



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30323

DEC 30 1986

Report Nos.: 50-348/86-28 and 50-364/86-28

Licensee: Alabama Power Company  
600 North 18th Street  
Birmingham, AL 35291

Docket Nos.: 50-348 and 50-364

License Nos.: NPF-2 and NPF-8

Facility Name: Farley 1 and 2

Inspection Conducted: December 2-4, 1986

Inspectors:

A. L. Cunningham

12/18/86  
Date Signed

A. Gooden  
A. Gooden

12/18/86  
Date Signed

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T. R. Decker, Section Chief  
Division of Radiation Safety and Safeguards

12/18/86  
Date Signed

SUMMARY

Scope: This routine, announced inspection involved evaluation of the annual radiological emergency preparedness exercise.

Results: No violations or deviations were identified; however, two exercise weaknesses were disclosed, namely: failure of offsite Radiological Monitoring Team No. 1 to perform consistent with requirements of Procedure FNP-O-EIP-4 (Paragraph 12); failure to include in the initial protective action recommendation following declaration of the General Emergency the 22.5° sectors immediately adjacent to the principal zone exposed to the plume (Paragraph 1.b).

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*R. P. McDonald, Senior Vice President, Nuclear Generation
- \*J. D. Woodard, General Manager, Nuclear
- \*W. G. Hairston, III, General Manager, Nuclear Support
- \*D. Morey, Assistant General Manager, Operations
- \*W. B. Shipman, Assistant General Manager, Support
- \*K. McCracken, Manager, Nuclear Technical Support
- \*L. S. Williams, Training Manager
- \*J. K. Osterholtz, Supervisor, Safety Auditing, Engineering Review
- \*F. M. Jessup, III, Senior Engineer

Other licensee employees contacted included construction craftsmen, engineers, technicians, operators, mechanics, security force members, and office personnel.

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on December 4, 1986, with those persons indicated in Paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings. Major emphasis was directed toward the exercise weaknesses identified in Paragraphs 11.b. and 12. The inspector further discussed these items with licensee representatives via telephone on December 8, 1986. The licensee acknowledged the findings, and no dissenting comments were received. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

### 3. Licensee Action on Previous Enforcement Matters

(Closed) Violation 50-348/85-37-01, 50-364/85-37-01: Failure to establish implementing procedures for providing 15-minute notification to responsible State and local government agencies attending declaration of an emergency. Inspection disclosed that the approved implementing procedures were provided as required.

### 4. Exercise Scenario (82301)

The scenario for the emergency exercise was reviewed to assure that provisions were made to test the integrated capability and a major portion of the basic elements defined in the licensee's Emergency Plan and organization pursuant to 10 CFR 50.47(b)(14), Paragraph IV.F of Appendix E

to 10 CFR 50, and specific guidance promulgated in Section II.N of NUREG-0654.

The scenario was reviewed and discussed in detail with licensee representatives on several occasions in advance of the scheduled exercise date. While no major scenario problems were identified, several inconsistencies became apparent during the exercise. The inconsistencies, however, failed to detract from the overall performance of the licensee's emergency organization.

The scenario developed for this exercise was detailed, and fully exercised the onsite emergency organization. The scenario provided sufficient information to the States, counties, local government and federal agencies consistent with their participation in the exercise.

The licensee demonstrated a significant commitment to training and personnel through the use of controllers, observers, and specialists participating in the exercise. The controllers provided adequate guidance throughout the exercise. The inspectors observed neither prompting nor undue interaction between controllers and players. The scope and objectives of the exercise were fully satisfied.

No violations or deviations were identified.

#### 5. Assignment of Responsibility (82301)

This area was observed to assure that primary responsibilities for emergency response by the licensee were specifically established, and that adequate staff was available to respond to an emergency pursuant to 10 CFR 50.47(b)(1), Paragraph IV.A of Appendix E to 10 CFR 50, and specific guidance promulgated in Section II.A of NUREG-0654.

The inspectors observed that specific emergency assignments were made for the licensee's emergency response organization, and that adequate staff was available to respond to the simulated emergency. The initial response organization was augmented by designated licensee representatives; however, because of the scenario scope and conditions, long term or continuous staffing of the emergency response organization was not required. Discussions with licensee representatives and detailed review of the site Radiological Emergency Plan indicated that a sufficient number of trained technical personnel were available for continuous staffing of the augmented emergency organization, if needed.

