ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-313/96-17
50-368/96-17

Licenses: DPR-51
NPF-6

Licensee: Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas

Facility Name: Arkansas Nuclear One, Units 1 and 2

Inspection At: Russellville, Arkansas

Inspection Conducted: May 13-17, 1996

Inspectors: Arthur D. McQueen, Emergency Preparedness Analyst
Plant Support Branch

Kriss M. Kennedy, Senior Resident Inspector
Division of Reactor Projects

Approved: Blaine Murray
Blaine Murray, Chief, Plant Support Branch
Division of Reactor Safety

6/12/96
Date

Inspection Summary

Areas Inspected (Units 1 and 2): Routine, announced inspection of the operational status of the emergency preparedness program including changes to the emergency plan and implementing procedures; emergency facilities, equipment, and supplies; organization and management control; training; internal reviews and audits; effectiveness of licensee controls; and offsite communication capabilities.

Results:

Plant Support

- Changes to the emergency plan and implementing procedures were properly reviewed and submitted to the NRC (Section 2).
- An effective relationship with offsite emergency response organizations was maintained (Section 2).

- Emergency facilities, equipment, and supplies were maintained in a proper state of operational readiness (Section 3).

- An appropriate number of emergency response personnel were trained and qualified. The emergency planning organization was fully staffed with qualified personnel (Section 4).

- Emergency response organization members were adequately trained to successfully perform their emergency functions (Section 5).

- The performance of operating crews in implementing emergency response actions during walkthrough scenarios was good. Classification of emergency events, notifications to offsite response agencies, and formulation of protective action recommendations were generally in accordance with approved procedures and appropriate to scenario events. Effective communications and abnormal operating procedures usage were demonstrated by the crew teams. An exercise weakness was identified for failure to make an event notification to the state within 15 minutes as required by the emergency plan (Section 5.2).

- Quality assurance audits and surveillances of emergency preparedness and planning were performed by qualified personnel and were of proper scope, depth, and effectiveness (Section 6).

- An effective system of controls was maintained regarding safety issues, events, or problems which emphasized early detection and elevation to an appropriate management level. Timely, effective implementation of corrective actions was noted (Section 7).

- No emergency event was declared at the site since the last routine emergency preparedness inspection (Section 8).

- Offsite communication capabilities were diverse and redundant. A survivable method to communicate with offsite agencies would likely exist during and following a severe natural event (Section 9).

Summary of Inspection Findings:

- Weakness 313/9418-01 and 368/9418-01 was reviewed and remains open for review during the August 1996 annual emergency exercise (Section 8.1).

- Weakness 313/9418-02 and 368/9418-02 was closed (Section 8.2).

- Weakness 313/9418-03 and 368/9418-03 was closed (Section 8.3).

- Weakness 313/9617-01 and 368/9617-01 was opened (Section 5.2).

Attachments:

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - Emergency Preparedness Inspection Scenario Summaries
- Attachment 3 - Licensee Offsite Communications Capability (TI 2515/131)

DETAILS

1 PLANT STATUS

During this inspection, both units operated at full power.

2 EMERGENCY PLAN AND IMPLEMENTING PROCEDURES (82701-02.01)

The inspectors reviewed changes in the licensee's emergency plan and implementing procedures to verify that these changes had not decreased the effectiveness of emergency planning and that the changes were reviewed properly and submitted to the NRC.

Since the previous inspection, three emergency plan revisions (Revisions 19, 20, and 21) had been implemented. The changes in these revisions were reviewed by the NRC and found acceptable. The licensee had performed a documented review in accordance with 10 CFR 50.54(q) to determine that the revisions did not decrease the effectiveness of emergency preparedness.

The inspectors also reviewed documentation pertaining to selected emergency plan implementing procedure changes of the 66 revisions or procedure changes implemented since the last routine inspection. The inspectors reviewed changes in procedures and noted that marked changes were consistent with regulatory requirements and the licensee's commitments. Review, approval, and distribution of the plan and procedure changes were conducted in accordance with Emergency Plan Implementing Procedure 1903.004, "Administration and Maintenance of the Emergency Plan and Implementing Procedures." All emergency plan implementing procedures were reviewed annually, whether changed or not. It was verified that all procedure and plan changes were submitted to the NRC within 30 days after the changes were made.

