UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

September 20, 2002

William A. Eaton, Vice President
Operations - Grand Gulf Nuclear Station
Entergy Operations, Inc.
P.O. Box 756
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SUBJECT: NRC TRIENNIAL FIRE PROTECTION INSPECTION REPORT 50-416/2002-07

Dear Mr. Eaton:

On August 8, 2002, the NRC completed an inspection at your Grand Gulf Nuclear Station. The enclosed report documents the inspection findings which were discussed on September 17, 2002, with Mr. J. Roberts, Director, Nuclear Safety Assurance, Mr. D. Wiles, Director, Design Engineering, and other licensee staff members.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified two issues that were evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that violations are associated with these issues. These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violation or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Grand Gulf Nuclear Station facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Charles S. Marschall, Chief
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Docket: 50-416
License: NPF-29

Enclosure(s):
NRC Inspection Report
50-416/2002-07

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-416
License:	NPF-29
Report No.:	50-416/2002-07
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi
Dates:	July 22-26 and August 5- 9, 2002
Team Leader	R. L. Nease, Senior Reactor Inspector Engineering and Maintenance Branch
Inspectors:	R. P. Mullikin, Senior Reactor Inspector Engineering and Maintenance Branch
	G. D. Replogle, Senior Resident Inspector Project Branch E
	J. Melfi, Reactor Inspector Engineering and Maintenance Branch
Approved By:	Charles S. Marschall, Chief Engineering and Maintenance Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000416-02-07; on 07/ 22 - 26/2002 and 8/5 - 9/2002; Entergy Operations, Inc.; Grand Gulf Nuclear Station. Triennial Fire Protection Inspection.

The inspection was conducted by a team of three regional inspectors and one senior resident inspector. The inspection identified two green findings. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609, "Significance Determination Process." The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified Findings

Cornerstone: Mitigating Systems

- Green. The team identified a noncited violation of Technical Specification 5.4.1.a for the failure to provide an adequate procedure for a control room fire. Technical Specification 5.4.1.a, requires the licensee to establish procedures for implementation of activities recommended in Regulatory Guide 1.33, which lists procedures for combating a fire in the control room and forced evacuation of the control room. The licensee's Alternative Shutdown Procedure 05-1-02-II-1, "Shutdown from the Remote Shutdown Panel," Revision 25, was inadequate, because it did not instruct operators to verify that a flow diversion pathway was closed, which could render the credited reactor vessel injection source unable to perform its safety function. In the event of a fire in the control room requiring control room evacuation and remote shutdown, this pathway could have diverted coolant to containment spray and away from the reactor vessel through a spuriously opened containment spray valve. Operators would not normally check the valve position on their own and would not have adequate indication from the remote shutdown panel to identify the potential flow diversion path. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-01460.

  The issue was of greater than minor significance because it impacted the mitigating systems cornerstone and affected the ability of the low pressure coolant injection system to provide adequate core cooling to prevent core damage. Using the Phase 2 Significant Determination Process, this finding was determined to be of very low safety significance, due to the extremely low fire ignition frequency in conjunction with the low probability that fire would cause the spurious opening of the containment spray valve (Section 1R05.3).

- Green. The team identified a noncited violation of Grand Gulf Nuclear Station, License Condition 2.C(41), which requires the licensee to implement and maintain the provisions of their NRC-approved fire protection program. The licensee failed to meet the fire protection program requirement to protect radio repeaters from

exposure to fire damage in six fire areas; therefore, in the event of a fire in any one of these fire areas, radio communications necessary to support safe shutdown could be lost. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-1472.

The team determined that the issue was of greater than minor significance because it impacted the mitigating systems cornerstone objective. Specifically, ineffective fire brigade communications can hamper the brigade's ability to fight a fire, thereby, potentially endangering mitigating systems. The team performed a Phase 1 Significant Determination Process evaluation and determined that the issue has very low safety significance (Green) because the problem only impacts the effectiveness of the fire brigade while other fire protection features, such as fire barriers and physical separation, remain available (Section 1R05.4).

