



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
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February 10, 2000

Garry L. Randolph, Vice President and  
Chief Nuclear Officer  
Union Electric Company  
P.O. Box 620  
Fulton, Missouri 65251

SUBJECT: NRC INSPECTION REPORT NO. 50-483/2000-04

Dear Mr. Randolph:

This refers to the inspection conducted on January 10-14, 2000, at the Callaway Plant facility and to the follow-up telephone discussion with representatives of your staff on February 4, 2000, to discuss the inspection findings and recharacterization of one inspection finding. The purpose of this inspection was to perform an evaluation of the overall emergency preparedness program at the Callaway Plant. The enclosed report presents the results of this inspection.

The emergency preparedness program at Callaway Plant was effectively implemented; however, one exercise weakness was identified during the simulator walkthrough scenarios. The exercise weakness involved the failure to make timely and accurate protective action recommendations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

**/RA/**

Gail M. Good, Chief  
Plant Support Branch  
Division of Reactor Safety

Docket No.: 50-483  
License No.: NPF-30

Enclosure:  
NRC Inspection Report No. 50-483/2000-04

Union Electric Company

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E-Mail notification of report issuance to the CW SRI and Site Secretary (VGG, DVY).

E-Mail notification of issuance of all documents to Nancy Holbrook (NBH).

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\*Previously concurred.

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket No.: 50-483  
License No.: NPF-30  
Report No.: 50-483/2000-04  
Licensee: Union Electric Company  
Facility: Callaway Plant  
Location: Junction Highway CC and Highway O  
Fulton, Missouri  
Dates: January 10-14, 2000  
Inspector(s): Paul J. Elkmann, Emergency Preparedness Analyst  
Division of Reactor Safety  
Approved By: Gail M. Good, Chief, Plant Support Branch  
Division of Reactor Safety  
Attachment: Supplemental Information

## EXECUTIVE SUMMARY

### Callaway Plant NRC Inspection Report No. 50-483/2000-04

A routine, announced inspection of the operational status of the licensee's emergency preparedness program was conducted. The inspection included the following areas: emergency response facilities, management controls, emergency plan and implementing procedures, training, drills, audits, and effectiveness of licensee controls.

#### Plant Support

- The licensee's emergency response facilities were generally in good material condition and appeared ready for use. Emergency response documents were current. Communications and computer systems were well maintained and operable (Section P2).
- The emergency plan did not completely describe two emergency response facilities: the backup emergency operations facility and operations field office. The emergency plan and procedures were appropriately reviewed and distributed according to procedural requirements. Changes to the emergency plan and procedures met licensee requirements for review and approval (Section P3).
- The acceptable response ranges on check sources used for multiple instruments specified acceptance ranges that were too precise to be read on the scales of some radiological instruments. As a result, under some circumstances, health physics technicians would be unable to determine whether the instruments stored in emergency kits were operable. This situation could cause delays in the deployment of necessary repair and mitigation teams while replacement instruments were obtained (Section P3).
- Background dosimeters stored with emergency worker dosimetry in the emergency operations facility were not procedurally controlled to limit the non-background dose that would be recorded during an emergency. During an emergency, the control dosimeters would receive doses comparable to that of emergency workers, preventing an accurate determination of actual emergency worker doses because the background subtracted would be inaccurate (higher than if they were shielded) (Section P3).
- During an evaluated simulator walkthrough scenario, crews demonstrated the ability to promptly recognize plant events and to respond appropriately. Shift supervisors demonstrated a thorough knowledge of the requirements of the emergency coordinator position. All emergency events were properly classified. Notifications were generally timely and accurate (Section P4).
- One crew did not notify simulated offsite agencies and NRC of a site area emergency declaration during an evaluated simulator walkthrough scenario. This omission would have had little offsite effect because a general emergency was declared 5 minutes later, and the general emergency notification met the timeliness requirement for the site area emergency (Section P4).