The inspectors also observed activation, staffing, and operation of the emergency organization in the Technical Support Center (TSC) and Operations Support Center (OSC). In accordance with the scope and objectives of the scenario, activation of the EOF was pre-staged regarding arrival of Corporate Response Organization personnel. At the response facilities cited, required staffing and assignment of responsibility were consistent with the licensee's Emergency Plan and approved Implementing Procedures.

No violations or deviations were identified.

6. Onsite Emergency Organization (82301)

The licensee's offsite emergency organization was observed to assure that the following requirements were implemented pursuant to 10 CFR 50.47(b)(2), Paragraph IV.A of Appendix E to 10 CFR 50, and specific guidance promulgated in Section II.B of NUREG-0654: (1) unambiguous definition of responsibilities for emergency response; (2) provision of adequate staffing to assure initial facility accident response in key functional areas at all times; and (3) specification of onsite and offsite support organizational interactions.

The inspectors observed that the initial onsite emergency organization was adequately defined and that staff was available to fill key functional positions within the organization. Augmentation of the initial emergency response organization was accomplished through mobilization of off-shift personnel. The on-duty Shift Supervisor assumed the duties of Emergency Coordinator promptly upon initiation of the simulated emergency, and directed the response until formally relieved by the Station Manager. Required interactions between the licensee's emergency response organization and State and local support agencies were adequate and consistent with the scope of the exercise.

No violations or deviations were identified.

7. Emergency Response Support and Resources (82301)

This area was observed to assure that the following arrangements for requesting and effectively using assistance resources were made pursuant to 10 CFR 50.47(b)(3), Paragraph IV.A of Appendix E to 10 CFR 50, and guidance promulgated in Section II.C of NUREG-0654, namely: (1) accommodation of selected State emergency response representatives at the licensee's near-site Emergency Operations Facility; and (2) identification of organizations capable of augmenting the planned response.

Representatives of the States of Alabama and Georgia, and Houston and Early Counties were accommodated at the licensee's News Media Center. Licensee contact with offsite organizations was prompt, effective, and consistent with the scope of the exercise. Assistance resources from States and local agencies were available to the licensee consistent with the scope of their participation in the exercise.

No violations or deviations were identified.

8. Emergency Classification System (82301)

This area was observed to assure that a standard emergency classification and action level scheme was in use by the nuclear facility licensee pursuant to 10 CFR 50.47(b)(4), Paragraph IV.C of Appendix E to 10 CFR 50, specific

guidance promulgated in Section II.D of NUREG-0654, and guidance recommended in IE Information Notice 83-28.

An Emergency Action Level matrix was used to promptly identify and properly classify an emergency, and escalate it to more severe emergency classifications as the simulated accident sequence progressed. Licensee actions in this area were timely and effective.

Observations confirmed that the emergency classification system was effectively used and was consistent with the Radiological Emergency Plan and Implementing Procedures. The system was observed to be adequate for classification of the simulated accident sequences. The emergency procedures provided for initial and continuing mitigating actions during the simulated emergency.

No violations or deviations were identified.

9. Notification Methods and Procedures (82301)

This area was observed to assure that procedures were established for notification of State and local response organizations and emergency personnel by the licensee, and that the content of initial and followup messages to response organizations were established. This area was further observed to assure that means to provide early notification to the populace within the plume exposure pathway were established pursuant to 10 CFR 50.47(b)(5), Paragraph IV.D of Appendix E to 10 CFR 50, and specific guidance promulgated in Section II.E of NUREG-0654.

An inspector observed that notification methods and procedures were established and available for use in providing information regarding the simulated emergency conditions to Federal, State, and local response organizations, and to alert the licensee's augmented emergency response organizations, if required. Notification of the States of Alabama and Georgia and other designated offsite response organizations was completed within 15 minutes following declaration of each emergency classification.

Inspection disclosed, however, that initial written followups, subsequent to notifications of the Unusual Event and Alert, were not dispatched until prompted by the Emergency Director in the TSC. Inspection also disclosed that followup messages dispatched from the EOF were consistently delayed.

Inspector Followup Item 50-348/86-28-1, 50-364/86-28-1: Prompt provision of initial hard copy and subsequent update messages to offsite agencies following declaration of Emergency Classifications. The licensee acknowledged the subject finding and committed to additional training in this area.

No violations or deviations were identified.

10. Emergency Communications (82301)

This area was observed to assure that provisions existed for prompt communications among principal response organizations and emergency personnel pursuant to 10 CFR 50.47(b)(6), Paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.F of NUREG-0654.