Report Details

1. REACTOR SAFETY

1R05 Fire Protection

The purpose of this inspection was to review the Grand Gulf Nuclear Station fire protection program for selected risk significant fire areas. Emphasis was placed on verification of the licensee's post-fire safe shutdown capability. The inspection was performed in accordance with the new Nuclear Regulatory Commission (NRC) reactor oversight process using a risk-informed approach for selecting the fire areas and attributes to be inspected. The team used the "Grand Gulf Nuclear Station Engineering Report for Individual Plant Examination of External Events Summary Report," dated November 9, 1995, to choose several risk-significant areas for detailed inspection and review. The fire areas chosen for review during this inspection were identified to the licensee during the inspection.

For each of the selected fire areas, the team focused the inspection on the fire protection features and on the systems and equipment necessary for the licensee to achieve and maintain safe shutdown conditions in the event of a fire in those fire areas.

.1 Systems Required to Achieve and Maintain Post-Fire Safe Shutdown

a. Inspection Scope

The team reviewed piping and instrumentation diagrams and the list of safe shutdown equipment documented in the licensee's post-fire safe shutdown analysis to verify whether their shutdown methodology had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions for equipment in the fire areas selected for review. The team focused on the following functions that must be ensured to achieve and maintain post-fire safe shutdown conditions.

- Reactivity control capable of achieving and maintaining cold shutdown reactivity conditions
- Reactor coolant makeup capable of maintaining the reactor coolant inventory
- Reactor heat removal capable of achieving and maintaining decay heat removal
- Supporting systems capable of providing all other services necessary to permit extended operation of equipment necessary to achieve and maintain hot shutdown conditions

A review was also conducted to ensure that all required electrical components in the selected systems were included in the licensee's safe shutdown analysis. The team identified the systems required for each of the primary safety functions necessary to shut down the reactor. These systems were then evaluated to identify the systems that

interfaced with the fire areas inspected and were the most risk significant for reaching both hot and cold shutdown. The following systems were selected for review.

- Main steam system safety relief valves/automatic depressurization system
- Low pressure coolant injection
- Standby service water system

Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Fire Protection of Safe Shutdown Capability

a. Inspection Scope

The team reviewed licensee documentation to verify that at least one post-fire safe shutdown success path was free of fire damage in the event of a fire in the selected fire areas. Specifically, the team examined the separation of safe shutdown cables, equipment, and components within the same fire areas, and reviewed the licensee's methodology for meeting the requirements of 10 CFR 50.48 and NRC Branch Technical Position 9.5-1. In addition, the team reviewed license documentation, such as NRC safety evaluation reports, the Grand Gulf Nuclear Station Updated Final Safety Evaluation Report, submittals made to the NRC by the licensee in support of the NRC's review of their fire protection program, and deviations from NRC regulations to verify that the licensee met license commitments. Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.3 Post-fire Safe Shutdown Circuit Analysis

a. Inspection Scope

On a sample basis, the team verified that cables of equipment required to achieve and maintain hot shutdown conditions in the event of fire in selected fire areas had been properly identified and either adequately protected from the potentially adverse effects of fire damage or analyzed to show that fire-induced faults (e.g., hot shorts, open circuits, and shorts to ground) would not prevent safe shutdown. During the inspection, a sample of redundant components associated with systems required to achieve and maintain hot shutdown conditions were selected for review. The sample included components associated with the residual heat removal system, containment spray system, reactor water cleanup system, and standby service water system. From this list of components, the team reviewed cable routing data depicting the routing of power and control cables associated with each of the selected components. Additionally, on a sample basis the team verified the adequacy of electrical protective device coordination

(e.g., circuit breaker, fuse, relay), for cables of equipment required to achieve and maintain safe shutdown conditions. Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.4 Alternative Safe Shutdown Capability and Implementation

a. Inspection Scope

The team reviewed the systems required to achieve alternative safe shutdown to determine if the licensee had properly identified the components and systems necessary to achieve and maintain safe shutdown conditions from the remote shutdown panel and the alternate shutdown panels. The team also focused on the adequacy of the systems to perform reactor pressure control, reactor makeup, decay heat removal, process monitoring, and support system functions. The team reviewed Procedure 05-1-02-II-1, "Shutdown from the Remote Shutdown Panel," Revision 25, which would be used by operators to shut down the reactor in the event of a control room fire with evacuation of the control room. The team also stepped through the procedure with licensed and non-licensed operators to determine its adequacy to direct safe shutdown from remote shutdown locations. Finally, the team reviewed selected surveillance procedures associated with remote shutdown panel circuits and controls to ensure proper testing and maintenance. Documents reviewed by the team are listed in the Attachment.