- During the simulator walkthroughs, an exercise weakness was identified for failure of one crew to make timely and accurate protective action recommendations. A protective action recommendation was transmitted that was not approved by the shift supervisor. A second protective action recommendation was communicated to a single county, but not to all offsite authorities as required by procedure. Licensee evaluators characterized the crew performance as weak in the area of protective action recommendations and initiated Suggestion Occurrence Solution 00-0107 to evaluate corrective actions (Section P4).
- The training program was properly implemented according to emergency preparedness and training department procedures. Drills and exercises were conducted according to requirements of the emergency plan and procedures. Numerous rapid responder drills provided a valuable mechanism for the emergency response organization, including control room crews, to maintain familiarity with the requirements of the emergency plan and their position-specific duties (Section P5).
- The licensee's emergency preparedness staffing levels were stable and personnel had the appropriate technical expertise. Staffing for the emergency response organization was sufficient, and response team readiness was properly maintained (Section P6).
- Audits of the emergency preparedness program met regulatory requirements. Audit reports were comprehensive and appropriately critical (Section P7.1).
- Corrective action reports thoroughly described the problems. Priorities and due dates for responding to corrective action reports were appropriately assigned. Corrective actions were generally effective, and no repetitive trends were identified (Section P7.2).
- Pending further NRC review, an unresolved item was identified involving maintenance of emergency action levels (Section P7.2).

## Report Details

### IV. Plant Support

#### **P1 Conduct of Emergency Preparedness Activities**

a. Inspection Scope (93702)

The inspector reviewed licensee event reports and emergency notifications made between July 2, 1998, and January 10, 2000, to determine if events were properly classified.

b. Observations and Findings

There were no declared emergency events since the previous inspection. All of the licensee event reports indicated that the events were properly evaluated for classification.

c. Conclusions

All actual events were properly classified.

#### **P2 Status of Emergency Preparedness Facilities, Equipment, and Resources**

a. Inspection Scope (82701-02.02)

The inspector reviewed the status of emergency response facilities, equipment, instrumentation, and supplies to ensure that they were maintained in a state of operational readiness. The inspector toured the following facilities:

- Control Room
- Operations Field Office
- Technical Support Center (including the operations support area)
- Emergency Operations Facility
- Backup Emergency Operations Facility
- Joint Public Information Center

b. Observations and Findings

Emergency response facilities were dedicated facilities, except for the operations (on shift) field office which was also used as a conference and briefing room. Proper housekeeping practices were observed in all facilities, and they appeared ready for use. Emergency cabinets and position-specific documents in all facilities were sealed to prevent tampering. The inspector verified that a sample of controlled documents in each facility was current. Radiation survey instruments and air samplers were within their posted calibration dates and were operational. Some failures of radiological instruments were noted, and these instruments were promptly replaced in the

emergency kits. Potassium iodide tablets were readily available and within their expiration dates. A sample of the computer and communications systems in each facility was verified to be operational. Emergency response supplies were properly maintained.

A full range of respirator sizes was available in the control room and respirator lens inserts were readily available for all operators who required prescription lenses. Both backpack-style respiratory protection devices and carts with higher capacity bottles were available to operators as needed. An adequate supply of spare bottles were available for both styles of respiratory protection.

The inspector visited the backup emergency operations facility, located at the state emergency operations center in Jefferson City, Missouri, approximately 25 miles from the plant. The backup emergency operations facility is also co-located with the joint public information center in the state emergency management agency's building. The backup emergency operations facility had essentially the same capabilities as the near-site emergency operations facility. The area designated for storage of emergency equipment and kits for both facilities was readily available, and the kits were sealed to prevent tampering. A sampling of position specific documents were verified to be current. The designated dose assessment computer was operational. A base station radio for communicating to licensee environmental monitoring teams was located in the state emergency operations center's dedicated communications room and was capable of communicating with the plant. The licensee appropriately included the backup emergency operations facility in its regular drill program and conducted training on the backup emergency operations facility for key emergency response positions.

c. Conclusions

The licensee's emergency response facilities were generally in good material condition and appeared ready for use. Emergency response documents were current. Communications and computer systems were well maintained and operable.

**P3 Emergency Preparedness Procedures and Documentation**

a. Inspection Scope (82701-02.01)

The inspector reviewed the emergency plan and procedures to determine if they were properly maintained and distributed. The inspector also reviewed the process used to revise the emergency plan and procedures and reviewed selected portions of the implementing procedures for agreement with the emergency plan.

b. Observations and Findings

The inspector reviewed the descriptions of the emergency response facilities in the emergency plan and reviewed procedures for maintaining the facilities. The emergency plan did not completely describe all the emergency response facilities operated by the licensee. The backup emergency operations facility was discussed only briefly in

Section 7.1.3 of the plan, only in the context of being established if the emergency operations facility was rendered uninhabitable. Likewise, the operations field office was treated by the licensee as an emergency response facility (with an assigned facility manager, procedures, staffing, equipment, and surveillances); however, the field office was not discussed in the emergency plan. The licensee acknowledged that the backup emergency operations facility and operations field office were poorly described in the emergency plan and initiated Suggestion Occurrence Solution 00-0093 to revise the plan to improve its descriptions.

