

JUN 14 1985

official

50-416

Mississippi Power and Light Company
ATTN: Mr. J. B. Richard
Senior Vice President, Nuclear
P. O. Box 23054
Jackson, MS 39205

Gentlemen:

SUBJECT: FEMA FINAL REPORT GRAND GULF NUCLEAR STATION EMERGENCY EXERCISE OF
FEBRUARY 27, 1985

Please find enclosed for your information, a copy of the FEMA Final Report for the Grand Gulf Radiological Emergency Preparedness Exercise of February 27, 1985. Your attention is directed toward the suggested areas for improvement identified by FEMA.

We encourage you to assist the State of Louisiana and Tensas Parish in resolving the improvement items identified by FEMA. Resolution of these items should be completed prior to the next full scale exercise.

We also encourage you to work closely with the above cited State and parish in development of the scenario for the next full scale exercise to effectively test those areas in which improvement items were identified.

Your cooperation in this matter is appreciated.

Sincerely,

Virgil L. Brownlee, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure:
FEMA Final Report

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Federal Emergency Management Agency

Washington, D.C. 20472

MAY 14 1985

MEMORANDUM FOR: Edward L. Jordan
Director
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Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission

FROM: *Richard W. Krinn*
Richard W. Krinn
Assistant Associate Director
Natural and Technological
Hazards Programs

SUBJECT: Exercise Report for the February 27, 1985, Exercise of
Offsite Radiological Emergency Preparedness (REP) Plans
for the Grand Gulf Nuclear Station 50-416
50-417

Attached are two copies of the Exercise Report for the February 27, 1985, partial-participation exercise of the offsite REP plans for the Grand Gulf Nuclear Station. The exercise report dated April 30, 1985, was prepared by the Federal Emergency Management Agency Region VI staff. The State of Louisiana voluntarily participated on a limited scale at the Grand Gulf exercise to support Tensas Parish. The State of Louisiana demonstrated its offsite radiological emergency preparedness capabilities at the full-participation joint exercise conducted at the River Bend Nuclear Generating Station on January 16, 1985. The River Bend exercise report was transmitted to you by memorandum dated May 7, 1985.

As a result of the Grand Gulf exercise on February 27, 1985, there were no Category A deficiencies identified. Therefore, the capabilities demonstrated by the State of Louisiana are found to be adequate to protect the health and safety of the public in the vicinity of the Grand Gulf Nuclear Station.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 646-2861.

Attachments
as Stated

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FINAL

RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE REPORT

Nuclear Power Plant: Grand Gulf Nuclear Station
Applicant: Mississippi Power and Light Company

Location of plant: State of Mississippi
Port Gibson, Mississippi

Date of Report: April 30, 1985

Date of Exercise: February 27, 1985

Participants: State of Louisiana (small scale)
Tensas Parish (small scale)

Federal Emergency Management Agency
Region VI
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ABBREVIATIONS

ANL - Argonne National Laboratory
DOE - Department of Energy
DOT - Department of Transportation
EOC - Emergency Operations Center
EOF - Emergency Operations Facility
EPA - Environmental Protection Agency
FEMA- Federal Emergency Management Agency
GGNS- Grand Gulf Nuclear Station
HHS - Health and Human Services
LNED- Louisiana Nuclear Energy Division
LOEP- Louisiana Office of Emergency Preparedness
LP&L- Louisiana Power and Light Company
MP&L- Mississippi Power and Light Company
NRC - Nuclear Regulatory Commission
USDA- United States Department of Agriculture

EXERCISE SUMMARY

The Grand Gulf Radiological Emergency Preparedness Exercise held on February 27, 1985, was the fourth exercise testing the response capabilities of off-site organizations. Previous exercises were held on November 4, 1981, and January 26, 1983, and April 11, 1984. This year's exercise was a small-scale exercise only. The Federal Emergency Management Agency (FEMA) evaluated the off-site response capabilities in each of these exercises. A full-scale testing of State capabilities was demonstrated in the River Bend exercise held on January 16, 1985. The State of Louisiana voluntarily participated on the limited scale in the Grand Gulf exercise to support the Tensas Parish response effort.

The Grand Gulf Nuclear Station is located on the Mississippi side of the Mississippi River. Portions of the 10-mile EPZ extend into Tensas Parish, Louisiana, for which Region VI has evaluation responsibilities for off-site response capabilities. Tensas Parish has also assumed responsibility for the evacuation of a small portion of Madison Parish which enters into the 10-mile EPZ. There are no permanent residents in this area, however. Occupants would be limited to hunters and fishermen in the area.

On February 28, 1985, three post-exercise meetings were held: A post-exercise meeting at 9:00 a.m. with the six member Federal Evaluation team to develop a preliminary evaluation; a 1:00 p.m. evaluation meeting with Tensas Parish officials in the Educational Media Center, St. Joseph, Louisiana; and a 3:00 p.m. general critique of the exercise at the same location with representatives of Mississippi Power and Light Company, Federal, State and local officials, the general public and the press.

This document provides narratives, areas for improvement and recommendations for each jurisdiction and field activity tested. Each area for improvement with corresponding recommendation is described by jurisdiction in Sec. 2 of this report.

Section 3 provides a summary listing of "A" deficiencies that would lead to a negative finding and "B" deficiencies, including those requiring priority attention. There

were no Category "A" or Category "B" deficiencies found during this fourth exercise. The summary is in tabular format and provides space for State and local jurisdiction response. Identified areas for improvement are discussed in more detail in the Narrative Section of this report.