The licensee maintained an effective relationship with offsite agencies and coordinated changes in emergency action levels with those agencies as appropriate. Changes in emergency actions levels were reviewed and concurred in by state and local emergency response organizations. The process used by the licensee to implement these changes was to discuss the emergency action level changes with the state and provide training in the new levels. The state then discussed the changes with the various counties involved and conducted the same training. The inspectors reviewed Letters of Agreement established with support agencies and determined that they were reviewed and updated as required. A significant change occurred at the Arkansas Department of Health Nuclear Planning and Response Program since the last routine inspection with the departure of Ms. Greta Dicus as Director. Ms. Dicus was appointed as a Commissioner to the NRC, and was replaced with an acting director until the position is filled permanently.

3 EMERGENCY FACILITIES, EQUIPMENT, INSTRUMENTATION, AND SUPPLIES (82701-02.02)

The inspectors toured onsite emergency facilities and reviewed the licensee's emergency equipment inventories and maintenance to verify that facilities and equipment were maintained in a state of operational readiness.

A tour was made of each emergency response facility which included the inspection of various equipment items, instrumentation, and supplies. Facilities inspected were both control rooms, the technical support center, the operations support center, the onsite monitoring team response kit, an offsite monitoring team kit, the backup technical support center, the emergency operations facility, and the backup emergency operations facility located offsite in Russellville, Arkansas. The facilities were observed to be well maintained and ready for emergency use. Random inspections were performed of radiation monitoring and respiratory equipment as appropriate at each emergency response facility. All selected items were verified as being in calibration or had been appropriately inspected on a scheduled basis. Equipment and supplies placed in response facilities and in emergency equipment lockers matched scheduled inventories. Current copies of the emergency plan, implementing procedures and emergency telephone directories were maintained in or adjacent to all facilities. Primary and backup communications in each facility were as described in the emergency plan. The inspectors reviewed documentation pertaining to inventories, testing, and maintenance of emergency response facilities and noted that they were performed as required by procedures.

No significant changes in emergency response facilities had occurred since the last routine emergency preparedness inspection.

4 ORGANIZATION AND MANAGEMENT CONTROL (82701-02.03)

The inspectors reviewed the emergency response organization staffing levels to determine whether sufficient personnel resources were available for emergency response. The emergency planning organization was reviewed to ensure that an effective programmatic management system was in place.

The Entergy Operations, Inc., site emergency planning staff for the Arkansas Nuclear One facility consisted of one organizational element with seven personnel. The site emergency planning group was responsible for onsite and offsite emergency planning and reports to the manager, emergency preparedness/training, who reports to the vice president, nuclear operations. The inspectors determined the group was staffed with appropriately qualified, trained, experienced, and motivated personnel.

The site emergency response organization had over 150 personnel organized into four teams, "A" through "D." The primary callout system for activating the emergency response organization was by the computerized notification system by Dialogic. The system activated all pagers assigned to the duty team and initiated telephone calls to all emergency response organization personnel

until each position in the organization was filled. A list of personnel trained and experienced to function in emergency response organization positions was maintained by the emergency planning staff. Positions in the emergency response organization were designated for fill by a cognizant division. Upon transfer or departure of an incumbent, his/her replacement was designated by the cognizant manager.

5 TRAINING (82701-02.04)

The inspectors reviewed the emergency response training program and interviewed selected individuals to determine whether these personnel had received the required training and complied with the requirements of the licensee's administrative procedures and emergency plan, 10 CFR 50.47 (b)(15), and 10 CFR Part 50, Appendix E.IV.F.

5.1 Emergency Response Training Program

The program for training and qualification of emergency responders was specified in procedures. Qualification included required initial training and annual refresher training as well as specialized training in specific response functions. The inspectors reviewed a sample of lesson plans, performance evaluation forms, and examinations; all of which were appropriate to training requirements and commitments. The inspectors reviewed records of training and determined that they were being maintained current. The current qualification status of individuals in the emergency response organization was maintained in the training information management system and was maintained and managed by the emergency preparedness training coordinator. Response personnel interviewed were knowledgeable of their emergency response duties and responsibilities. The licensee effectively used quarterly drills and annual exercises to train and test personnel in their emergency response duties. The inspectors reviewed drill and exercise reports and critiques. The review noted that problems and recommended improvements were appropriately documented and tracked by the emergency planning group using the training evaluation/action tracking system. Corrective actions were implemented as appropriate.