The inspector observed communications within and between the licensee's emergency response facilities (Control Room, TSC, OSC, and EOF), between the licensee and offsite agencies, and between the offsite environmental monitoring teams and the TSC and EOF. The inspectors also observed information flow among the various groups within the licensee's emergency organization. Notwithstanding the brief malfunction of the TSC Emergency Notification Network, communication with offsite agencies and the remaining facilities was effective.

No violations or deviations were identified.

11. Emergency Facilities and Equipment (82301)

This area was observed to assure that adequate emergency facilities and equipment to support an emergency response were provided and maintained pursuant to 10 CFR 50.47(b)(8), Paragraph IV.E of Appendix E to 10 CFR 50, and specific criteria defined in Section II.H of NUREG-0654.

The inspectors observed activation, staffing, and operation of the emergency response facilities, and evaluated the equipment provided for emergency use during the exercise.

- a. Control Room - The inspector observed that following review and analysis of the sequence of accident events, Control Room operations personnel acted promptly to initiate required responses to the simulated emergency. Emergency procedures were readily available, routinely followed, and factored into accident assessment and mitigation exercises.

Control Room personnel involvement was essentially limited to those personnel assigned routine and special operational duties. Effective management of personnel gaining access to the Control Room precluded overcrowding, and maintained an ambient noise level required for orderly conduct of operations under emergency conditions.

The Shift Supervisor and the Control Room operators were cognizant of their duties, responsibilities, and authorities. Control Room personnel demonstrated an understanding of the emergency classification system and the proficient use of specific procedures to determine and declare the proper emergency classification.

It was observed that data and information provided as the scenario's initial sequence of accident events and conditions were readily interpreted by the Control Room staff and factored into commencing the

exercise in a timely manner. The Control Room staff demonstrated the capability to effectively assess the initial conditions and implement required mitigating actions. It was noted, however, that Control Room operators failed to maintain a log of facility activities throughout the exercise. This finding was discussed with licensee representatives during the exercise critique as a suggested improvement since the Control Room log would constitute a legal record in the event of an actual emergency.

Control Room notification and initial hard copy followup messages associated with Unusual Event and Alert Classifications is discussed in Paragraph 9, above.

No violations or deviations were identified.

- b. Technical Support Center (TSC) - The TSC was activated and promptly staffed following notification by the Emergency Director of the simulated emergency conditions leading to the Alert classification. The facility staff appeared to be cognizant of their emergency duties, authorities, and responsibilities. Required operations at the facility proceeded in an orderly manner. This facility was provided with adequate equipment for support of the assigned staff. TSC security was promptly established. The independent ventilation system was operational during the exercise. Radiological habitability was frequently monitored throughout the exercise. Dedicated communicators were assigned to the TSC and all required notifications were promptly implemented.

The TSC staff promptly identified, classified and declared the General Emergency. Notification of State, Federal and local agencies was readily completed within 15 minutes. Protective action recommendations to the State were consistent with the EAL matrix and guidance promulgated in IE Notice 83-28. Inspection disclosed, however, that the 22.5° sectors immediately adjacent to the principal zone exposed to the plume were not included in the subject protective action recommendation. The Emergency Director implemented the indicated correction approximately one hour following the above protective action recommendation. It was also observed that the TSC staff was unaware of the protective actions implemented by the State. This finding was fully discussed with licensee representatives prior to and during the critique.

Exercise Weakness 50-348/86-28-02, 50-364/86-28-02: Failure to include in the initial protective action recommendation following declaration of the General Emergency the 22.5° sectors immediately adjacent to the principal zone exposed to the plume. The licensee acknowledged the subject finding.

- c. Operations Support Center (OSC) - The OSC was promptly staffed following activation of the emergency plan by the Emergency Coordinator. An inspector observed that teams were promptly assembled,

briefed, and dispatched. A health physics technician accompanied each re-entry team. The OSC Supervisor appeared to be cognizant of his duties and responsibilities. During operation of the facility, appropriate health physics and contamination control practices were routinely followed.

The OSC Coordinator demonstrated effective management and control practices. The Coordinator frequently updated the staff regarding plant status, and thoroughly briefed each investigation and repair team prior to their deployment to the accident areas.

- d. Emergency Operations Facility (EOF) - Consistent with the exercise objectives, the EOF was promptly staffed and activated following declaration of the General Emergency. The Emergency Director demonstrated effective management and control of the facility. The staff was frequently updated regarding plant status and progress in mitigating the accident. Communications between the EOF and TSC were effective. Exchange of technical information and frequent consultation with the TSC were routinely implemented by the staff.