The inspector reviewed the emergency preparedness program documentation required by Procedure ZZ-A0020, "Maintaining Emergency Preparedness," Revision 17. Annual reviews of the emergency plan were performed as required. With one exception (see Section P7.2), emergency plan and emergency action level changes were made available to offsite agencies as required. Annual reviews of the emergency plan implementing procedures and letters of agreement were conducted, and procedures were distributed according to station procedures. Summaries of changes to emergency preparedness procedures were electronically mailed to emergency responders and posted on the licensee's internal web pages to reach as large an audience as possible.

The inspector observed health physics technicians perform battery and source-checks on instruments in the technical support center and emergency operations facility. Source checks were performed using a single check source for several instruments according to the licensee's standard health physics practices. The check source listed the acceptable lower and upper response limits for each type of instrument, which were determined according to requirements in the licensee's procedure for instrument calibration. The health physics technician stated that the acceptable performance limits were determined from the mean response of five calibrated instruments plus-or-minus a fixed 10 percent. The calibration procedure did not require the technician to compare the 10 percent acceptance range to the instrument scale being calibrated. The inspector noted that for three instruments (Ludlum Models 3, 177, and R02) the response limits were stated with more precision than could be accurately read on the instrument scale. The health physics technician correctly concluded that all instruments performed adequately. However, if the instrument response to the check source was not near the center of the acceptance range, health physics technicians would be unable to determine precisely whether the instrument met performance requirements. The licensee initiated Suggestion Occurrence Solution 00-0054 to address this concern.

The inspector reviewed emergency worker dosimetry in the emergency operations facility. A sufficient number of emergency thermoluminescent dosimeters (TLDs) were stored in a sealed plexiglass box along with several additional TLDs labeled as "background." Procedure EIP ZZ-C0010, "Emergency Operation Facility Operations," provided instructions for controlling, dispensing, and recording TLDs when they are distributed but did not address the background TLDs. As a result, emergency worker dosimetry in the emergency operations facility may provide inaccurate results if control dosimeters receive the same dose as the workers, because the control dosimeters are used to subtract out the background dose. The plexiglass box did not provide any substantive shielding against gamma radiation and would not appreciably effect the dose to background TLDs.

The licensee stated that a shielded cabinet was readily available in the emergency operations facility that could be used for background TLD storage. However, the licensee's health physics supervisor also stated that the health physics department did not intend on performing background subtraction to correct the doses assigned to emergency workers. The licensee initiated Suggestion Occurrence Solution 00-0071 to further define expectations for handling emergency worker and control dosimetry in the emergency operations facility.

c. Conclusions

The emergency plan did not completely describe two emergency response facilities: the backup emergency operations facility and operations field office. The emergency plan and procedures were appropriately reviewed and distributed according to procedural requirements. Changes to the emergency plan and procedures met licensee requirements for review and approval.

The acceptable response ranges on check sources used for multiple instruments specified acceptance ranges that were too precise to be read on the scales of some radiological instruments. As a result, under some circumstances, health physics technicians would be unable to determine whether the instruments stored in emergency kits were operable. This situation could cause delays in the deployment of necessary repair and mitigation teams while replacement instruments were obtained.

Background dosimeters stored with emergency worker dosimetry in the emergency operations facility were not procedurally controlled to limit the non-background dose that would be recorded during an emergency. During an emergency, the control dosimeters would receive doses comparable to that of emergency workers, preventing an accurate determination of actual emergency worker doses because the background subtracted would be inaccurate (higher than if they were shielded).