5.2 Walkthroughs with Operating Crews

The inspectors conducted a series of emergency response walkthroughs with three operating crews (two from unit 1 and one from unit 2) to evaluate the adequacy and retention of skills obtained from the emergency response training program. Two walkthrough scenarios were developed by the facility, reviewed by the inspectors, and administered to the crews to determine, through demonstrated performance, whether control room personnel were proficient in their duties and responsibilities as emergency responders during a simulated accident scenario. Attachment 2 to this inspection report contains narrative summaries of the walkthrough scenarios provided by the licensee.

The inspectors observed three teams using the control room simulator in the dynamic mode. The scenario consisted of a sequence of events requiring an escalation of emergency classifications, culminating in a general emergency. The scenario was developed to run approximately 90 minutes. The inspectors observed the interaction of the response crews to verify that authorities and responsibilities were clearly defined and understood. The walkthroughs also allowed the evaluation of the crews' abilities to assess and classify accident conditions, utilize abnormal and emergency operating instructions, perform dose assessments, develop protective action recommendations, and make corresponding notifications to offsite authorities.

Control room personnel generally demonstrated good knowledge of emergency response duties.

- Crews demonstrated excellent communications practices. Communication was three way, professional with easily understandable directions and repeat backs.

- The crews responded well to alarm annunciations, utilized abnormal operating procedures well, and successfully mitigated the events.

- Classification and declaration of events were appropriate based on the scenario events. Proper emergency action levels were used in all cases.

- A strength was observed in that shift superintendents consistently informed their crews of the basis for each emergency classification and discussed criteria which would lead to an escalation of the emergency classification. As a result, crews were aware of and could monitor for changes in key plant parameters which would lead to an escalation of the emergency classification.

- Notifications to state and local agencies and the NRC were timely and appropriate in accordance with approved procedural requirements, with one exception. Although the scenario did not anticipate declaration of a site area emergency, one crew did classify a site area emergency based on developing plant conditions. The crew was 4 minutes into the site area emergency when the event was upgraded to a general emergency. The site area emergency notification preparation was terminated and general emergency notification initiated. Notification of the general emergency to offsite agencies was accomplished in 13 minutes. However, this notification was made approximately 17 minutes following the declaration of the site area emergency. Specifically, the failure to notify the state of the site area emergency within 15 minutes after declaration was not consistent with Section E - 1.0 of the site emergency plan which stated that "Initial notification is made to the State within (15) minutes after declaring an emergency." This was the only instance in the 10 required notifications observed and there appeared to be extenuating circumstances. For example, the crew was using the two page followup notification form instead of the one page initial notification form after the initial notification of unusual event declaration. Also,

no protective action recommendation was appropriate at the time of the site area emergency declaration; which was not true when the event was upgraded to a general emergency. As a result, the shift superintendent shifted his focus from the site area emergency notification to the development of the notification form and the protective action recommendations for the general emergency classification. This failure to notify the State of the site area emergency within 15 minutes after declaration was identified as an exercise weakness. The emergency planning staff indicated that they will review ways to shorten the notification development time and will review emergency preparedness training to assist in the process (Weakness 313/9617-01 and 368/9617-01)

- Some inconsistencies were noticed in the use of emergency response forms and documentation among the three crews. Two crews used the initial event notification form for each upgrade in event classification. The other crew used the initial form for the first event notification only, and used the followup notification form for all others. Also, all three crews failed to complete "Emergency Class Notification Update/Follow-up Message" forms as indicated on the forms. On this form, the initial element stated "This message is (choice 2) Significant change message - Circle item that has changed significantly." One crew after checking this element on three forms, did not circle the item that had changed. The other two crews failed to circle the changed item on one form each which indicated significantly changed items. These observations were discussed with the licensee, and the licensee stated they would review their notification procedures and training in order to eliminate confusion in this area.

- Protective action recommendations were appropriate and were developed in accordance with approved procedures by all three crews.

- Dose assessments and projections were timely and appropriate, and contributed to protective action recommendation decision making.

All three operating crews successfully mitigated the events using good command and control techniques. Team members practiced self checking and fully supported other team member's actions.

6 INDEPENDENT AND INTERNAL REVIEWS AND AUDITS (82701-02.05)

The inspectors met with quality assurance personnel and reviewed independent and internal audits of the emergency preparedness program performed since the last inspection to determine compliance with the requirements of 10 CFR 50.54(t).