Section 4 of the the report contains in tabular format an "Objectives Met or Yet to be Achieved" compilation. This is based upon FEMA objectives developed from NUREG-0654, II.

The following summarizes the February 27, 1985, small-scale exercise performances of Tensas Parish and support organizations.

STATE OF LOUISIANA OPERATIONS

State of Louisiana participated in the Grand Gulf exercise on a limited scale only to support the response efforts of Tensas Parish, Louisiana. Their participation included dose assessment activities for benefit of the exercise only. They were not objectives of the State and therefore, although they are summarized in Sec. 2, no evaluation has been included. FEMA Region VI latest evaluation of the State of Louisiana's present response capabilities may be found in the River Bend report for the River Bend Exercise held on January 16, 1985.

LOCAL GOVERNMENT OPERATIONS

Tensas Parish is the only Parish located in Louisiana which is within the 10-mile EPZ with exception of a small area of Madison Parish for which Tensas Parish has agreed to provide emergency response measures. The State, through coordination with Tensas Parish, prepared exercise objectives to correlate with the scenario developed by Mississippi Power and Light for the Grand Gulf Exercise. However, since the scenario did not call for the plume to enter the Louisiana area of EPZ, the parish deviated from the plan with an "injected situation" in which the plume extended into Sector M on the

Louisiana side. Their response activities to this situation are discussed in detail in the narrative.

As substantiated by the following narrative and evaluation, the Tensas Parish officials again very effectively demonstrated the capability to respond to a nuclear incident.

1 INTRODUCTION

1.1 EXERCISE BACKGROUND

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume lead role responsibility for all off-site nuclear power facility planning and response.

FEMA's immediate basic responsibilities in Fixed Nuclear Facility Radiological Emergency Response Planning include:

- Taking the lead in off-site emergency response planning and in the review and evaluation of State and local government emergency plans insuring that the plans meet the Federal criteria set forth in NUREG-0654 FEMA REP-1, Rev. 1 (November 1980).
- Determining whether the State and local emergency response plans can be implemented on the basis of observation and evaluation of an exercise conducted by the appropriate emergency response jurisdictions.
- Coordinating the activities of volunteer organizations and other involved Federal agencies. Representatives of these agencies listed below serve as members of the Regional Assistance Committee (RAC), which is chaired by FEMA.
 - U.S. Nuclear Regulatory Commission (NRC)
 - U.S. Environmental Protection Agency (EPA)
 - U.S. Department of Energy (DOE)
 - U.S. Department of Health and Human Services (DHHS)
 - U.S. Department of Transportation (DOT)
 - U.S. Department of Agriculture (USDA)

1.2 FEDERAL EVALUATORS

Six federal evaluators participated in this fourth-year exercise which evaluated the response capabilities of Tensas Parish. These individuals, their agencies, and evaluation locations are listed below:

<u>Evaluator</u>	<u>Agency</u>	<u>Location</u>
Al Lookabaugh	FEMA	Overall Coordinator Communications-Tensas Parish EOC (St. Joseph)
Gary Jones	FEMA	Reception Center (Ferriday)
Maryetta Cunningham	FEMA	Tensas Parish EOC (St. Joseph)
Tom Goertz	HHS	Tensas Parish EOC (St. Joseph)
Gary Kaszynski	ANL	Reception Center (Ferriday)
Jim Opelka	ANL	Dose Assessment (LNED) (St. Joseph)

1.3 EXERCISE OBJECTIVES

The exercise objectives for Grand Gulf were limited, in Louisiana, to a small-scale exercise of the Tensas Parish off-site emergency response plans for coping with a radiological emergency incident at the Grand Gulf Nuclear Station. The objectives were developed through joint discussion between Mississippi Power and Light Company (MP&L); the Nuclear Regulatory Commission Region IV (NRC); the Federal Emergency Management Agency, Region VI (FEMA); the Louisiana Nuclear Energy Division (LNED); Louisiana Office of Emergency Preparedness (LOEP); and Tensas Parish Officials.

Exercise objectives for Mississippi Power and Light Company, Grand Gulf Nuclear Station and Mississippi State/Local organizations come under the jurisdictional reporting of FEMA Region IV, Atlanta.

Louisiana State/Local Objectives

Actions to be tested:

1. Notification of State and local response personnel and support authorities.
2. Activate Tensas Parish EOC and partially activate Tensas Parish Media Center; State support as necessary to support Tensas Parish (Media Center deleted during pre-exercise State/Federal meeting).
3. Test coordination of emergency press releases with Louisiana Office of Emergency Preparedness.
4. Test primary and backup communications systems.
5. Test reception center at Ferriday (Note: Tensas Parish will depart from Mississippi scenario and test other actions).

Additional Objectives for GGNS Exercise 2/27/85 (distributed at State/Federal Pre-Exercise Meeting 2/26/85)

6. Test decision-making ability; test capability to coordinate response.
7. Demonstrate adequacy of facilities and displays to support emergency operations.
8. Demonstrate ability to continuously monitor and control emergency worker-exposure.
9. Demonstrate adequacy of facilities for mass care of evacuees.

10. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment, and vehicles.
11. Demonstrate ability to monitor emergency classification levels continuously and implement procedures in a timely manner.
12. Demonstrate capability to effectively process all incoming messages in a timely manner.