**P4 Staff Knowledge and Performance in Emergency Preparedness**

a. Inspection Scope (82701-02.01)

The inspector conducted walkthroughs with two onshift control room crews using a dynamic simulation on the plant-specific control room simulator. During the walkthrough scenarios, each crew was evaluated on the ability to:

- Evaluate plant conditions
- Identify emergency action levels
- Classify the emergency
- Make timely notifications to offsite agencies
- Evaluate radiation information and perform dose assessments
- Recommend appropriate protective actions

The scenario consisted of a series of events requiring the escalation of emergency classifications, beginning with an unusual event declaration and continuing through each

classification to a general emergency. The scenario simulated typical plant staffing on a Sunday morning. The basis of the scenario was a small earthquake followed later by stronger aftershocks. After the initial shock, a small primary to secondary leak developed and gradually increased. A failure of a pressure operated relief valve provided a release path to the environment. A wind shift occurred about ½ hour after the start of the major release. Each walkthrough lasted approximately 2 hours and was followed by a licensee critique.

b. Observations and Findings

The overall performance of both operating crews was good. Both crews demonstrated the ability to recognize plant events promptly and respond appropriately. They properly implemented the emergency operating procedures and mitigated the postulated accident. Communications among the crews were effective during both walkthrough sessions. Three-part communications were consistently used and, in some instances, were observed to correct misunderstandings about requested operator actions.

The chemistry technicians assigned to onshift dose assessment were knowledgeable about the use of the MAGNEM dose assessment system and performed frequent dose projections based on plant vent readings and reactor parameters. The communicators were familiar with the offsite notification system (SENTRY) and the available backup systems. The chemistry technicians augmenting both crews were very quick to notice the wind shift event and to inform the shift supervisor that additional protective action recommendations were required.

The shift supervisors for both crews demonstrated a thorough knowledge of their emergency coordinator responsibilities. They were also aware of protective action guides for offsite evacuation. Once an emergency classification was declared, they focused on emergency preparedness requirements and were appropriately involved with the support staff. The shift supervisors relied on the crews to handle plant operations and were not distracted from their emergency coordinator duties.

MAGNEM (a windows-based dose assessment program) displayed an automatic pop-up message whenever a thyroid committed dose equivalent of greater than or equal to 25 rem was calculated at the site boundary. This message informed the operator that the thyroid protective action guide had been exceeded and that potassium iodide was recommended. The superintendent, protective services, stated that the message meant that potassium iodide should be recommended for environmental monitoring teams and considered for other licensee emergency workers. However, the chemistry technicians and shift supervisors during both sessions interpreted this message as meaning that potassium iodide should be recommended for the general population. Neither the chemistry technicians nor shift supervisors on both crews referred to the procedure on issuing potassium iodide for guidance or confirmation of this interpretation. The licensee initiated Suggestion Occurrence Solution 00-0080 to address the treatment of potassium iodide by MAGNEM.

The second crew did not notify simulated offsite authorities and NRC of the site area emergency declaration. The shift supervisor terminated preparations for the site area

emergency offsite notification and initiated notification for the general emergency, when the general emergency was declared 5 minutes after the site area emergency. The shift supervisor stated that he was concerned that completing the site area emergency notification first might unnecessarily delay the ability of offsite authorities to initiate offsite protective actions. The general emergency notification met the 15-minute notification requirement for both classifications.

The inspector determined that the actions of the shift supervisor in expediting the general emergency notification were appropriate. However, since the crew did not indicate in the notification that a site area emergency had been previously declared, notification requirements in 10 CFR Part 50, Appendix E, Section IV.D.3, and 10 CFR 50.72(a)(1)(i) and 50.72(a)(3) were not fully implemented. Because of the very short time which elapsed between the site area emergency and general emergency declarations, the failure to notify offsite authorities and NRC of the site area emergency would not have impacted the ability to implement appropriate actions. The licensee initiated Suggestion Occurrence Solution 00-0084 to address this issue.

The first protective action recommendation upgrade made by the second shift supervisor was made within 15 minutes of dose assessment results that indicated the protective action guides were exceeded at 5 miles. The shift supervisor approved a protective action recommendation of radial evacuation to 2 miles and downwind evacuation from 2 to 10 miles; however, an incorrect protective action recommendation was transmitted. The shift supervisor directed a communicator to include a recommendation to issue potassium iodide on the SENTRY notification form for the first protective action upgrade. This direction was not carried out by the communicator.

The shift supervisor recognized that a second protective action recommendation was necessary due to the wind shift. Because of problems with SENTRY, the shift supervisor directed a communicator to make a phone call to Callaway County and inform the county emergency operations center that a wind shift had occurred which required the additional protective action recommendation of evacuating Sector C between 2 and 5 miles. This information was not transmitted to Gasconade, Montgomery, or Osage Counties, to the state emergency operations center, or to the (simulated) NRC operations center. The failures to make an accurate protective action recommendation and notify all offsite authorities of a protective action was identified as an exercise weakness. Licensee evaluators also recognized inaccurate protective action recommendations by the second crew as an area of weakness and initiated Suggestion Occurrence Solution 0-0107 to address the issue (IFI 50-483/00004-01).

c. Conclusions

During an evaluated simulator walkthrough scenario, crews demonstrated the ability to promptly recognize plant events and to respond appropriately. Shift supervisors demonstrated a thorough knowledge of the requirements of the emergency coordinator position. All emergency events were properly classified. Notifications were generally timely and accurate.