The inspectors reviewed and discussed the emergency preparedness audit program with two quality assurance specialists, one the lead auditor for the 1995 emergency preparedness audit and the other the lead auditor for the ongoing 1996 emergency preparedness audit. The inspectors reviewed the most recent annual audit (Audit Report QAP-13-95, "Emergency Planning Audit") of the

emergency preparedness program which was conducted during the period from April 6 through May 11, 1995. The audit team members were well qualified. All team members were certified auditors with current lead auditor recertification as set forth in the licensee's Quality Assurance Procedures QAO-1, "QA Personnel Qualification, Certification, and Training," and QAD-2, "Indoctrination and Training of Quality Personnel." These procedures incorporated certification criteria to perform audits in accordance with ANSI Standard N45.2.23 and NRC Regulatory Guide 1.144. The team included personnel who were members of the emergency response organization and who were experienced in auditing emergency planning in the past. The inspectors reviewed the audit plan and the audit check list for the 1995 audit. The audit was comprehensive in areas selected for audit. Four recommendations for improvement and two observations were made by the audit team. Three training evaluation/action requests for corrective action were issued from the audit and were all closed upon completion of corrective actions. The audit report was issued to appropriate levels of management at the plant. The 1996 annual audit of emergency preparedness was in progress at the time of this inspection. State and other offsite agencies obtained copies of the emergency preparedness audits from the emergency planning supervisor upon request.

The quality assurance organization also conducted surveillances of emergency planning activities such as drills, exercises, etc. One surveillance (SR 95-016) was reviewed by the inspectors and was verified as being appropriate to observed activities and findings. Results of surveillances and other quality assurance observations were incorporated into the annual audit.

Quality assurance maintained a tracking system which established suspense dates for response by cognizant managers for items identified in reports that required correction or improvement. Condition Reports were issued for tracking each significant audit finding requiring action. Documentation of the three training evaluation/action requests issued from the 1995 audit was reviewed from initiation to closure and the actions were found to have been effectively tracked and corrected.

7 EFFECTIVENESS OF LICENSEE CONTROLS (82701-02.06)

The inspectors reviewed the adequacy of the licensee's controls systems pertaining to safety issues, events, or problems. The review included discussions with quality assurance specialists, the inhouse events analysis manager, and emergency planning staff personnel; and review of procedures and documentation of problem identification, root cause analysis, management review of problem identification and solution, and corrective actions.

The licensee's controls systems were effective in identifying, resolving, and preventing problems by providing for review of such areas as corrective action systems, root cause analyses, safety committees, and self assessment in the

area of emergency preparedness. The principle tool for tracking corrective actions was the condition report. Other tools available in managing corrective actions included: training evaluation/action requests, procedural improvement forms, licensing information requests, and root cause evaluations.

The primary tracking systems used by site emergency planning for documenting problems, issues, etc.; were condition reports, training evaluation/action requests and an emergency planning internal system, the emergency planning evaluation/action request. Sample completed reports in these tracking systems pertaining to emergency preparedness were reviewed by the inspectors and actions items were observed as being well documented and properly tracked and corrected.

Personnel at the site were instructed in the use of the systems in their site general employee training. Condition report forms were available in the site libraries and on site computer terminals. Personnel were encouraged to initiate the appropriate documentation through their supervisors but were also instructed in means where such items could be reported anonymously. The organizational elements for reviewing and approving major issues identified for correction were the condition review group and the corrective actions review board. Condition reports were forwarded first to either of the site control rooms where they were reviewed for operability, reportability, or safety issues. Report numbers were assigned in the control rooms for each condition report which was then forwarded to the innouse event analysis staff for tracking and control through completion. The program was determined to have been comprehensive and effective in implementation and in corrective actions.

8 FOLLOWUP ON PREVIOUS INSPECTION FINDINGS (92702)

Three open inspection followup items were reviewed.

8.1 (Open) Weakness 313/9418-01 and 368/9418-01: Failure to Initiate Required Notification of the State within the Required Time

Corrective actions initiated by the licensee in response to this weakness were:

- Clarification of the communications between the state and the control room regarding use of the (State of Arkansas) DEF/VS facsimile machine.
- Providing immediate refresher training for notifications communicators.
- Providing additional training for control room personnel on a periodic basis.