Dose assessment and projections were effectively performed. The dose assessment group demonstrated proficiency in both manual and computerized dose assessment. Close contact between assessment groups in the EOF and TSC were maintained. The dose assessment staffs of the EOF and TSC demonstrated a significant commitment to training throughout the exercise. It was noted that the dose assessment area of the EOF was congested, and the ambient noise level was high as a result of multiple assessment functions performed in one room.

Status boards were strategically located to facilitate viewing by the TSC staff. Status boards were frequently updated as required to chronicle changes in plant status, accident assessment and mitigation throughout the exercise. The inspectors noted that a status board dedicated to trending of simulated plant systems status and engineering data was maintained and updated during the accident sequence.

The EOF security was established during facility activation and was maintained throughout the exercise. Inspection disclosed that security was confined to a single entrance to the facility, while additional entrance/exits were unattended. This item was also noted by licensee representatives who indicated that improvements would be made.

No violations or deviations were identified.

## 12. Accident Assessment (82301)

This area was observed to assure that adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition were in use as required by 10 CFR 50.47(b)(9), Paragraph IV.B of Appendix E to 10 CFR 50, and specific criteria in Section II.I of NUREG-0654.

The accident assessment program included an engineering assessment of plant status, and an assessment of radiological hazards to onsite and offsite personnel resulting from the accident. During the exercise, the engineering accident assessment team functioned effectively in analyzing plant status to provide recommendations to the Emergency Director concerning mitigating actions required to reduce damage to plant systems and equipment, control of releases of radioactive materials, and termination of the emergency condition.

Radiological assessment activities involved several groups. An in-plant group was effective in estimating the radiological impact within the plant based upon in-plant monitoring and onsite measurements. Offsite radiological monitoring teams were dispatched to determine the level of radioactivity in those areas within the influence of the plume. Radiological effluent data was received in the TSC and EOF.

Routine inventory and verification of the contents of monitoring kits issued to offsite radiation monitoring teams was conducted. The contents of each kit were consistent with assigned inventories and procedural requirements. Three offsite teams were deployed by the licensee during the exercise. One team, designated RMT-1, was evaluated. Evaluation of the designated team disclosed the findings listed below.

- a. Incorrect exposure readings, and failure to define specific locations of such readings were observed on several occasions.
- b. Team members failed to demonstrate their ability to use zone survey maps. This resulted in excessive prompting by the Drill Monitor, frequent inability to locate specific monitoring stations, and inability to report specific locations in terms of identified coordinates.
- c. Poor health physics and contamination control practices were observed, e.g., failure to use gloves and available tweezers in removal of filters from air samplers; donning of protective clothing within path of the plume.
- d. Failure to calculate activity following collection of air samples for determining particulate or iodine activity, and reporting of same to TSC or EOF.
- e. Failure to periodically check pocket dosimeters throughout the exercise.

Exercise Weakness 50-348/86-28-03, 50-364/86-28-03: Based upon the above findings, RMT-1 failed to implement the requirements of Procedure FNP-0-EIP-4, and demonstrated a lack of adequate training. The licensee acknowledged the subject finding, and committed to additional, and improved training of Radiological Monitoring Team personnel.

Observation of RMT-1 also indicated the need for improvement in command and control of the team by the TSC Health Physics Manager, or his designate, and/or the EOF Dose Assessment Manager or his designate. It was further observed that RMT-1 was not briefed regarding its mission prior to deployment nor at any time thereafter. Additionally, the subject team was not informed by TSC and/or EOF communicators of meteorological conditions, or plant status regarding releases and specific emergency classification. The suggested improvements were discussed with licensee representatives during the critique.

No violations or deviations were identified.

13. Protective Response (82301)

This area was observed to determine that guidelines for protective actions, consistent with federal guidance, were developed and in place, and protective actions for emergency workers, including evacuation of non-essential personnel, were implemented promptly pursuant to 10 CFR 50.47(b)(10) and specific criteria promulgated in Section II.J of NUREG-0654.

The prompt notification system in the 10-mile EPZ was actuated. The sirens were operational. Protective actions regarding sheltering, evacuation, and accountability were consistent with the scope and objectives of exercise.

The protective measures decision making process was observed by the inspectors. Recommendations implemented by the TSC staff were timely; however, the initial protective action recommendation following declaration of the General Emergency was deficient as discussed in Paragraph 11.b, above.