One crew did not notify simulated offsite agencies and NRC of a site area emergency declaration during an evaluated simulator walkthrough scenario. This omission would have had little offsite effect because a general emergency was declared 5 minutes later, and the general emergency notification met the timeliness requirement for the site area emergency.

During the simulator walkthroughs, an exercise weakness was identified for failure of one crew to make timely and accurate protective action recommendations. A protective action recommendation was transmitted that was not approved by the shift supervisor. A second protective action recommendation was communicated to a single county, but not to all offsite authorities as required by procedure. Licensee evaluators characterized the crew performance as weak in the area of protective action recommendations and initiated Suggestion Occurrence Solution 00-0107 to evaluate corrective actions.

## **P5 Staff Training and Qualification in Emergency Preparedness**

### **a. Inspection Scope (82701-02.04)**

The inspector verified that required specialty drills were conducted. Records were reviewed for the following drills: health physics, radiological monitoring, post-accident sampling system, periodic integrated training, and communications. The inspector reviewed the training program and training records for selected individuals.

### **b. Observations and Findings**

The training program was consistent with emergency preparedness and training department procedures. Training records indicated that all emergency response organization members had completed training requirements for their assigned positions.

Drill requirements in EIP ZZ-A0020, Revision 17, "Maintaining Emergency Preparedness," were consistent with requirements in Section 8.2 of the emergency plan. All required drills were conducted. Drill documentation met emergency plan requirements. Drill objectives included the critical subelements in NUREG-0654. The year 2000 drill schedule included all required drills. Drill critiques were posted on the licensee's internal web pages to reach all emergency responders.

Numerous rapid responder drills had been conducted during 1999 in which all key emergency response organization positions were staffed. These drills included the participation of the simulator control room. All members of the emergency response organization participated in at least one rapid responder drill during 1999. The rapid responder drills were evaluated using standardized drill objectives, post-drill critiques were conducted and the results entered into the licensee's corrective action program.

c. Conclusions

The training program was properly implemented according to emergency preparedness and training department procedures. Drills and exercises were conducted according to requirements of the emergency plan and procedures. Numerous rapid responder drills provided a valuable mechanism for the emergency response organization, including control room crews, to maintain familiarity with the requirements of the emergency plan and their position-specific duties.

**P6 Emergency Preparedness Organization and Administration**

a. Inspection Scope

The inspector reviewed emergency preparedness department staffing and management, emergency response organization staffing, and agreements for offsite support. Discussions were held with senior station managers, emergency preparedness staff, and key directors selected from the emergency response organization.

b. Observations and Findings

Emergency preparedness staffing levels have been stable since July 1998. The staff consisted of six technical specialists and a clerical assistant. Specialists had appropriate backgrounds in operations, health physics, physical security, and/or emergency preparedness. A full-time emergency preparedness trainer was designated in the station training organization. The emergency preparedness trainer worked closely with the emergency preparedness group in order to maintain the training program up-to-date with changes to the program. Emergency preparedness staffing was sufficient to implement the program.

The emergency response organization was staffed with a sufficient number of trained individuals. Adequate controls existed to ensure that duty response teams were continuously staffed. A schedule was maintained to document duty rotations, and this information was posted on the licensee's internal web site. Controls for maintaining coverage of duty team positions were sufficient.

c. Conclusions

The licensee's emergency preparedness staffing levels were stable and personnel had the appropriate technical expertise. Staffing for the emergency response organization was sufficient, and response team readiness was properly maintained.

**P7 Quality Assurance in Emergency Preparedness Activities**

**P7.1 Independent and Internal Reviews and Audits (82701-02.05)**

**a. Inspection Scope**

The inspector examined the latest emergency preparedness program surveillance reports prepared by the quality assurance department to determine compliance with NRC requirements and licensee commitments. The inspector also reviewed the licensee's requirements for the review of emergency preparedness documents as required by EIP ZZ-A0020, "Maintaining Emergency Preparedness," Revision 17.