Control room operating crews demonstrated proper initiation of the required notifications to the State within the required time during simulator scenario walkthroughs, with one 2-minute exception (see Section 5.2 above). Corrective actions were completed and tracked under Training Evaluation Action

Request 94-0650 and Licensing Information Request L94-0100. Due to the missed notification to the State Department of Health during simulator walkthroughs during this inspection, the licensee indicated they will review training and procedures to explore expediting the notification procedure. This item will be reviewed for closure during the 1996 annual emergency exercise in August.

8.2 (Closed) Weakness 313/9418-02 and 368/9418-02: Fuel Damage Calculation in the Technical Support Center

Corrective actions were appropriately developed and tracked by Training Evaluation Action Request 94-0716, closed out on January 10, 1995, and Licensing Information Request L94-0123, reviewed and accepted on January 13, 1995. Emergency plan implementing Procedure 1302.022, "Core Damage Assessment," was revised and personnel were trained in the procedure changes.

8.3 (Closed) Inspection Followup Item 313/9418-03 and 368/9418-03: Medical Team Response to an Injury in a Contaminated Area

The licensee's review of this item concluded that response procedures were not consistent and that medical personnel had followed procedures implementing management philosophy at Arkansas Nuclear One. The licensee indicated in corrective actions responding to this weakness that ". . . an enhancement would be made to Procedure 1905.001 to clarify management's philosophy at ANO" (Arkansas Nuclear One). The procedures were revised and personnel trained in the proper philosophy. Correction and closure of this item were documented under Training Evaluation Action Request 94-0648, closed out on November 29, 1994, and Licensing Information Request L94-0099. Corrective actions were appropriate and should prevent similar instances in the future.

9 ONSITE FOLLOWUP OF EVENTS AT OPERATING POWER REACTORS (93702)

No emergency event was declared at the site since the last routine emergency preparedness inspection.

10 REVIEW OF TEMPORARY INSTRUCTION 2515/131, LICENSEE OFFSITE COMMUNICATION CAPABILITIES (2515/131)

This temporary instruction was implemented to perform the following: (1) gather information on the licensee's capabilities to communicate with state and local government authorities during and after a severe natural event, and (2) gather information on licensee communication contingency procedures. Consistent with the requirements contained in the temporary instruction, the inspection findings are documented in an attachment to this report (see Attachment 3). The results of this review indicated that a survivable method for communicating with the offsite agencies would likely exist during and following a severe natural event.

11 REVIEW OF UPDATED FINAL SAFETY ANALYSIS REPORT COMMITMENTS

A recent discovery of a licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures, and/or parameters to the UFSAR descriptions. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and/or parameters pertaining to emergency preparedness.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

*C. Anderson, Operations Manager, Unit 2
W. Butzlaff, Specialist, Quality Assurance
*R. Byford, Supervisor, Operations Training
*S. Cotton, Manager, Training/Emergency Planning
*J. Crawford, Emergency Planner
*C. Fite, Supervisor, Inhouse Events Analysis
*R. Gresham, Supervisor, Emergency Planning
*R. Lane, Director, Design Engineering
D. Lee, Consultant, Information Technology
R. McCormick, Specialist, Quality Assurance
*J. McWilliams, Manager, Mode
*D. Mims, Director, Licensing
*R. Partridge, Supervisor, Chemistry Technical Support
*S. Pyle, Licensing Specialist
*D. Sealock, Supervisor, Simulator Training
*M. Smith, Supervisor, Licensing
*D. Wagner, Supervisor, Quality Assurance
*D. Young, Senior Emergency Planner
*C. Zimmerman, Operations Manager, Unit 1

The inspectors also held discussions with and observed the actions of other station and corporate personnel.

*Denotes those present at the exit interview.

2 EXIT MEETING

An exit meeting was conducted on May 17, 1996. During this meeting, inspectors reviewed the scope and findings of the report. The licensee did not express a position on the inspection findings documented in this report. The licensee did not identify as proprietary any information provided to, or reviewed by the inspectors.

A followup telephone discussion with Mr. R. Gresham of your staff was conducted on June 4, 1996, to discuss changes to the inspection findings presented during the inspection exit meeting.

ATTACHMENT 2

Emergency Preparedness Scenario Summaries

Unit 1

NARRATIVE DESCRIPTION OF SCENARIO:

T = 0 The plant is at 100 percent power with ICS in full automatic. The plant has been at this power level for the last 210 days. C5B is OOS for maintenance. The solenoid for the IA cross connect with U2 is burned out. No replacement parts are on site. A new solenoid has been ordered and will be on site next week. An unidentified RCS leak of .4 gpm has been detected in the Reactor building. 1203.039 Excess RCS leakage AOP and 1103.013 RCS leak detection are complete. A Reactor building entry is planned for the next shift to attempt to locate the exact source of the leak.