1.4 EXERCISE SCENARIO SUMMARY

The plant is at 98% power near the end of the second 18-month cycle. A combination of forced outages in other Middle South Utilities, Inc. plants has put the entire grid at 5% undervoltage. A severe thunderstorm watch is in effect in Warren, Clairborne and Adams counties. New fuel is being moved and channeled in the Auxiliary Building fuel pool in preparation for the upcoming outage. Spent fuel channels are being recycled. Drywell floor drain leakage is at 4 GPM and has been slowly increasing since startup from a forced outage (2 weeks ago) to repair a leaking CRD flange gasket.

A spent fuel bundle is dropped and damaged, causing high area radiation, high ventilation radiation and increasing readings on the CAM. An Alert is declared. Some time later (while recovery from the fuel handling accident is still underway) lightning strikes the switchyard and ESF Transformer 12, causing a loss of all off-site power. A scram transient occurs, causing the leak on the CRD flange to increase to 60 GPM. The electrical transient causes a "flash fire" in Division II switchgear; Division I and II power are restored.

Core cooling is being maintained by RCIC and/or HPCS when failures of these, including a break in the RCIC steamline, result in Reactor Pressure Vessel (RPV) water level and drywell pressure reaching the Site Area Emergency levels. LPCS Pump trips on instantaneous overcurrent when it is started, so there is no injection system capable of injecting water into the RPV.

The core is uncovered and fuel failure results. The RCIC Steam Line break is not isolable for about 30 minutes and ultra-high noble gas and iodine activity is released to the Auxiliary Building. SGTS efficiency has been reduced to the point that General Emergency levels of activity are released to the environs. A General Emergency is declared and Protective Action Recommendations are made for evacuation out to 2 miles and sheltering out to 5 miles.

The RCIC Steam Line is isolated and RHR A is recovered to provide core reflood. Dose rates at the site boundary decrease, allowing the emergency to be de-escalated to Site Area Emergency and subsequently to the Alert level.

Premise

The following scenario of events hypothesized at Grand Gulf Nuclear Station (GGNS) includes postulated failures which could conceivably cause fuel failure. The scenario is not entirely realistic, nor all inclusive in allowing credit for engineered safeguard systems or human actions. The sequence of events provides a partial basis for a sequence of resulting radiological parameters on which to base an all-inclusive emergency planning exercise, but does not necessarily represent a possible sequence in a real incident.

Assumptions and Inputs

The assumptions and inputs which are germane to the development of the radiological results follow:

- MP&L's off-site dose calculation procedures were used to determine the magnitude of the release required to cause the selected off-site dose. This activity was assumed to come entirely from the RCIC steam line until RCIC isolates. At that point, the activity comes from the Enclosure Building.

- Design basis data in the Grand Gulf FSAR (Section 15.6.4.5) were used throughout, thereby assuming by inference an equilibrium core condition and design basis specific activity in steam and reactor coolant. The exception to this is flow rates. The flow rates used are as follows:

Flow from the Auxiliary Building is 2800 cfm. Flow from the Fuel Handling Building is 300 cfm. Flow from the Enclosure Building is 15,800 cfm. Recirculation flow to Enclosure Building is 14,900 cfm. Flow from SGT3 to atmosphere is 4,000 cfm.

- Projected off-site doses were calculated as a function of distance from the plant, time after release, and meteorology.
- Dose rates in and around the Auxiliary Building were estimated as a function of time after the hypothetical release into the Auxiliary Building. In these estimates, other fission products released with the iodines were considered.
- Deposition of airborne fission and activation products and stratification of the heavier noble gases may be ignored.
- There is no infiltration from the Auxiliary Building into the Control Room/TSC habitability envelope.
- The operators are assumed to comply with the Emergency Procedures and, as such, would not depressurize the RPV until the level drops to Top of Reactor Fuel.
- ESF 12 transformer is lined up to Bus 16.
- Twenty-five percent of the radioiodines from fuel inventory are assumed to be released into the Auxiliary Building.

Discontinuities

The following identified discontinuities depart in some respect from the expected. Only those discontinuities associated with development of the radiological consequences of the scenario are included. Discontinuities associated with the plant design and operational performance are not included.

- The operator will not be allowed to depressurize the RPV before 1115.
- Only radioiodines and noble gases are considered in analyzing off-site dose consequences. This is consistent with the FSAR analysis. However, if all the radioiodines in the water released during the RCIC steam line break become airborne, other fission and activation products also in the water would likewise become airborne. This source is considered in-plant but not offsite.
- Restoration of SRV accumulator pressure via nitrogen bottles may actually be hampered by the extremely high airborne activity in the Auxiliary Building, but it is assumed that the SRV accumulators are restored in time to permit Steam Cooling/Emergency RPV Depressurization as specified in the scenario (approximately 1145).
- Following RCIC line isolation, releases continue from the Enclosure Building and dissipate to Alert levels in 1 hour 45 minutes. Actual dissipation time to these levels would be somewhat longer.
- The radioactive airborne concentration released from the Auxiliary Building through SGTS remains constant until RCIC isolation. However, actual effluent releases would increase due to recirculating fans causing airborne saturation in the Enclosure Building.