**b. Observations and Findings**

The inspector reviewed Audit Reports SP98-100, SP99-044 and SP99-071. Emergency preparedness program audits were conducted in accordance with 10 CFR 50.54(t). The audits were performed at least every 12 months by quality assurance department personnel who had no direct responsibility for program implementation. The audit reports were comprehensive and critical.

**c. Conclusions**

Audits of the emergency preparedness program met regulatory requirements. Audit reports were comprehensive and appropriately critical.

**P7.2 Effectiveness of Licensee Controls (82701-02.06)**

**a. Inspection Scope**

The inspector reviewed tracking entries in the suggestion occurrence solution (plant corrective action) system that were assigned to emergency preparedness. The inspector reviewed the list of all suggestion occurrence solution system reports generated between July 1, 1998, and January 10, 2000. Twelve suggestion occurrence solution reports were selected for detailed review.

**b. Observations and Findings**

The emergency preparedness superintendent and emergency preparedness staff reported an increased station emphasis on suggestion occurrence solution reports since the previous inspection with a lower threshold for initiating a suggestion occurrence solution report and higher management expectations for finding and correcting problems. The licensee also stated that the number of emergency preparedness suggestion occurrence solution reports for 1999 was significantly higher than for the preceding year, indicating that the emergency response organization had taken more ownership of the program and had become more dedicated to identifying and correcting problems.

Corrective action reports were complete and thorough in describing problems. Priorities and due dates were appropriately assigned. The level of review of problems was appropriate, and the corrective actions were effective. The inspector did not identify any negative or continuing trends in suggestion occurrence solution reports, and there were few repetitive entries.

The inspector specifically reviewed Suggestion Occurrence Solution Report 99-1202 concerning the risk significant subject of emergency action levels and noted the following timeline and issues:

Suggestion Occurrence Solution Report 99-1202 (dated July 1999) described an instance in which an error was identified in an emergency action level indicator and changes to address the error were approved by emergency preparedness management, but the emergency action level changes were not implemented. Licensee emergency preparedness staff identified errors in a calculation used to determine site area and general emergency classification indicators for the RE-21B effluent monitor during a first quarter 1998 review of emergency action levels. Calculational Index EPCI 98-01 corrected the calculation and proposed new radiological emergency action level indicators to better classify a steam generator tube rupture event. The calculational index was approved by the emergency preparedness manager in March 1998. However, calculational index EPCI 98-01 was not approved by the plant review board and was not implemented.

The plant manager stated that the operations review committee did not approve changes to the response levels for Monitor RE-21B because raising the monitor indicator would be a decrease in effectiveness of the emergency plan. The superintendent, protective services, stated that, as a result of Suggestion Occurrence Solution Report 99-1202, all of the changes proposed in EPCI 98-01 were reviewed and the changes prioritized for action. Further, the superintendent stated that the licensee was in the process of implementing the new emergency action level indicators for steam generator tube ruptures, consisting of radiological monitors on the turbine driven auxiliary feedwater pump and pressure operated relief valves. The superintendent, protective services, also stated that evaluation of the remaining changes would be performed in conjunction with emergency action level revisions to meet the guidance of the Nuclear Energy Institute's NEI 99-01, Revision 4, "Methodology for Development of Emergency Action Levels," after it is endorsed by the NRC.

The inspector noted that the schedule for completion of work on NEI 99-01 has been extended several times and that waiting for final NRC action could introduce a substantial delay in evaluating further emergency action level changes. Since there is a requirement to maintain emergency action levels (10 CFR 50.54(q) and Appendix E.IV.B and C), the issue involving the emergency action levels is considered an unresolved item pending further NRC review. This matter has been entered into the licensee's corrective action program as Suggestion Occurrence Solution Report 00-0108 (URI 50-483/00004-02).

c. Conclusions

Corrective action reports thoroughly described the problems. Priorities and due dates for responding to corrective action reports were appropriately assigned. Corrective actions were generally effective, and no repetitive trends were identified.

Pending further NRC review, an unresolved item was identified involving maintenance of emergency action levels.

**P8 Miscellaneous Emergency Preparedness Issues**

P8.1 (Closed) IFI 50-483/98014-01: Backup emergency facility capabilities.

The backup emergency operations facility (BEOF) was verified as operational with essentially the same capabilities as the near-site emergency operations facility. The BEOF base station radio for communicating with the environmental monitoring teams was demonstrated to be operational. The licensee has included the BEOF in its regular drill program and conducted training on the BEOF for key emergency response positions.