T = 5 A .08g earthquake will occur that will be indicated by a momentary main turbine high vibration alarm, 2 RCP high vibration alarms, and K15C4 Seismic Trigger XSH-8007 0.01g alarm. The vibration alarms will immediately go to slow flash. The earthquake alarm requires manual reset to clear. One rod will drop with an automatic runback. The operators should refer to AOP 1203.003 control rod drive malfunction for the dropped rod and AOP 1203.025 natural emergencies for the earthquake. A call to the earthquake center will confirm a quake centered 5 miles East-South-East of Bald Knob. This will prompt a normal plant shutdown at 1102.004 power operations and 1102.010 plant shutdown and cooldown. The crew may elect to trip the plant as a conservative action in which Case 1202.001 should be implemented.

NUE 8.1 Earthquake verified greater than .01g

T = 25 RE1237 will trend upward due to failed fuel. The fuel failure is a result of power peaking around the dropped rod. A level of $>8.2 \times 10^{6}$ Iodine will be indicated. This is equivalent to >1 percent failed fuel.

ALERT 1.2 RCS activity indicates >1 percent failed fuel

T = 45 A second earthquake of >.1g magnitude will occur as indicated by the RCP and turbine vibration alarms and the .1g earthquake alarm. This quake will result in an RCS leak of about 1000 gpm and ESAS actuation. The earthquake center will confirm the quake.

ALERT 8.2 Earthquake verified greater than .1g

T = 47 A crack in the weld around the seal injection piping penetration in the upper north piping penetration room causes an offsite release through the penetration ventilation system. RDACS will sense this release and alarm.

GE 1.7 Loss of or challenge to all 3 fission product barriers

T = 70 The drill may be terminated after the GE paper work is complete or as directed by the lead evaluator.

This scenario may be terminated when the GE paperwork is complete or as directed by the lead evaluator.

Unit 2

NARRATIVE DESCRIPTION OF SCENARIO:

T = 0 The plant is at 100 percent power. The plant has been at this power level for the last 210 days. 2C5B is OOS for maintenance. The solenoid for the IA cross connect with U1 is burned out. No replacement parts are on site. A new solenoid has been ordered and will be on site next week. An unidentified RCS leak of .4 gpm has been detected in the Reactor building. 2203.016, Excess RCS leakage AOP is complete. A Reactor building entry is planned for the next shift to attempt to locate the exact location of the leak. Nuclear Chemistry is in the process of sampling the RCS.

T = 5 A .08g earthquake will occur that will be indicated by a 0.01g earthquake alarm on Unit I. One CEA will drop and the operators should enter AOP 2203.003, CEA Malfunctions. The operators should also enter AOP 2203.008, Natural Emergencies and call the earthquake center for confirmation of the quake The Earthquake center will confirm a .08g quake.

NUE 8.1 Earthquake verified greater than .01g

T = 25 2RITS-4806A/B and 2RR-4806A/B will trend upward due to failed fuel. The fuel failure is a result of power peaking around the dropped rod. A level of 6.1E5 CPM will be indicated. Nuclear Chemistry reports RCS I^{131} Activity is 437 μCi/gm by sample. This is equivalent to >1 percent failed fuel.

ALERT 1.2 RCS activity indicates >1% failed fuel

T = 45 A second earthquake of .18g magnitude will occur resulting in an RCS leak of 1000 gpm. A crack in the weld around the RCP CBO return to the VCT penetration causes an offsite release through the penetration ventilation system. RDACS will sense this release and alarm.

ALERT 8.2 Earthquake verified greater than .1g
GE 1.7 Loss of or challenge to all 3 fission product barriers

T = 70 The drill may be terminated after the GE paper work is complete or as directed by the lead evaluator.

ATTACHMENT 3

Licensee Offsite Communications Capability (TI 2515/131)

Information gathered concerning the licensee's communication capabilities focused on two key areas: (1) the licensee's capabilities to communicate with state and local government authorities during and after a severe natural event, and (2) applicable communication contingency procedures. The inspectors interviewed members of the site emergency planning staff and a telecommunications consultant to obtain the information.