No violations or deviations were identified.

14. Radiological Exposure Control (82301)

This area was observed to determine that methods for controlling radiological exposures in an emergency were established and implemented for emergency workers, and that these methods included exposure guidelines consistent with EPA recommendations pursuant to 10 CFR 50.47(b)(11), and specific criteria defined in Section II.K of NUREG-0654.

An inspector noted that radiological exposures were controlled throughout the exercise by issuing supplemental dosimeters to emergency workers and by conducting periodic radiological surveys in the emergency response facilities. Exposure guidelines were in place for various categories of emergency actions, and adequate protective clothing and respiratory protection was available and used as appropriate.

Health Physics control of radiation exposure, contamination control, and radiation area access appeared adequate. Health Physics Supervisors were observed to thoroughly brief survey teams prior to their deployment.

Dosimetry was available and appropriately used. High range dosimeters were also available in case they were needed.

No violations or deviations were identified.

15. Public Education and Information (82301)

This area was observed to assure that information concerning the simulated emergency was made available for dissemination to the public pursuant to 10 CFR 50.47(b)(7), Paragraph IV.D of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.G of NUREG-0654.

The licensee activated and fully staffed the News Media Center (NMC). The facility was used by the licensee for preparation, coordination and dissemination of emergency news information. Written press releases were prepared and issued from the NMC. Releases issued were timely, and adequately reflected plant emergency conditions. A corporate spokesman was designated to conduct periodic press briefings. The briefings were technically accurate and presented in a manner readily understood by laymen. Visual aids were provided and effectively used. Question and answer sessions were held after each briefing.

Interaction and direct cooperation of the licensee with the States and counties was effective. State, Federal and county representatives assigned to the NMC fully participated in planning and presentation of periodic press briefings held during the exercise. Operation and management of the NMC was effectively implemented, and was consistent with Emergency Plan requirements and approved implementing procedures.

No violations or deviations were identified.

16. Recovery Planning (82301)

This area was reviewed pursuant to the requirements in Paragraph IV.H of Appendix E to 10 CFR 50.47(b)(13), and the specific criteria promulgated in Section II.M of NUREG-0654.

The licensee conducted a detailed recovery planning session prior to termination of the exercise. Licensee planners discussed the need for administrative and logistical support, manpower needs, engineering service needs, radiological surveillance, and implementation of the recovery organization consistent with the scope of the exercise.

No violations or deviations were identified.

17. Exercise Critique (82301)

The licensee's critique of the emergency exercise was observed to determine that deficiencies and improvements identified during the exercise, were brought to the attention of management and documented for corrective action

pursuant to 10 CFR 50.47(b)(14), Paragraph IV.F of Appendix E to 10 CFR 50, and specific criteria promulgated in Section II.N of NUREG-0654.

A formal critique was held on December 4, 1986, with exercise controllers and observers, licensee management, and NRC representatives. Weaknesses identified during the exercise and plans for corrective action were discussed. Licensee action on identified weaknesses will be reviewed during subsequent inspections. The licensee's critique was detailed, and addressed both substantive deficiencies and indicated improvement items. The conduct and content of the critique were consistent with regulatory requirements and guidance cited above.

No violations or deviations were identified.

18. Inspector Followup Items

(Closed) Inspector Followup Item (IFI) 50-348/85-13-01, 50-364/85-13-01: Ensuring that changes to EIPs are sent to NRC within 30 days. Inspection verified that subject changes are forwarded to the NRC within the assigned period.

(Closed) IFI 50-348/85-37-02, 50-364/85-37-02: Failure to follow emergency plan when providing initial offsite notification. Inspection disclosed that requirements of the Radiological Emergency Plan and revised procedures were implemented as required.

(Closed) IFI 50-348/85-37-03, 50-364/85-37-03: Provisions needed to ensure Recovery Manager is kept informed of significant ENN announcements. Inspection disclosed that the Recovery Manager and other EOF principals were consistently updated regarding ENN communications.

(Closed) IFI 50-348/85-37-04, 50-364/85-37-04: Implementing procedure for EOF activation need provisions for plant dose assessment personnel. Inspection disclosed that plant dose assessment personnel were available to augment corporate personnel dispatched to the plant.

(Closed) IFI 50-348/85-37-05, 50-364/85-37-05: No protective action taken on site during and following plume passage. Inspection disclosed that specific plans have been developed to implement required protective actions under the subject conditions.

