Annex to the GSEP and the EIPs. TSC layout changes were currently not planned to be implemented until after the December 1990 exercise.

The State of Illinois and the NRC have been formally notified that the Byron Station's EOF and adjacent JPIC were placed out of service for extensive remodeling in mid-August 1990, and that the Quad Cities Station's EOF and JPIC would also be utilized for the Byron Station. Appropriate reference documents for the Byron Station have been filed in the Quad Cities Station's EOF near Morrison, Illinois. These documents will be periodically updated by clerical staff from the Byron Station.

Some internal modifications were in progress in the EOF to reflect organizational changes included in the draft Revision 7 to the GSEP. For example, an "executive management center" was being constructed for senior EOF managers. The licensee indicated that this workspace was analogous to the Executive Team's workspace in the NRC's Operations Center in Bethesda, Maryland. Rearrangement of workstations for some other EOF staff were being planned to reflect organizational changes in Revision 7 of the GSEP and to reduce overall noise levels due to operation of dose assessment computer equipment and the facility's radio base station. The licensee planned to complete these EOF layout changes prior to the December 1990 exercise.

The JPIC's media briefing area and media telephone provisions were well laid out and adequately sized. Pre-designated workspace and telephones were provided in a segregated workarea for spokespersons representing the following organizations: Illinois ESDA; Illinois DNS; Iowa DSD; Iowa counties; DOE; EPA; USDA; HHS; and FEMA. The licensee has not pre-designated workspace in this briefing preparation center for its and for NRC spokespersons. Instead, the licensee considered it to be more appropriate for its own and the NRC's spokespersons and their aides to prepare their presentations at pre-designated workstations in the EOF prior to joining their State, local, and Federal counterparts for final coordination sessions in the JPIC's work area set aside for representatives of those organizations.

Records of monthly and annual communications equipment tests were reviewed for the period January 1989 through August 1990. Records were adequately detailed and indicated timely corrections of the infrequent equipment problems that were identified during these tests. The monthly tests were done in accordance with procedure QEP 300-S3, "GSEP Emergency Notifications Log," and QEP 720-S1, "Equipment and Communications Tests." The monthly tests indicated all dedicated communications lines to State, county and NRC officials as well as dedicated telephone lines and radio equipment in the CR, TSC, OSC, and EOF. The monthly tests also included computer equipment, copy machines, and public address equipment installed in the TSC and EOF. The annual test primarily involved dedicated communications lines linking the licensee's facilities with State and county emergency response organizations.

Quarterly inventories of emergency supplies have been conducted in accordance with procedure QEP 600-2, "Equipment Inventory," and related checklists. The checklists included provisions for periodic replenishment of perishable items and for ensuring that any radiation survey equipment, included among the supplies, was calibrated. The inventory checklists addressed emergency supplies located in the Control Room, TSC, OSC, EOF, relocation center, field monitoring team kits, local hospital, onsite decontamination stations, and first aid stations. A random check of the inventory records for the eighteen month period ending in June 1990 indicated that the inventories had been conducted, adequately documented, and that any identified shortages had been replenished within a reasonable amount of time.

The building housing the EOF and JPIC had multiple AC power supplies and multiple emergency lighting fixtures. During the tour of the facilities, it was noted that several of the emergency lighting fixtures were inoperable. EOF and JPIC emergency lighting provisions must be checked and repaired to better ensure their operability. This is an Open Item (50-254/90015-01).

With the exception of several emergency lighting fixtures in the EOF and JPIC, the inspectors concluded from their tours and record reviews, that the TSC, OSC, EOF, and JPIC have been adequately maintained and equipped.

No violations or deviations were identified.

c. Organization and Management Control

A new GSEP Coordinator and Assistant Coordinator were appointed in September 1989 and March 1990, respectively. Both positions have remained full-time positions in the Station's organization. No major changes have been made in the responsibilities, authorities and staffing of key emergency response personnel, or interfaces and coordination between onsite, offsite, and corporate organizations. The coordinator has been a Quad Cities Station employee for over fifteen years, having experiences as a licensed operator, regulatory assurance engineer, and as a licensing coordinator. The coordinator has held several positions in the onsite Emergency Response Organization (ERO) over the years. The other coordinator has also been a Station employee for a number of years and had most recently been an Administrative Director in the onsite ERO.