TIMETABLE FOR EMERGENCY CLASSIFICATIONS

- 0900 ALERT - Fuel handling accident occurs.
- 1110 SITE AREA EMERGENCY - RPV level reaches - 160 inches.
- 1245 GENERAL EMERGENCY - Fuel failure results in effluent radiation levels at the General Emergency Level.
- 1445 SITE AREA EMERGENCY - Dose rates at the site boundary have decreased. Plant conditions have improved.
- 1530 ALERT - Dose rates at the site boundary have decreased.
- 1600 Exercise terminates.

SEQUENCE OF EVENTS

Clock Time

- 0800 Initial conditions given to shift personnel.
- No action is necessary at this time.
- 0855 Fuel handling SRO observes that an unchanneled spent fuel bundle was dropped and bubbles are seen flowing up from the bundle.
- Refuel floor of the Auxiliary Building is evacuated.
- 0856 High Alarm on fuel handling area radiation monitor RAH-LO24 sounds; increasing levels on the ARM recorder. GM monitor in fuel handling area reads 15 mR/hr.
- Operators respond to alarm.
- 0858 Control Room is advised of the incident.
- Operators initiate ONEP's 05-1-02-II-9 and 05-1-02-II-8.
 - Operators consult 10-S-01-1.
 - Shift Superintendent is advised by Fuel Handling SRO of events that have taken place.

- CAM is reported to be at the alarm point.
- H.P. dispatched to sample for Airborne Activity in 208 ft. el.
- Shift Superintendent has on-shift communicators make notifications.
- Control Room actions are logged.

1.5 EVALUATION CRITERIA

The Grand Gulf exercise evaluations which follow in Sec. 2 are based on applicable planning standards and evaluation criteria of Section II, NUREG-0654-1, Revision 1 (November 1980). Region VI evaluated the exercise using the modular format.

Each jurisdiction or off-site activity evaluated is discussed by narrative and listing of deficiencies and areas for improvement with accompanying recommendations. Deficiencies are presented in two categories. Category "A" deficiencies cause a finding that the off-site preparedness was not adequate to provide reasonable assurance that appropriate protective measures can and will be taken to protect the health and safety of the public living in the vicinity of the site in the event of a radiological emergency. At least one deficiency in this category would necessitate a negative finding. Category "B" lists all other deficiencies in this category in which the demonstrated performance during the exercise was considered faulty or needing corrective action. Even with the presence of these deficiencies, other factors indicate that reasonable assurance could be given that in the event of a real radiological emergency, appropriate measures can and will be taken to protect the health and safety of the public. Deficiencies in this category should be relatively easy to correct in comparison to Category "A" deficiencies. A finding of adequate could include several deficiencies in Category "B". There were no Category "A" or "B" deficiencies determined during this exercise.

Areas for improvement are also listed as appropriate for each jurisdiction or off-site activate. They are not deficiencies but suggestions for improved performance.

2 EXERCISE EVALUATION

On the basis of general criteria set forth in NUREG-0654/FEMA-Rep-1/Rev.1 (November, 1980), an evaluation has been performed of the February 27, 1985 exercise of the Grand Gulf Nuclear Station. This evaluation, including areas for improvement and recommendations, is presented herein. FEMA Region VI will maintain close liaison with the State and local governments in determining the corrective action (including time frame) needed to resolve each area for improvement in accordance with established criteria and guidelines.

2.1 LOUISIANA STATE OPERATIONS

The State of Louisiana participated in the Grand Gulf exercise on a limited scale for the purpose of supporting the exercise efforts of Tensas Parish and its participating primary response organizations. The only specific State objectives demonstrated and evaluated related to notification of State response personnel and testing of primary and backup communication systems. Capabilities in these activities were successfully demonstrated. They performed dose assessment during this exercise only for the purpose of supporting the efforts of Tensas Parish. A Federal evaluator was assigned to the State's mobile office in Tensas Parish and he observed the dose assessment activities. However, because it was not a State objective, evaluation of their dose assessment activities will not be a part of this report. The capability of the state to adequately implement its emergency response plans was evaluated during the River Bend annual emergency response exercise on January 16, 1985. Reference should be made to that report for a detailed discussion of State response capabilities.

2.2 LOCAL EOCs AND SUPPORT ORGANIZATIONS

2.2.1 Tensas Parish

Narrative

Tensas Parish, Louisiana, lies within the 10-mile EPZ of the Grand Gulf Nuclear Station. The EOC is located in the Parish Courthouse, St. Joseph. The town of St. Joseph itself is located 12 miles from the plant. However, the Parish does have a mobile EOC which is being equipped for relocation should such become necessary in a real emergency.

Tensas Parish has agreed to assume the notification and evacuation responsibilities for the area of Madison Parish which lies within the EPZ. No permanent residents live in this area but transient population could be present during an emergency since the area is a designated hunting and fishing area. The sirens can be heard and the fish camps have been briefed in emergency response procedures.

2.2.2 Tensas Parish EOC

The EOC received a call at 9:20 a.m. from the utility on the dedicated line stating that an Alert had been declared at 9:07 a.m. In response to this, activation procedures were initiated. A checklist was used of all responsibilities at the Alert level. Security was requested for the EOC at 9:20 a.m. and at 9:23 a.m. the Civil Defense Director was told this had been accomplished.

All "Alert" related duties were completed by 9:50 a.m. Security was maintained throughout the day. 0-200 range dosimeters were "zeroed" and distributed at the beginning of the exercise. Readings were not needed since no plume was involved. A survey meter was used to monitor radiation within the EOC. Initial staffing consisted of the Civil Defense Director, the assistant coordinator, and members of the Police Jury.