Attachment:  
Scope and Objectives and  
Scenario Brief

# 1986 FARLEY NUCLEAR PLANT EMERGENCY EXERCISE

December 3, 1986

## I. Participating Organizations

Full Participation: Alabama Power Company, the State of Alabama,  
Houston and Early Counties

Partial Participation: The State of Georgia

## II. Purpose

- A. To meet the requirements of 10CFR50, Appendix E, 44CFR350.9 and NUREG-0654/FEMA-REP-1, Rev. 1.
- B. To conduct an exercise that will (1) include the mobilization of Alabama Power Company, and local government personnel and resources adequately to verify the capability of government organizations within the plume exposure pathway to respond to an accident scenario requiring response; (2) test the adequacy of communication links; (3) objectively critique the emergency response and identify significant deficiencies.

## III. Objectives

### A. On-site Objectives (Alabama Power Company)

1. Demonstrate that control room staff can assess the event, classify the event, take corrective measures to control the event and activate emergency response procedures.
2. Demonstrate that plant staff can activate and staff the Technical Support Center (TSC) and perform accident response activities including:
  - a. Dose Assessment
  - b. Off-site notification and protective action recommendations
  - c. Reclassification of Emergency Status
  - d. Personnel Accountability for all personnel on-site
  - e. Radiation Monitoring Team (RMT) Dispatch and Control
  - f. Site access control and admittance of essential personnel
3. Demonstrate the capability to turnover Emergency Operations Facility (EOF) functions to the EOF staff when EOF is activated and staffed.
4. Demonstrate the capability to augment EOF staff with non-essential plant personnel.
5. Demonstrate the adequacy of the plant's communication system including: internal plant communications; communication links to Corporate Emergency Operations Center; News Media Center (NMC); communication links to state and local authorities.
6. Demonstrate the ability of Health Physics to institute reentry and respond to elevated direct radiation measurements in the plant.

B. Off-Site Objectives (Alabama Power Company)

1. Demonstrate that corporate staff can be activated in a timely fashion and dispatched to FNP.\*
2. Demonstrate that Corporate Headquarters Emergency Operations Center (EOC) staff can provide initial support for:
  - a. EOF activation\*
  - b. Logistics
  - c. Support Organization Notification
  - d. Briefing of company management
  - e. Initial news release preparation
3. Demonstrate that EOF staff can:
  - a. Assume Logistics, Manpower and Engineering function from Corporate Headquarters EOC.
  - b. Activate News Media Center\* and prepare and coordinate news releases.
  - c. Organize and implement an integrated radiological emergency response, including data and sample gathering, receipt and analysis of data, sharing of data among the licensee, state and county for evaluation and verification.

C. Off-site Plume Exposure Pathway EPZ Objectives  
(States of Alabama and Georgia and Counties of Houston and Early)

1. Demonstrate that response organizations can alert, notify and mobilize# emergency response personnel.
2. Demonstrate that the emergency operations centers can be staffed in a timely fashion.
3. Demonstrate that decisions can be communicated with regard to protective measures for the plume exposure pathway EPZ.
4. Demonstrate that Houston county can dispatch personnel to all appropriate access points that the simulated evacuation would call for and take other measures involved in a simulated evacuation.
5. Demonstrate that adequate communications can be maintained between the Houston county EOC and field units.
6. Demonstrate that the Houston County mass care facility can be activated and staffed in a timely fashion to support a simulated evacuation.

\*To be tested in a separate drill the day before the exercise. This will allow pre-staging of these activities on the day of the exercise.

#Both States will mobilize the day before the drill. The State of Alabama will activate along with APCo and will send representatives to the NMC and EOF. The State of Georgia will conduct a separate mobilization drill.

7. Demonstrate the capability of county emergency response agencies to identify and provide for resource requirements as necessary.
  8. Demonstrate the capability of elected and appointed officials to implement appropriate radiological emergency response actions as necessary.
- E. Joint objectives (Alabama Power Company, States of Alabama and Georgia, Counties of Houston and Early)
1. Demonstrate that adequate technical information can be exchanged among involved agencies.
  2. Demonstrate that the parties can coordinate the protective measures to the public (recommendations for protective action, activation of the Prompt Notification System).
  3. Demonstrate the activation and staffing of the NMC by utility, state and county public information personnel, and provide for periodic public information releases and rumor control.
- V. Exercise Limits  
The exercise will begin prior to 8:00 a.m. CST and conclude by 4:00 p.m. CST.