The coordinators' reporting chain to the Station Manager has been simplified since the January 1989 routine inspection. The coordinators now report directly to the Technical Superintendent, who reports directly to the Station Manager. The coordinators indicated that there have been no problems in their obtaining senior management attention to the onsite Emergency Preparedness (EP) program.

A full time EP Training Instructor has been assigned since the Spring of 1988. The instructor indicated that he will soon be replaced by an EP training instructor transferring from the Zion Station. There was no indication that the replacement would be given assignments beyond those related to the onsite EP program.

The coordinators were in the process of completing proceduralized qualification programs for their positions. These programs have continued to include involvement as observers, controllers, or evaluators at EP exercises conducted at the licensee's other nuclear stations as well as attendance at professional development sessions such as the EP seminars conducted in Cambridge, Massachusetts. The coordinators and training instructor have also attended periodic meetings with their counterparts from the licensee's other nuclear stations and corporate emergency planning staff. The "GSEP Coordinator and Staff Qualification Procedure," QEP 710-2, is currently in the process of revision to clarify and update the applicable requirements.

The coordinators have utilized several systems to track corrective actions resulting from drills, exercises, actual emergency plan activations, NRC inspections, Quality Assurance audits, and self-assessments. The Station's Nuclear Tracking System has mainly been used to track items which involve coordination with other onsite or corporate work groups. Items that involve action by only the coordinators have been tracked per procedure QEP-720-S2. A spot check of tracking system records indicated that adequate progress was being made to resolve NRC-identified and many self-identified concerns.

No violations or deviations were identified.

d. Training

The Commonwealth Edison Company Generating Stations Emergency Plan (GSEP), Revision 6B, dated March, 1988, delineates initial and annual training requirements for emergency personnel in Section 8.2, "Training".

Nuclear Operations Directive NOD-EP.2, Revision 0, dated March 15, 1988, provides guidance on the GSEP training program, and delineates the requirements to become a "Qualified GSEP Participant". An individual becomes a "qualified GSEP participant" upon completion of the prescribed classroom or field lecture training. Drill, table top drill, or exercise participation is then required at the minimum frequency specified by "Exhibit A" to the directive. "Exhibit A" indicates that the minimum frequency of participation in a drill, exercise or actual event is once every two years for virtually all key GSEP positions. Participation in an actual emergency event, classified at the Alert level or higher, is an acceptable alternative to drill or exercise participation.

The Quad Cities GSEP Annex, Revision 7d, dated December, 1989, Section 8.0, "Maintaining Emergency Preparedness," also addresses, in general fashion, the Station's GSEP training requirements. The Annex does not reflect current practice or positions, and is in need of updating to reflect current responsibilities of the Production Training Center and the onsite EP Trainer.

Quad Cities procedure QEP 710-1, Revision 2, dated June 1989, delineates training requirements for Station GSEP positions. It was noted that the procedure, while referencing NOD-EP.2, does not contain any requirements for periodic drill or exercise participation. Discussion with EP personnel indicated that they were tracking drill or exercise participation via a hand method.

The required annual EP training program for members of the onsite Emergency Response Organization (ERO) consisted of classroom sessions and required readings of emergency plan implementing procedures and sections of the emergency plan relevant to specific ERO positions.

The Emergency Response Telephone Directory is utilized as the official list of those currently qualified for emergency response positions. The listing is updated quarterly, or more frequently as needed, based on a review of the assigned positions. The requalification period for emergency response training is one year, with continuing training to take place, per current procedure, during the same calendar quarter as the previous year's training.