Later, representatives from LOEP, State Police, the Health Department and Council on Aging arrived to complete the EOC staffing. A 24-hour call-up system is in place, and persons not required to report to the EOC were placed on standby.

As in previous exercises evaluated, the EOC was capably managed. Leadership by the Civil Defense Director was apparent and effectively exhibited throughout the exercise.

The EOC, although limited in size, was adequately furnished with sufficient equipment and space for each representative. Back-up power is available should there be a primary power source failure. Maps were posted showing location of sirens, evacuation sectors and population (by sectors). Also, a status board was placed where visible by all staff, and it was systematically used and updated as information was received. The failure to use the status board had been identified during the 1984 exercise as an area for improvement. A Parish plan was not visible but was available in the EOC if needed. However, it was never necessary to request its use as all staff are thoroughly familiar with their responsibilities and duties.

Because of limited activities, formal briefings were not necessary. However, all staff were aware of decisions required and were involved in decision making relating to their particular areas.

Communication systems at the EOC consist of dedicated landline with police radio and commercial telephone as backups to the following: State EOC, other local EOCs, reception centers, neighboring states and utility. Conferencing on the dedicated landline can tie together LNED, LOEP, utility, Mississippi OEP, highway patrol, Clairborne County Mississippi Civil Defense, Port Gibson Mississippi police and Tensas EOC and sheriff's office. Omnifax is also available.

The communication center is located in a separate building adjacent to the EOC. Messages over the dedicated line are received and recorded, then hand carried to EOC to be logged in and posted on the chart in EOC. Overall communication is very

good. All messages were authenticated, which corrected the deficiency no. 1 listed in the 1984 exercise report.

The following two areas for improvement identified in the 1984 exercise report had been addressed and corrected either prior to or during this exercise.

- (1) The communications operator was familiar with the full range of capabilities of communication.
- (2) Also, a log was maintained of all messages incoming/outgoing from the EOC.

At the beginning of the exercise the Director announced they would be giving special attention to areas of deficiency or needed improvement cited during last year's exercise. Each situation was addressed and problems corrected during this exercise.

A 1985 survey has been made of residents within Tensas Parish to update information. The procedures used and information obtained were explained. The return response has been triple the response rate in past years. Most comments have been excellent and positive.

Also, the Civil Defense Director has initiated and obtained updated Letters of Agreement required from necessary response organizations. Copies of these were provided the evaluators for updating the FEMA copy of the Parish Plan.

It was explained that during the day Tensas Parish would leave the scheduled scenario so they could test their planned evacuation of the complete town of St. Joseph and activation of the reception center at Ferriday. At 10:00 a.m. these variations were initiated. The plume was plotted as being within Sector M. A "General Emergency" was simulated. The call to activate Ferriday Reception Center was placed at 10:00 a.m.

An official order by the Mayor to evacuate the town of St. Joseph was received and logged. Recording in city records was simulated. The school superintendent was contacted for approval to evacuate the schools. The revised scenario called for schools to be evacuated 15 minutes before the general public. The Parish had earlier this year

demonstrated the actual evacuation of approximately 400 school children; at which time they were loaded on buses and driven around the parking lot. That activity was personally monitored by the Civil Defense Director who reported that private school students were evacuated in seven minutes and the two public schools within fourteen minutes.

During the exercise calls were placed to the PBS, Radio KNOE FM, and Channel 8 TV to simulate the Alert. A call to TV Code No. 452 was simulated to block out Cable TV and issue an evacuation notice. Siren and tone alerts were simulated by 10:30. It would be expected to take approximately forty-five minutes from evacuation to arrival at Ferriday Reception Center.

School buses in Tensas Parish are first used for evacuation. However, if drivers and buses are not immediately available, the Parish has an agreement with Madison Parish for buses. Buses in Tensas Parish are individually owned by bus drivers, but all school buses in Madison Parish are owned by the Parish.

At 10:35 a.m. the Health Department and Council on Aging (who earlier had been placed on standby) were requested to report to the EOC. They quickly arrived and began their procedures to evacuate the mobility-impaired. They simulated requesting the Parish to order from Madison Parish two wheel chair vans and three regular vans. Franklin Parish was placed on standby for providing additional vans if needed.

In summary, all activities of the Tensas Parish staff were in accordance with Parish plans. All past deficiencies and areas for improvement were corrected. The staff capably demonstrated the knowledge and actions necessary to fulfill their emergency response roles during a real event. There were no deficiencies or areas for improvement during this exercise.

DEFICIENCIES AND RECOMMENDATIONS

Category "A" - None

Category "B" - None

AREAS FOR IMPROVEMENT AND RECOMMENDATIONS

None.

2.2.3 Ferriday Reception Center

Narrative

The Ferriday reception center is located at the Ferriday High School gymnasium. The Ferriday Fire Chief was the City Civil Defense Director in charge of the reception center. He was called by the Concordia Parish Civil Defense Director at 9:55 a.m. requesting that the reception center be placed on standby status. Another call was received at 10:00 a.m. from the Tensas Parish Civil Defense Director requesting that the reception center be activated. Immediately following that call, various volunteer organizations, local hospital, sheriff, EMS (ambulance present), fire department, etc., were contacted to respond to the emergency at the reception center. By 10:30 a.m. the center was fully staffed and ready to receive evacuees. Acceptable levels of staffing were available to meet the needs of the evacuees who were to be registered, monitored and decontaminated if necessary. Students from the high school were utilized as the evacuees for this exercise.