b. Findings

Introduction: The team identified a noncited violation of Technical Specification 5.4.1.a for failure to provide an adequate procedure for operators to use in shutting down the plant from outside the control room. The procedure was inadequate because it did not instruct operators to verify that a flow diversion pathway was secured. This flow diversion could render the credited reactor vessel injection source, the Division 1 low pressure coolant injection (LPCI) system, unable to perform its safety function, thus, adversely affecting the licensee's ability to achieve and maintain safe shutdown conditions. The team determined that the violation was of very low safety significance (green).

Description: In a field walkdown of the licensee's alternative shutdown Procedure 05-1-02-II-1, "Shutdown from the Remote Shutdown Panel," the team found that this procedure failed to direct operators to verify that the Division I containment spray Valve E12-F028A was closed. The team also identified that upon a fire in the control room that affects containment spray circuitry, the Division I containment spray Valve E12-F028A could spuriously open with one hot short.

The licensee provided transfer logic and remote indication and control of the Division I containment spray Valve E12-F028A circuitry in an alternate panel, located in a different building than that in which the remote shutdown panel is located. The team noted that the valve could spuriously open before operators could reposition the transfer switch, and would remain in the open position until manually closed at the alternate panel. The team observed that operators at the remote shutdown panel did not have valve position or flow indication for the containment spray system. In a field demonstration of this scenario with licensed operators, the team verified that the operators were not likely to recognize and correct this flow diversion.

For achieving and maintaining safe shutdown in the event of a fire in the control room that requires control room evacuation, the licensee utilizes one train of the automatic depressurization system plus one train of LPCI. The spurious opening of the Division 1 containment spray Valve E12-F028A could divert enough coolant from the LPCI system to render it unable to perform its safe shutdown function. The team determined that operators would not have recognized and corrected the flow diversion pathway before fuel clad temperatures exceeded1500 degrees Fahrenheit, the design basis limit.

Risk Analysis: The team determined that the issue was greater than minor significance, because it affects the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of the system that responds to the event to prevent undesirable consequences. In this instance, the finding affected the ability of the LPCI system to provide adequate core cooling to prevent core damage.

The risk of this finding was evaluated using the NRC's Significance Determination Process described in Manual Chapter 0609, Appendix F. Circuitry for the Division I and II LPCI, residual heat removal, high pressure core spray, reactor core isolation cooling, containment spray, and emergency diesel generators are located in the Control Room P601 control panel. The team and the senior reactor analyst performed the Phase 2 risk assessment of this finding by postulating a fire in the P601 control panel that caused the Division 1 containment spray Valve E12-F028A to spuriously open, resulting in coolant flow being diverted to the containment spray system. This flow diversion would have rendered the Division 1 LPCI system incapable of providing coolant flow to the reactor.

The following was considered in evaluating the risk of this finding:

- The fire ignition frequency for the P601 control panel = 5.55E-5
- Probability of Division 1 containment spray Valve E12-F028A spuriously opening = 1E-1
- Normal capabilities were assumed for manual suppression in the control room. (MS = -1.5)
- Because there is no automatic suppression in the control room, it was assumed to be highly degraded. (AS = 0)
- No credit was given for fire barriers between redundant trains (FB = 0)

- There are no common cause effects (CC = 0)

- A fire mitigation frequency (FMF) was calculated to be -5.76 per year using the formula, FMF = log IF + FB + AS + MS + CC from Manual Chapter 0609, Appendix F.

- Based on the calculated FMF, the probability of a fire causing the Division 1 containment spray Valve E12-F028A to open (1 E-1), and the length of time the condition existed (greater than 30 days), the likelihood for the initiating event occurrence during the degraded period was rated G. See Tables 5.4 and 5.5 of Manual Chapter 0609, Appendix F.