Following proper coordination, the prompt notification system will be activated by the State of Alabama.

December 3, 1986  
PRELIMINARY SCENARIO

- C O N F I D E N T I A L -

The information in this document is to be revealed on a need-to-know basis only.

The 1986 Emergency Exercise scenario consists of a loss of coolant accident (LOCA) which will necessitate a recommended evacuation of a two mile radius around the plant and a five mile sector downwind of the plant. This full scale exercise will provide the State of Alabama, Houston County, and APCo with sufficient offsite doses to allow a thorough testing of offsite radiological monitoring as well as present a challenging scenario for plant operations, health physics, chemistry, public information, TSC, and EOF personnel.

The exercise begins at approximately 0700 with a Reactor Coolant System (RCS) leak that will gradually ramp to 50 gpm over the next thirty minutes. The leak will require a plant shutdown in accordance with leakage technical specifications. By approximately 0750 an alert should be declared due to RCS leakage. The leakage will remain at 50 gpm until 0845 at which time the problem will develop into a massive RCS cold leg rupture which will cause a reactor trip and safety injection. At this same time, the mini-purge system fails such that a 2000 cfm leak to the environment occurs. Initial operator actions will reduce this leak to 1000 cfm. By approximately 0905 a Site Area Emergency should be declared due to a major loss of primary coolant. Radiation monitoring teams should be dispatched to determine off-site dose and a determination of protective action should be made. A re-entry should be organized to manually isolate the mini-purge. At approximately 0945, R-27 A & B start showing indications of cladding failure and by 0955 sufficient information is available to warrant the declaration of a General Emergency. By 1045 the re-entry team will have reduced the mini-purge leak to 400 cfm. Another re-entry will be planned to attempt to isolate the leak, but for drill purposes this activity will be stopped short of actual isolation. This drill intervention is necessary to ensure the RMTs have sufficient time to accomplish all objectives. The meteorological conditions will be such that a measurable dose will be available at the 5 mile boundary as late as 7 hours into the scenario.

The TSC will be fully staffed and radiation monitoring teams will be dispatched to perform environmental monitoring. The plant will cooldown during safety injection.

The EOF will be activated and will continue the efforts to track the plume and provide environmental sampling to determine the extent of possible on-site and off-site contamination. The EOF staff will be further challenged with licensing, public information, engineering and logistics support activities.

The News Media Center will be activated and staffed by representatives from APCo, the States of Alabama and Georgia, Houston County, and Early County. Media and public interest will be simulated and news releases will be prepared and released.

The drill will terminate once the simulated evacuation has taken place, the radiation monitoring teams have tracked the plume and the EOF has been staffed and is performing EOF activities. Termination will be coordinated with the States of Alabama and Georgia if occurring prior to 4:00 P.M. Central.

#### 4.0 NARRATIVE SUMMARY

The exercise begins at approximately 0700 with a Reactor Coolant System (RCS) leak that will gradually ramp to 50 gpm over the next thirty minutes. The leak will require a plant shutdown in accordance with leakage technical specifications.

By approximately 0750 an alert should be declared due to RCS leakage.

The leakage will remain at 50 gpm until 0845 at which time the problem will develop into a massive RCS cold leg rupture which will cause a reactor trip and safety injection. At this same time, the mini-purge system fails such that a 2000 cfm leak to the environment occurs. Initial operator actions will reduce this leak to 1000 cfm.

By approximately 0905 a Site Area Emergency should be declared due to a major loss of primary coolant. Radiation monitoring teams should be dispatched to determine off-site dose and a determination of protective action should be made. A re-entry should be organized to manually isolate the mini-purge.

At approximately 0945, R-27 A & B start showing indications of cladding failure and by 0955 sufficient information is available to warrant the declaration of a General Emergency.

By 1045 the re-entry team will have reduced the mini-purge leak to 400 cfm. Another re-entry will be planned to attempt to isolate the leak, but for drill purposes this activity will be stopped short of actual isolation. This drill intervention is necessary to ensure the RMTs have sufficient time to accomplish all objectives.

The exercise will terminate once the simulated evacuation has taken place, the radiation monitoring teams have tracked the plume, and the EOF has been staffed and is performing EOF activities.