Adequate equipment was available for use in monitoring the evacuees. There were three CDV-715s, four CDV-700s, and two CDV-720s, as well as a sufficient number of 0-200R dosimeters and chargers. All emergency workers wore protection clothing and demonstrated adequate training and knowledge concerning their duties and responsibilities. However, in future exercises or a real event, it would be beneficial for the monitors to receive a briefing (prior to arrival of evacuees) on the procedures to be used.

Direction and management of the reception center were capably administrated by the City Civil Defense Director. His volunteer staff enthusiastically demonstrated and expressed concern for the effective receipt and monitoring of the evacuees.

Evacuees were screened initially for contamination outside the gymnasium. They were then rechecked inside before being processed. Those found to be contaminated were separated and sent around to the outside of the reception center to a rear door which accessed the showers. Individuals with contamination on only their clothing were not separated from individuals contaminated and requiring showers. Individual decontamination in the showers was described and for the most part was acceptable; procedures on disposal of shower washwater were not clear. Changing of paper was simulated after each person was tested; and, the placing of contaminated clothing in bags was also simulated. Following a simulated shower, the person was again monitored. If no contamination was detected, he proceeded to the appropriate registration desk within the reception center.

Communication capabilities consisted of two telephone lines, portable walkie-talkies, and a back-up fire radio. Effective communications were demonstrated between the reception center, Concordia and Tensas Parishes.

All objectives assigned to the reception center were met during the exercise.

DEFICIENCIES AND RECOMMENDATIONS

Category "A" Deficiencies - None

Category "B" Deficiencies - None

AREAS FOR IMPROVEMENT AND RECOMMENDATION

- **Description:** Initially, monitoring personnel stationed outside the entrance of the gymnasium did not follow standard monitoring procedures on evacuees.
- **Recommendation:** Prior to arrival of evacuees, provide monitoring personnel with a review of procedures. Suggest that a team leader be selected and given the responsibility for reviewing the procedures with the monitors.

- **Description:** Individuals contaminated on their clothing only were not separated from individuals bodily contaminated and requiring showers. Procedures were unclear on disposal of shower wastewater.
- **Recommendation:** Separate individuals contaminated on their clothing only from those requiring showers. Provide a forum for review of procedures for disposal of shower wastewater; discussion sessions should include representatives of the reception center and State officials.
- **Description:** Suitable drainage at the reception center was not available for water used for washing down vehicles.
- **Recommendation:** Locate vehicle washdown area where suitable drainage or storage of washwater is available. Alternatively, securely quarantine vehicles and if necessary decontaminate at a later time with additional assistance from the State.

3 DEFICIENCY TRACKING AND SCHEDULE FOR CORRECTIVE ACTIONS

Section 2 of this exercise report has provided a listing of areas for improvement with recommendations noted by federal evaluators during the Grand Gulf Exercise conducted February 27, 1985. The evaluations were based on the applicable planning standards and evaluation criteria set forth in Section II of NUREG-0654-FEMA-1, Rev. 1 (November, 1980) and exercise objective. There were no identified Category "A" or "B" deficiencies cited by the evaluators. All 1984 deficiencies were satisfactorily corrected during this exercise. Therefore, no "Deficiency Tracking Schedule" is required for this report.

4 EVALUATION OF OBJECTIVES

4.1 SUMMARY OF FEMA OBJECTIVES REMAINING TO BE MET

Table 1 on the following pages provides a listing of those FEMA objectives which, according to the FEMA RAC Chairman, have not been satisfactorily met or tested and which should be incorporated into the exercise objectives on or by the fifth year of the five-year period in which all the objectives should be tested. These should be considered in the development of future exercise objectives; as well as those FEMA objectives which, although previously tested and satisfactorily demonstrated, must be tested and evaluated during any exercise of offsite State and Local response capabilities.

TABLE 1 Summary of FEMA Objectives Remaining to Be Met
Grand Gulf Nuclear Station As of February 27, 1985

FEMA Objective	Jurisdiction
9. Demonstrate appropriate equipment and procedures for collection, transport, analysis of samples of soil, vegetation, snow, water, and milk. (I.8)	State/Local (not tested)
11. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measures based on PAGs and other relevant factors. (I.10,I.11,J.11)	State (not tested)
12. Demonstrate ability to implement protective actions for ingestion pathway hazards. (J.0,J.11)	State/Local (not tested)
18. Demonstrate organizational ability and resources necessary to effect an orderly evacuation of mobility impaired individuals within the plume EPZ. (J.10.d)	Local (not tested)
21. Demonstrate ability to make the decision based on predetermined criteria, whether to issue KI to emergency workers and/or the general population. (J.10.f.)	State (not tested)
22. Demonstrate ability to supply and administer KI, once the decision has been made to do so. (J.10.e.)	State (not tested)
23. Demonstrate ability to effect an orderly evacuation of on-site personnel. (J.2.)	State/Local (not tested)
24. Demonstrate ability to brief the media in a clear, accurate and timely manner. (G.3.a., G.4.a.)	State (11-4-81 Deficiency) Local (1983 Deficiency)
26. Demonstrate ability to establish and operate rumor control in a coordinated fashion.	Local (1983 Deficiency)
32. Demonstrate ability to identify need for, request, and obtain Federal assistance. (C.1.a.,b.)	State (not tested)

TABLE 1 (Cont'd)

FEMA Objective	Jurisdiction
33. Demonstrate ability to estimate total population exposure. (M.4.)	State (not tested)
34. Demonstrate ability to determine and implement appropriate measures for controlled recovery and re-entry. (M.1.)	(State/Local (re-entry not tested)

4.2 OBJECTIVES MET OR YET TO BE ACHIEVED

Table 2 on the following pages provides a comprehensive summary of FEMA objectives, NUREG-0654 reference elements, 1985 exercise objectives, jurisdictional responsibility, exercise dates, deficiencies noted during past exercises, and dates on which objectives were met.