Entering Table 5.6 of Manual Chapter 0609, Appendix F, with an initiating event likelihood of G, this finding was determined to be Green.

Enforcement: Technical Specification 5.4.1.a requires, in part, that the licensee establish procedures for implementation of activities recommended in Regulatory Guide 1.33. Regulatory Guide 1.33, Appendix A, Section 6, recommends that procedures be established for combating fire in the control room and forced evacuation of the control room. The licensee failed to provide an adequate procedure for shutting down the reactor in the event of a fire in the control room that requires control room evacuation. Specifically, the Alternative Shutdown Procedure 05-1-02-II-1, "Shutdown from the Remote Shutdown Panel," Revision 25, did not contain instructions to operators to verify that the Division 1 containment spay Valve E12-F028A was closed to prevent coolant flow from being diverted from the reactor vessel. This is a violation of Technical Specification 5.4.1.a. This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-416/02007-01).

Upon identification of this finding, the licensee issued night orders to the operations staff, and immediately revised alternative shutdown Procedure 05-1-02-II-1 to include a step requiring operators to verify the position of Valve E12-F028A when repositioning the valve's transfer switch. The team considered this corrective measure acceptable. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-01460.

.5 Emergency Communications

a. Inspection Scope

The team reviewed the adequacy of the communication system to support plant personnel in the performance of alternative safe shutdown functions and fire brigade duties. The team verified that adequate communication equipment was available consistent with the licensing basis. The team performed a review of the electrical power supplies and cable routing for the radio repeater system, sound powered phone system, and plant paging system. Documents reviewed by the team are listed in the Attachment.

‘ b. Findings

Introduction: The team identified a noncited violation of Grand Gulf Nuclear Station, License Condition 2.C(41) for failure to protect their radio repeaters in accordance with their fire protection program requirements. The team determined that the violation was of very low safety significance (green).

Description: The radio repeater system consists of primary circuitry and numerous radio repeater antennas. The team identified that radio repeaters were not protected from exposure fire damage. Specifically, a fire in certain fire areas could damage the radio repeaters, rendering radios inoperable.

The team determined that failure of the system would hamper communications between the fire brigade and the control room, possibly delaying manual suppression activities. In addressing certain types of fires, the brigade would typically need to contact the control room to ask for assistance, such as de-energizing electrical equipment and securing oil pumps.

Risk Analysis: The team determined that this issue was more than minor because it affects the mitigating systems cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. This cornerstone includes protection against external factors such as fire. In this instance, the finding impacted the fire brigade’s ability to mitigate the effects of a fire.

The risk of this finding was evaluated using the NRC’s Significance Determination Process described in Manual Chapter 0609, Appendix F, "Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings," Phase 1, dated February 27, 2001. The team determined that this finding had very low safety significance (green), because it only affected the ability of the fire brigade to fight fires, while other defense-in-depth measures, such as barriers, automatic suppression, and divisional separation, remained available to ensure the ability to achieve safe shutdown.

Enforcement

License Condition 2.C(41), requires the licensee to implement all provisions of their approved fire protection program. Table 9.5-11, Section D.5.d, of the licensee’s fire protection program states, "Fixed radio repeaters are protected from exposure fire damage." The team found that the fixed radio repeaters were not protected from exposure fire damage for fires in six fire areas identified to the licensee during the inspection. The failure to protect radio repeaters from exposure fire damage is a violation of License Condition 2.C(41). This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (NCV 50-416/02007-02).

Upon identification of this finding, as a compensatory measure, the licensee issued a standing order that designated one of the fire brigade members to act as a "runner" to facilitate communications between the fire brigade leader and the

control room. The team considered this interim compensatory measure acceptable. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-01472.