The Nuclear Services Emergency Preparedness (NSEP) Department in cooperation with the six stations' EP trainers, is in the final stages of revising the EP training program. This program will consist of three elements, a matrix of twenty-five required GSEP training modules, a standardized set of minimum Technical Knowledge Objectives for the training modules, and an Administrative and Course Management Information (ACMI) procedure, which will establish corporate policies for implementation of EP training at the nuclear stations. The ACMI is still under development, but is expected to be formalized in the near future.

Discussion with licensee personnel indicated that their nonstandard approach to training tracking, via the calendar quarter in which a training module was completed as the recurring training date, rather than tracking of overall completion of required modules, has previously precluded utilizing the existing, computerized training tracking system. As a result, EP training has been tracked via a hand record method developed by the EP trainer.

During April 16-27, 1990, Quad Cities Nuclear Quality Programs (NQP) performed audit 04-90-05 "Staffing and Training". One of the areas audited was GSEP training. Audit Observation No. 3 documented that GSEP training was considered as current, but was not always given in the same quarter as the previous training, as required by procedure. The relevant procedure is in the process of modification to require completion of overall training, rather than completion of each separate module, during the same quarter as the previous year. This will greatly simplify tracking of training for EP positions.

The inspector and EP training instructor reviewed the tracking system records of most onsite ERO members. They jointly discovered that six communicators' EP training took place in April 1989, and that they had not received requalification training as of August 1990. This is in excess of the continuing training period specified per procedure (same calendar quarter as last year's training), and the more common "grace period" of 90 days. Review of the circumstances surrounding this failure indicated that it met the criteria 10 CFR Part 2, Appendix C, Section V.G.1 (it was licensee-identified, was promptly reported if required, will be promptly corrected, and was Severity Level IV or V, and could not have been prevented by the licensee's corrective action for a previous Violation).

At the exit interview, the licensee committed that these six persons would complete all periodic requalification training requirements during September 1990. The licensee also indicated that a revised, training tracking system was already under development, which was expected to reduce the potential for someone's requalification training becoming out of date. The licensee's short and longer term corrective actions are acceptable. The six communicators not being currently trained as of August 1990 is a non-cited Violation.

Records review indicated that all EP drills were conducted and critiqued in accordance with the commitments in the emergency plan and relevant implementing procedures. The licensee's internal critique report for the 1989 exercise was well detailed, and listed a number of "minor problems" findings, which would normally involve corrective action prior to the next exercise, and some "suggested improvements" which did not require corrective action.

The licensee has continued to conduct quarterly tabletop drills that have apparently involved only director-level members of the TSC staff. These drills were in addition to the periodic training commitments listed in the emergency plan. Drill scenarios have been based on previous years' exercise scenarios. The records of these tabletop drills were sufficiently detailed with respect to drill objectives and included, with one exception, summary comments regarding the extent to which each objective had been met. However, the drill records were not always specific regarding which previous year's scenario had been utilized and to what extent such a scenario had been modified. No narrative summary or timeline information was available in the tabletop drill records.

The inspectors observed the annual environmental monitoring drill which was controlled and critiqued by two corporate EP staff. The GSEP Coordinators observed the offsite survey team's activities as part of their qualification programs. Two NQP auditors also observed activities in the field and in the TSC. Drill participants included three Radiation Protection Technicians (RPTs), an Onsite Environs Director, and a dose assessment computer operator.

The scope of the drill was good, and included the collection of air and vegetation samples, protective action recommendation development, and control of field team movement by the Environs Director. Communications with the survey team included a test of a throat microphone by the team's communicator while he wore a full face respirator. The team utilized the dedicated GSEP van that was adequately equipped for offsite survey activities. Survey equipment utilized by the team had current calibration stickers.

Corporate staff concluded the drill with a summary of their preliminary findings, and informed the participants and GSEP Coordinators of several upcoming program refinements relevant to the participants' positions. The participants suggested several improvements to the van's equipment in addition to the improvement items suggested by the evaluators. Corporate staff were responsible for issuing a final report on this drill.