P8.2 (Closed) IFI 50-483/98023-01: Verify the drill frequencies are specified in the emergency plan and implementing procedures.

The inspector verified that the drill requirements in Emergency Implementing Procedure ZZ-A0020, Revision 17, "Maintaining Emergency Preparedness," were consistent with the drill requirements in Section 8.2 of the Radiological Emergency Plan. All required drills were conducted in 1999.

P8.3 (Closed) IFI 50-483/98023-02: Verify that drill documentation meets emergency plan requirements and captures critical sub-elements.

The inspector reviewed drill documentation for drills conducted in 1999 and concluded that the drills and documentation met emergency plan requirements and addressed the critical sub-elements as listed in NUREG-0654.

**V. Management Meetings**

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on January 14, 2000. The licensee acknowledged the findings presented. No proprietary information was identified by licensee management.

The inspector conducted a follow-up telephone discussion with licensee representatives on February 4, 2000, to discuss the inspection findings and recharacterization of one inspection finding.

**ATTACHMENT**

**SUPPLEMENTAL INFORMATION**

**PARTIAL LIST OF PERSONS CONTACTED**

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M.S. Evans, Superintendent, Protective Services  
R.T. Lamb, Superintendent, Work Control  
J.V. Laux, Manager, Quality Assurance  
J. Patterson, Superintendent, Mechanical Maintenance  
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M.E. Taylor, Manager, Nuclear Engineering  
W.A. Witt, Assistant Plant Manager

NRC

V. Gaddy, Senior Resident Inspector  
G. Good, Chief, Plant Support Branch

**LIST OF INSPECTION PROCEDURES USED**

82701 Operational Status of the Emergency Preparedness Program  
92904 Follow Up - Plant Support  
93702 Prompt Onsite Response to Events at Operating Power Reactors

**LIST OF ITEMS OPENED AND CLOSED**

Opened

00004-01	IFI	Exercise weakness for failure to make accurate and complete protective action recommendations during simulator walkthroughs.
00004-02	URI	Emergency action levels were not maintained.

Closed

98014-01	IFI	Backup emergency facility capabilities.
98023-01	IFI	Verify the drill frequencies are specified in the emergency plan and implementing procedures.
98023-02	IFI	Verify that drill documentation meets emergency plan requirements and captures critical sub-elements.
00004-01	IFI	Exercise weakness for failure to make accurate and complete protective action recommendations during simulator walkthroughs.

## LIST OF DOCUMENTS REVIEWED

### Emergency Implementing Procedures

EIP-ZZ-A0020	Maintaining Emergency Preparedness	Revision 17
EIP-ZZ-C0010	Emergency Operation Facility Operations	Revision 21
EIP-ZZ-00102	Emergency Implementing Actions	Revision 23
EIP-ZZ-00201	Notifications	Revision 32
EIP-ZZ-00212	Protective Action Recommendations	Revision 16
EIP-ZZ-A0001	Emergency Response Organizations	Revision 2
EIP-ZZ-A0066	RERP Training Program	Revision 2
EIP-ZZ-00212	Protective Action Recommendations	Revision 16
EIP-ZZ-01211	Management Action Guides for Nuclear Emergencies	Revision 20

### Other Procedures

KDP-ZZ-00400	Emergency Preparedness Radiological Emergency Response Plan Evaluations	Revision 006
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### Other Documents

Callaway Plant, Radiological Emergency Response Plan, Revision 22

#### Surveillance Reports & Task Sheets:

- SP98-100
- SP99-044
- SP99-071

#### Drill Packages:

- List of Drills Conducted, 1998
- List of Drills Conducted, 1999
- Drill Schedule for 2000

#### Suggestion Occurrence Solution System Reports:

- 98-048
- 98-2930
- 98-3069
- 98-3393
- 98-3619
- 98-3625
- 99-0927
- 99-1202

- 00-0050
- 00-0054
- 00-0063
- 00-0071
- 00-0072
- 00-0078
- 00-0079
- 00-0080
- 00-0082
- 00-0084
- 00-0085
- 00-0086
- 00-0087
- 00-0093
- 00-0107
- 00-0108

Emergency Planning Calculation Index, 98-01, Revision 0, dated March 4, 1998.

Emergency Action Level Review Document, dated December 15, 1997.

USEP 98-023, dated March 4, 1998.