## 5.0 SEQUENCE OF EVENTS

APPROXIMATE TIME (CST)	IMPOSED CONDITION OR EVENT	EXPECTED RESPONSE
0700	RCS leak begins, ramps to 50 gpm over the next 30 min.	
0702	R-14 Alarm R-22 Alarm	Control Room personnel implement AOP-33.0 "High Activity - Radiation Monitoring System."
0705	"B" TRN Containment mini-purge dampers will not close	Attempts to isolate "B" Train dampers fail. Control Room personnel declare LCO on CTMT isolation.
0706	R - 14 and R - 22 trend down R - 2 Alarm R - 7 Alarm	

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

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0707	Auto Makeup begins CTMT High Temperature Alarm R - 12 Alarm	Open emergency S.W. to CTMT cooler
0708		Control Room personnel notify Operations Manager of leak and implement AOP-1.0 "Excessive RCS Leakage."
0710	R - 11 Alarm	
0713	Leak determined to be greater than 1 gpm.	Operations Manager notified and Control Room personnel implement UOP 3.1 "Plant Shutdown to Minimum Load."
0719		Control Room personnel implement STP-70.0 and determine CTMT sump leak rate to be 25 gpm.
0724		Control Room personnel declare LCO on RCS leakage.

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

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0726

CTMT pressure reaches 1 psig

0740

Control Room personnel determine  
RCS leak rate to be in excess  
of 50 gpm.

0750

Control Room personnel implement:  
EIP-12 "Alert"  
EIP-26 "Offsite Notification"  
EIP-0.0 "Emergency Organization  
and Control Room Access"  
EIP-3.0 "Duties of the Emergency  
Director"  
EIP-9.0 "Radiation Exposure and  
Classification of Emergencies."

(Note: Corporate activation and  
mobilization exercised on 12-2-86.)

0810

Corporate Headquarters Emergency  
Operations Center activated.  
EIP-113 "Initial Nuclear  
Generation Logistics Support"  
initiated.

0820

TSC staff implements EIP-29  
"Long Term Dose Assessment."

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

0820

EIP-27 "Activation of the  
Emergency Operations Facility"  
is implemented. (Note: EOF  
set-up exercised 12-2-86.)

0845

RCS leakage rate 2500 gpm  
  
Rx Trip and Safety Injection  
  
"B" TRN CTMT mini-purge  
dampers remain open  
  
"A" TRN CTMT mini-purge dampers  
start leaking 2000 cfm. R-14 and  
R-22 upscale

Control Room personnel implement  
EEP-0.0 "Reactor Trip or  
Safety Injection."

0855

RWST Tech Spec low level  
alarm

Control Room personnel im-  
plement EEP-1.0 "Loss of  
Reactor or Secondary Coolant."

0900

CTMT pressure reaches  
27 psig.

Control Room personnel reduce  
mini-purge leak to 1000 cfm.

"A" TRN CTMT spray activated.

0902

Control Room personnel implement:  
EIP-18 "Site Area Emergency"  
EIP-10.0 "Evacuation and  
Personnel Accountability"

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

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0914		Public Alert and Notification System activated by State of Alabama.
0925		EOF Staff arrives at site. EIP-116 "Emergency Operations Facility Shift Turnover" and EIP-117 "EOF Administrative Support" implemented.
0930		Spokesperson arrives at News Media Center.
0945	R-27 A & B start moving upscale due to a 23% cladding failure.	
0950		TSC Staff planning re-entry to obtain RCS samples, perform ECCS equipment power alignments, and troubleshoot "B" TRN mini-purge dampers. EIP-14 "Re-Entry" is implemented.
0952	R-27 A & B READING 200 R/HR	

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

0955		Control Room personnel implement EIP-19 "General Emergency."
1010		Press Conference held at News Media Center
1030	Plant cooldown continues on <sup>Injection</sup> <del>cold leg</del> recirculation. See Table 1 for plant parameters.	
1035		RMT is turned over to EOF staff.
1040	RWST low level alarm	Control Room personnel commence lining up for cold leg recirc per ESP-1.3 "Transfer to cold leg recirculation."
1045		Re-Entry team reduces mini-purge leak to 400 cfm.
1145	Request from NRC for Technical Information regarding event.	EOF Engineering and Licensing Support prepare response.

APPROXIMATE  
TIME (CST)

IMPOSED CONDITION OR EVENT

EXPECTED RESPONSE

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1200

Plant continues to cooldown on  
cold leg recirc.

News Media Center continues  
to provide information to press.

1400

EOF implements EIP-115  
"Deescalation of Emergency  
Classification and Recovery  
Initiation."

1430

Secure from Drill