One Violation was identified. Since it satisfied the criteria of 10 CFR Part 2, Appendix C, Section V.G.1, no Notice of Violation will be issued.

e. Independent Reviews/Audits

NQP Department records of 1989 and 1990 audits and surveillances of the Station's EP program were reviewed. All records were

complete and readily available. The 1989 audits satisfied the requirements of 10 CFR 50.54(t), including the requirement to make portions of the audit dealing with the interface with offsite authorities available to offsite authorities. Records indicated that timely and adequate corrective actions had been taken on identified problems.

The inspector reviewed audit report 04-89-20 "Emergency Preparedness (GSEP)", dated June 22, 1989. The audit had been conducted during June 12-16, 1989. The audit involved five auditors based at the Quad Cities Station, and was comprehensive and well detailed. The audit concluded that the Station was "maintaining and implementing an effective emergency preparedness program", and resulted in one "Observation" regarding inadequate updating of a GSEP manual.

Audit 04-90-15, "Facility Emergency Plan" was reviewed. This audit was conducted by five auditors during June 7-20, 1990. The audit appeared complete and comprehensive, and resulted in one Finding, one Observation, and four Open Items. The overall audit report was very positive, with the most significant deficiency being that tracking of corrective actions for deficiencies identified during drills and exercises, utilizing the QEP 720-S2 form, was not being performed for some items.

Also reviewed was Quality Assurance Audit Report 04-89-I, "Quad Cities Off-Site Audit", dated May 19, 1989. This audit was performed during May 8-12, 1989, by five auditors and a technical advisor, and covered several functional areas, including EP. The audit resulted in two observations related to emergency preparedness documentation. One observation related to updating of a GSEP manual, and one related to failure to follow procedure QEP 720-1 in tracking GSEP drill critique items. Followup reviews verified corrective actions had been taken. Discussion with licensee personnel indicated that Audit 04-90-I, covering similar areas to the audit above, had also been performed, but the resulting report had not yet been issued.

The licensee has also performed a yearly self-assessment of each Station's EP program, utilizing contractors, corporate personnel, and personnel from other stations who are knowledgeable in EP. The report titled "Quad Cities Station Emergency Preparedness Assessment, August 7-11, 1989", dated September 5, 1989, was reviewed. The assessment had been performed by eight individuals, including the newly appointed Quad Cities EP Coordinator. The report provided an excellent overview of the Station's program, citing strengths and weaknesses, and containing a number of "Category I and II" improvement items. Only Category I items required a written response. One of the major findings of the assessment was that overview procedures and position descriptions for GSEP personnel had not been completed. These tasks were currently being performed by contractor personnel.

The inspector reviewed Surveillance Report No. QAS 04-90-051, "GSEP Medical Drill", dated June 7, 1990, performed during May 22-23, 1990, which presented the results of observations of training prior to and performance during a medical (contaminated /injured individual) drill held on May 23, 1990. The surveillance contained five "possible improvement items", although review of the items themselves indicated that they consisted of four observations and one improvement item. The surveillance contained provisions for follow-up on listed concerns to ensure the requirements of procedure QEP 720-1 "Drills and Exercises" were being met. The surveillance appeared to be very well conducted and documented.

The following surveillances performed by the Quality Assurance Department (QAD) were also reviewed: QAS 04-89-009, "1989 GSEP Medical Drill"; QAS 04-89-017, "Murray and Trettel - Environmental Monitoring"; QAS 04-89-042, "1989 GSEP Pre-Drill Exercise"; QAS 04-89-044, "GSEP Meeting with Fulton Jr. High School Faculty"; QAS 04-89-053, "G.S.E.P. - Adequacy of Interface with State and Local Governments"; QAS 04-89-056, "Environmental Monitoring"; QAS 04-89-060, "(1989) GSEP Emergency Preparedness Exercise"; QAS 04-89-179 "Radiation Protection - Environmental/Meteorological Monitoring"; QAS 04-89-217, "Murray and Trettel - Environmental Monitoring"; QAS 04-89-226, "GSEP Area (Media) Training"; QAS 04-90-030, "Stations Response to Tornado"; QAS 04-90-034 "Environmental Monitoring Offsite Contractors"; QAS 04-90-051, "(1990) GSEP Medical Drill"; and QAS 04-90-055, "GSEP/In-plant Health Physics Drill 1990". No deficiencies were observed during these surveillances, which were frequent and addressed a wide range of EP-related activities.