1. Capabilities

The licensee maintained five different methods for communicating with state and local authorities: (1) a dedicated emergency facsimile/voice system (DEF/VS), (2) a proprietary site telephone system, (3) commercial telephone, (4) radio channels with the county sheriff's dispatcher, the Arkansas Office of Emergency Services, and the U.S. Army Corps of Engineers at the Dardenelle Dam, and (5) cellular telephones. An additional capability existed in the Arkansas Department of Health Nuclear Planning and Response Program office, collocated with licensee offices in Russellville, Arkansas. The state maintained DEF/VS circuits; commercial telephone lines; a radio based system with channels to all county emergency operations centers, the Arkansas State Police, and the Arkansas Department of Health organization.

The primary method of contacting the State of Arkansas Department of Health and the county emergency operations centers was by the dedicated emergency facsimile/voice system. This was a dedicated system on leased circuits from GTE Telephone. The first backup method used was the corporate proprietary phone system with dedicated lines between the site and corporate offices in Little Rock, Arkansas. The next backup was GTE commercial dedicated lines for voice and facsimile communications. The primary and backup means were available in both control rooms, the technical support center, the emergency operations facility, the Arkansas Department of Health and the county emergency operations centers.

Additional means beside the primary and backup circuits that could also be used included numerous cellular telephones in executive automobiles assigned at the site.

The primary means utilized leased circuits on the GTE Telephone trunk system. This system had two major paths from two buildings at the site, the GSB building and site emergency operations facility. The lines were underground except for short above-ground runs; copper wire from the emergency operations facility and fiber cable from the GSB building. The site did not use satellite uplinks/downlinks.

The primary system (DEF/VS), the proprietary telephone system and the commercial telephone circuits utilized an inverter/battery backup power supply system. Batteries were rated for 8 hours. The site proprietary system used three microwave repeater stations between the site and Little Rock, plus the repeater in Little Rock, Arkansas. Tower ratings were for up to 100 mile per hour winds. Radio systems were in a radiac configuration onsite with a leased antenna on Mount Nebo for communications offsite. The Mount Nebo antenna was

rated for winds up to 100 mph. GTE Telephone had other paths for routing of calls to and from the site. It was estimated that even in event of catastrophic failure or destruction of any of the telephone systems, GTE could have them back in operation within 2 hours by dispatch of mobile relay units. The telephone systems at the site were connected to four telephone switches: one in the emergency operations facility, one in the GSW building, and two within the protected area. Each of the switches had its own backup battery power source with 8 hour rating and transmission lines. Microwave towers and antennae were not seismically designed and may require line up after an affecting event.

None of the circuits listed above relied on the relay of an event notification via an intermediate offsite organization in order to reach the authority responsible for implementing offsite protective actions.

2. Vulnerabilities

The licensee indicated that damage to communications by an earthquake with a ground rupture was remote, though possible, since the majority of the phone lines were underground. Other hazards reviewed by the licensee in emergency planning were winter ice storms, tornados, fires and flooding. Communication circuits that share a common cable run or conduit external to the plant included all telephone lines from the site in GTE trunk cables.

Common susceptibility of components in both the primary and first backup circuits to wind, missile, flood, or fire damage included the short above ground runs at the site. Telephone lines were rated for up to 1/2 inch of ice buildup.

For the corporate proprietary circuits listed above using microwave or radio antennae, the wind load rating was 100 mph at the site towers and at Mount Nebo.

No circuits would be disabled by a loss of all offsite power or a station blackout. The communications systems were fed off four different load centers onsite, therefore they did not share a common power supply so that a loss of this power supply would affect more than one circuit. All the communications systems had dedicated battery power supplies and these battery-powered backup power supplies were dedicated to tne communications systems.

3. Contingency Procedures

The licensee did not have a restoration procedure and has seen no need for such. They were experienced in routine troubleshooting and communications restoration and had a capability on site and from Little Rock, Arkansas which is about 1 1/2 hour away by motor vehicle. The telecommunications organization was on call with the site emergency response organization and were listed in the site emergency telephone directory. Fulltime coverage was provided onsite during normal duty hours and was on call 24 hours a day.

7 days a week. Corporate telecommunications was based in Little Rock, Arkansas and was also on call 24 hours a day.

All the communications systems were redundant. Some spare parts existed onsite but no huge inventory. Parts were available from corporate offices in Little Rock, Arkansas on call.