TABLE 2 Objectives Met or Yet to be Achieved -- Grand Gulf

Page 1 of 11

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
1. Demonstrate ability to mobilize staff and activate facilities promptly. [Objective for which capability should be demonstrated during each exercise]	E.1, E.2 (S&L)	Notification of State and Local response personnel and support authorities (Also 1984 objective)	X	X	2/27/85	1984 Deficiency Tensas Parish EOC	4/11/84 2/27/85	4/11/84 2/27/85
		Activate Tensas Parish EOC; State support as necessary to support Tensas Parish (Also 1984 objective)		X	2/27/85		4/11/84	4/11/84 2/27/85
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.	A.2.a, A.4 (S&L)		X	X			1/26/83 4/11/84	1/26/83 4/11/84
3. Demonstrate ability to make decisions and to coordinate emergency activities. [Objectives for which capability should be demonstrated during each exercise]	A.1.d, e A.2.a (S&L)		X	X			1/26/83	1/26/83 4/11/84
		Test decision-making ability; test capability to coordinate response.		X				2/27/85

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency) Tracking No.)	Date Objective Met	
			State	Local			State	Local
4. Demonstrate adequacy of facilities and displays to support emergency operations. [Objectives for which capability should be demonstrated during each exercise]	C.3.a, H.2 H.3 (S&L)		X	X		Deficiencies 11/3/81; 1/26/83	1/26/83	4/11/84
		Demonstrate adequacy of facilities and displays to support emergency operations.		X	2/27/85			2/27/85
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel. [Objectives for which capability should be demonstrated during each exercise]	F (S&L)		X	X		Deficiency 11/4/81 4/11/84 Tallulah Rept. Center	1/26/83	1/26/83
		Test primary and backup communications systems (Also 1984 objective)	X	X	2/27/85		2/27/85	2/27/85
6. Demonstrate ability to mobilize and deploy field monitoring teams in timely fashion. [Objectives for which capability should be demonstrated during each exercise]	I.8 (S&L)		X	X			11/4/81 1/26/83	1/26/83

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency) Tracking No.)	Date Objective Met	
			State	Local			State	Local
7. Demonstrate appropriate equipment and procedures for determining ambient radiation levels. [Objectives for which capability should be demonstrated during each exercise]	1.8, 1.11 (1.8-S&L) (1.11-S)		X	X			11/4/81	1/26/83 4/11/84
8. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} μ Ci/cc in the presence of noble gases. [Objectives for which capability should be demonstrated during each exercise]	1.9 (S&L)		X	X			11/4/81	1/26/83
9. Demonstrate appropriate equipment and procedures for collection, transport, analysis of samples of soil, vegetation, snow, water and milk. [Objectives for which capability should be demonstrated during each exercise]	1.8 (S&L)		X				Not Tested	

TABLE 2 (Cont'd)

Page 4 of 11

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency) Tracking No.)	Date Objective Met	
			State	Local			State	Local
10. Demonstrate ability to project dosage to the public via plume exposure, based on plant and field data, and to determine appropriate protective measures based on PAC's, available shelter, evacuation time estimates and all other appropriate factors. [Objectives for which capability should be demonstrated during each exercise]	I.10, J.10 [I.10-S] [J.10-S&L]		X				11/4/81 1/26/83	
11. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data; and to determine appropriate protective measures based on PAC's and other relevant factors.	I.10, I.11 J.11 (S)		X				Not Tested	
12. Demonstrate ability to implement protective actions for ingestion pathway hazards.	J.9, J.11 (J.9-S&L) (J.11-S)		X	X			Not Tested	Not Tested

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
13. Demonstrate ability to alert the public within the 10-mile EPZ and disseminate an initial instructional message within 15 minutes. [Objectives for which capability should be demonstrated during each exercise]	E.6, Append. 3 (S&L)		X	X		11/4/81 Deficiency	1/26/83	1/26/83
14. Demonstrate ability to formulate and distribute appropriate instructions to the public in a timely fashion.	E.5, E.7 (S&L)		X	X		11/4/81 Deficiency	1/26/83	1/26/83
15. Demonstrate organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ. [Objectives for which capability should be demonstrated during each exercise]	J.9, J.10.a.g (S&L)			X		11/4/81 Deficiency		4/11/84

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
16. Demonstrate organizational ability and resources necessary to deal with impediments to evacuation, as incident weather or traffic obstructions.	J.10.k (S&L)			X				1/26/83
17. Demonstrate organizational ability and resources necessary to control access to an evacuated area.	J.10.j (S&L)			X				11/4/81 1/26/83
18. Demonstrate organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ.	J.10.d (S&L)			X				Not Tested
19. Demonstrate organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ.	J.9, J.10.g (S&L)			X				11/4/81