No violations or deviations were identified.

5. Onsite Meteorological Monitoring Program (IP 84750)

A weekly surveillance of the meteorological monitoring system was observed. Licensee and vendor records related to the service contracts, maintenance and calibration activities, and data recovery rates were evaluated and compared to the monitoring program descriptive information in the Quad Cities Annex to the GSEP and relevant regulatory guidance.

The monitoring program was inaccurately and incompletely described in the Quad Cities Annex. The Annex did not indicate that wind speed and direction measurements are also made at the 33-foot tower elevation. The Annex did not indicate which meteorological data were available in the CR, TSC, and EOF. The Annex did not include any information regarding routine and emergency maintenance provisions, periodic system calibrations, or how licensee emergency responders could obtain a meteorological forecast. The aforementioned types of descriptive information would be useful to State and Federal emergency response organizations seeking site-specific meteorological information. Contractual arrangements for all these services have been in effect with the same vendor for a number of years. The next revision of the Quad Cities Annex should include an adequately detailed summary description of the onsite meteorological monitoring program and the

licensee's provisions for obtaining a meteorological forecast. This is an Open Item (50-254/900015-02).

Records review indicated that wind speed, wind direction, and differential temperature measurement subsystems at the 300-foot tower monitoring location have been designed to meet the system accuracy limits stated in Regulatory Guide 1.23 and ANS/ANSI 2.5. Periodic vendor reports indicated that valid data recovery rates for individual parameters and combinations of meteorological parameters utilized in offsite dose calculations have exceeded 98 percent since January 1989. The vendor has conducted weekly monitoring site visits, bimonthly system calibrations, periodic preventive maintenance, and emergency maintenance services. Maintenance and calibration records were adequately detailed. Infrequent emergency maintenance visits have been made in a timely manner following identification of a possible or obvious measurement errors or a brief loss of measurement capability. Timely identification of data problems has been further enhanced by the daily remote interrogation of the monitoring system by the vendor.

Wind speed, wind direction, and differential temperature data from the 300-foot tower were readily accessible by computer in the CR, TSC, and EOF. Dial readouts of wind speed and wind direction measurements made at a 30-foot tower located adjacent to the plant's switchyard were also available in the CR. However, the 30-foot tower's sensors were located so close to switchyard structures that the representativeness of their measurements could be adversely affected by these structures. Relevant EIPs correctly indicated that measurements from the 30-foot "switchyard tower" were "for information only", and were not to be utilized for emergency notification purposes.

A member of the Station's Radiation Protection Department has made weekly visits to the 300-foot tower site. Such visits were independent of the vendor's weekly visits to the 300-foot and 30-foot tower sites. The licensee's weekly visits were made to ensure that data recording equipment at the 300-foot site were operable, the tower's backup generator was operable, and that the tower's lighting was operable. These weekly surveillances were conducted and documented per a procedure. The procedure also indicated how to notify the vendor if a problem was identified that was within the scope of the vendor's contract. On two occasions during 1989, Quality Assurance staff accompanied the vendor's field technician during his weekly monitoring site visit as an additional means of ensuring that the vendor was meeting contractual requirements during these visits.

Visual inspection of the 300-foot tower indicated that the wind sensors were equipped with heater elements to reduce the potential for ice formation on the sensors. The tower was grounded. However, if a lightning rod was atop the tower, it was relatively short. A relatively large warning light was operable and was mounted opposite and somewhat higher than the top set of wind sensors. The nearby instrument shelter was environmentally controlled. It housed analog and digital signal processing equipment, data recording equipment, data transmission equipment, and some spare monitoring system components. There were no readouts inside the shelter to indicate whether sufficient airflow was passing over the tower's temperature sensors.

Based on a review of the monitoring program contract, the vendor's periodic reports addressing maintenance and calibration activities in addition to valid data recovery rates, and the independent system operability checks performed by Quad Cities Station personnel, the inspector's overall conclusion was that the monitoring system was being adequately maintained so that emergency responders should have reasonable assurance that the system will be operable and capable of providing representative information on local meteorological conditions.

No violations or deviations were identified.

6. Shift Staffing and Augmentation (IP 82205)

The GSEP Coordinators were responsible for the quarterly updating and distribution of the onsite ERO callout roster. Three or four individuals have been identified on the current roster for each director-level position in the TSC, with no individual being listed for more than one key position. Staffing levels have also remained good for support positions such as staff engineers, radiation protection technicians, chemistry technicians, maintenance technicians, communicators/plotters, and clerical staff. The callout roster listed estimated travel times from residences to assigned response facilities, as well as clearly stating how many key and support staff were required to be notified for each of the emergency classes.

The licensee has continued to conduct semi-annual, off-hours callout drills in order to demonstrate the capability of augmenting onshift personnel in a timely manner. Both 1989 and the June 1990 drills were successful and adequately documented. These drills did not require personnel to actually report to their duty stations. Instead, persons contacted during implementation of the calltree provided estimated arrival times to the site so that determinations could be made on whether the response facilities would have been adequately staffed within a specified time limit. Up to fifty key and support staff were contacted during each drill. Drill records also indicated that corrective actions were promptly taken on the few notification problems identified during each drill.

The offsite ERO for Quad Cities Station remains composed of personnel from the licensee's five other nuclear stations and the corporate office. Corporate EP staff have updated the offsite ERO telephone directory on a quarterly basis. The current directory listed three to six persons for each Morrison EOF and JPIC senior staff through management-level position, and also a pool of at least 10 other trained persons for those positions in the event that the predesignated persons for this site were unavailable.

No violations or deviations were identified.

7. TMI Safety Issues Management System (SIMS) Items

On October 31, 1980, the NRC issued NUREG-0737, which incorporated into one document all TMI-related items approved for implementation by the Commission at that time. On December 17, 1982, the NRC issued Supplement

1 to NUREG-0737 to provide additional clarification regarding Regulatory Guide 1.97, as well as other items. The status of the completion of these items are tracked internally by the NRC on the SIMS.

The following provides the basis for closure of the SIMS items that had remained open. All other Quad Cities emergency preparedness related SIMS items are closed (complete) or no longer applicable.

Item MPA-F-63 involved a review of the TSC.

Item MPA-F-65 involved a review of the EOF.

Based on recent verbal guidance from NRC Headquarter, numerous exercise evaluations, the most recent being September 1, 1988 and April 5, 1989 (Inspection Report Nos. 50-254/88019; 50-265/88019 and 50-254/89007, 50-265/89007), and numerous routine program evaluations, the most recent being January 23-26, 1989 and August 27-31, 1990 (Inspection Report Nos. 50-254/89003; 50-265/89003 and 50-254/90005; 50-265/90005), these items have been administratively closed.

8. Exit Interview (IP 30703)

On August 31, 1990, the inspectors met with those licensee representatives identified in Section 1 to present the preliminary inspection findings. Licensee personnel were advised that one violation, regarding retraining of six individuals assigned communicator responsibilities in the Emergency Response Organization, was identified during this inspection. However, this Violation was subsequently determined to satisfy the criteria of 10 CFR Part 2, Appendix C. No Notice of Violation will be issued.

During the Exit Interview, licensee representatives committed to promptly retrain those six individuals whose requalification training time limits had expired, and to assure that several others, nearing the end of the retraining "grace period", would not exceed their training due dates.

The inspectors provided their overall evaluation that the Quad Cities Station's EP program was well maintained, with some significant improvements to the program presently in the planning stages. Other enhancements to the program have been made since the last inspection. The inspectors did, however, inform the licensee of the needs to repair several inoperable emergency lights within the building housing the EOF and JPIC, and to upgrade the Emergency Plan's description of the onsite meteorological monitoring program.

The licensee indicated that none of the matters discussed during the exit interview were proprietary.