TABLE 2 (Cont'd)

FEMA Objectives	NUREC-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
20. Demonstrate ability to continuously monitor and control emergency worker exposure. [Objectives for which capability should be demonstrated during each exercise]	K.3.a,b (S&L)		X	X		1/26/83 Deficiency	Partially met 1/26/83	Partially met 1/26/83
		Demonstrate ability to continuously monitor and control emergency worker exposure.		X	2/27/85			2/27/85
21. Demonstrate ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.	J.10.f (S&L)		X				Not Tested	
22. Demonstrate ability to supply and administer KI, once the decision has been made to do so.	J.10.e (S&L)		X				Not Tested	
23. Demonstrate ability to effect an orderly evacuation of onsite personnel.	J.2 (S&L)		X				Not Tested	
24. Demonstrate ability to brief the media in a clear, accurate and timely manner.	G.3.a, G.4.a (S&L)		X	X		11/4/81 Deficiency 1/26/83 Deficiency	Partially met	Partially met

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency) Tracking No.)	Date Objective Met	
			State	Local			State	Local
25. Demonstrate ability to provide advance coordination of information released.	G.4.b (S&L)	----- Test coordination of emergency press releases with Louisiana Office of Emergency Preparedness (Also 1984 objective)	X			11/4/81 Deficiency	Partially met	
			X	X	2/27/85			2/27/85
26. Demonstrate ability to establish and operate rumor control in a coordinated fashion.	G.4.c (S&L)			X		1/26/83 Deficiency		Not met
27. Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees. [Objectives for which capability should be demonstrated during each exercise]	J.12 (S&L)	----- Test Reception Center at Ferriday (Note: Tensas Parish will depart from Mississippi scenario and test other actions)		X		11/4/81 Deficiency		1/26/83 4/11/84
				X	2/27/85			2/27/85
28. Demonstrate adequacy of facilities for mass care of evacuees.	J.10.h (S&L)	----- Demonstrate adequacy of facilities for mass care of evacuees						11/4/81 (Tallulah) 1/26/83 (Winnsboro)
				X	2/27/85			2/27/85 (Ferriday)

TABLE 2 (Cont'd)

FEMA Objectives	NUREG-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
29. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles. [Objectives for which capability should be demonstrated during each exercise]	K.5.a,b (S&L)			X		1/26/83 Deficiency		4/11/84 (Tensas Parish Hospital)
		Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment, and vehicles.		X	2/27/85			2/27/85 Ferriday Reception Center
30. Demonstrate adequacy of EMS transportation, personnel and procedures for handling contaminated individuals including proper decontamination of vehicle and equipment. [Objectives for which capability should be demonstrated during each exercise]	L.4 (S&L)			X				1/26/83
31. Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals. [Objectives for which capability should be demonstrated during each exercise]	L.1 (S&L)			X		1/26/83 Deficiency		4/11/84 (Tensas Parish Mem. Hospital)

TABLE 2 (Cont'd)

FEMA Objectives	NUNEC-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency) Tracking No.)	Date Objective Met	
			State	Local			State	Local
12. Demonstrate ability to identify need for, request, and obtain Federal assistance.	C.1.a,b (S)		X				Not Tested	
13. Demonstrate ability to estimate total population exposure.	M.4 (S)		X				Not Tested	
14. Demonstrate ability to determine and implement appropriate measures for controlled recovery and reentry.	M.1 (S&L)			X				11/4/81 Partially Tested (no reentry)
15. Demonstrate the ability to effectively call upon and utilize outside support agencies when local capabilities are exceeded.	C.4 (S&L)		X	X			11/4/81	1/26/83
16. Demonstrate the adequacy, operability and effective use of emergency communication equipment and the adequacy of communications procedures and methods.	F.1 (S&L)		X	X		4/11/84 Deficiency (Tallulah Recept. Ctr. (corrected 2/27/85)	11/41/81 1/26/83	11/4/81 1/26/83
[Objectives for which capability should be demonstrated during each exercise]		Test primary and back-up communications systems (Also 1984 objective)	X	X	2/27/85		2/27/85	2/27/85

TABLE 2 (Cont'd)

FEMA Objectives	NUREC-0654 Reference	Exercise Objective February 27, 1985	Jurisdictional Responsibility		Date of Exercise	Deficiency Noted (by Deficiency Tracking No.)	Date Objective Met	
			State	Local			State	Local
17. Demonstrate ability to monitor Emergency Classification levels continuously and implement procedures in a timely manner. [Objectives for which capability should be demonstrated during each exercise]	D.4 (S&L)	-----	X	X			1/26/83	1/26/83
		Demonstrate ability to monitor emergency classification levels continuously and implement procedures in a timely manner.		X	2/27/85			2/27/85
18. Demonstrate capability to effectively process all incoming messages in a timely manner.	E (S&L)	Demonstrate capability to effectively process all incoming messages in a timely manner.		X				2/27/85
19. Demonstrate that authority exists in activating a reception center (as necessary) in a timely manner. [Objectives for which capability should be demonstrated during each exercise]	A.2.a,A.3 (S&L)	-----		X				1/26/83 (Winnsboro) 4/11/84 (Tallulah)
		Test reception center at Ferriday.		X	2/27/85			2/27/85 (Ferriday)