.6 Emergency Lighting

a. Inspection Scope

The team reviewed the emergency lighting system required for safe shutdown activities to verify that it was adequate for supporting the performance of manual actions required to achieve and maintain hot shutdown conditions, and for illuminating access and egress routes to the areas where manual actions are required. Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.7 Cold Shutdown Repairs

a. Inspection Scope

The team reviewed licensee procedures to determine whether repairs were required to achieve cold shutdown and to verify that the repair material was available onsite. The team verified that the licensee had pre-staged equipment necessary to perform the repairs in lockers, as required by procedure. Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.8 Fire Protection Systems, Features, and Equipment

a. For the selected fire areas, the team evaluated the adequacy of fire protection features, such as fire suppression and detection systems, fire area barriers, penetration seals, and fire doors. To do this, the team observed the material condition and configuration of the installed fire detection and suppression systems, fire barriers, and construction details and supporting fire tests for the installed fire barriers. In addition, the team reviewed license documentation, such as NRC safety evaluation reports, and deviations from NRC regulations and the National Fire Protection Association (NFPA) code to verify that fire protection features met license commitments. Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

.9 Compensatory Measures

a. Inspection Scope

The team verified, by sampling, that adequate compensatory measures were put in place by the licensee for out-of-service, degraded, or inoperable fire protection and post-fire safe shutdown equipment, systems or features (e.g., detection and suppression systems, or passive fire barrier features). Documents reviewed by the team are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

On, August 8, 2002, at the conclusion of the team's onsite inspection, the team leader debriefed Mr. J. Roberts, Director, Nuclear Safety Assurance, Mr. D. Wiles, Director, Design Engineering, and other licensee staff members on the preliminary inspection results.

On September 17, 2002, the team leader conducted a telephone exit meeting with Mr. J. Roberts, Director, Nuclear Safety Assurance, Mr. D. Wiles, Director, Design Engineering, and other licensee staff members, during which the results of this inspection were characterized.

The licensee was asked whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

KEY POINTS OF CONTACT

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D. Loveless, Senior Risk Analyst
R. Deese, Resident Inspector
P. Qualls, Office of Nuclear Reactor Regulation

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-416/02007-01	NCV	Inadequate alternative shutdown procedure (Section 1R05.3)
50-416/02007-02	NCV	Failure to protect radio repeaters (Section 1R05.4)

Closed

50-416/02007-01	NCV	Inadequate alternative shutdown procedure (Section 1R05.3)
50-416/02007-02	NCV	Failure to protect radio repeaters (Section 1R05.4)

DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

CONDITION REPORTS

CR-GGN-1997-000799
CR-GGN-2002-01398
CR-GGN-2002-01448
CR-GGN-2002-01460
CR-GGN-2002-01462
CR-GGN-2002-01472

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PIPING AND INSTRUMENTATION DIAGRAMS

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SYSTEM FLOW DIAGRAMS

Number	Title	Revision
SFD-1061A	Standby Service Water	5
SFD-1061B	Standby Service Water	5
SFD-1061C	Standby Service Water	3
SFD-1063A	Component Cooling Water System	4

ENGINEERING REQUESTS

Number	Title	Revision
ER98-0615-00-00	Repair/evaluation of non-standard fire barrier in upper cable spreading room, control bldg. elev. 189’	0
ER2000-0113	Evaluation of control/auxiliary building double wall penetration configurations and evaluation of pen Det. 31 alt. discrepancies	0
ER2000-0166,	Evaluation of non-standard fire barrier and penetration seal 190’ elev. control building, and removal of fire rating of the fire barriers	0

MAINTENANCE RECORDS (MAIs)

Number	Title	Revision/Date
MAI 314221	Control Building Division I Essential Lighting Functional Testing	6/10/02
MAI 287003	Remote Shutdown Panel Control Check with E12 Valves	7/24/01
MAI 287002	Remote Shutdown Panel Control Check with G33, B33, B21 valves	5/2/01
MAI 287001	Remote Shutdown Panel Control Check, Div 1	5/1/01

PROCEDURES

Number	Title	Revision
05-1-02-II-1	Shutdown from the Remote Shutdown Panel	25
07-S-12-108	General Inspection and Testing of Emergency Lighting	9
07-S-12-143	Data Sheets for Emergency Lighting Tests, All testing performed in January through March, 2002	0
06-ME-SP64-SA-001	Surveillance Procedure, Computer and Control Room Pane Room Halon System Bottle Weight and Pressure Check	104

VENDOR MANUALS

Number	Title	Revision/Date
VMA 97/0181 460001774	Emergency Lights (Vendor Manual)	10/21/94
VMA 95/0168	Holophane Vendor Information	Received 3/23/95

VMA 97/1033	Navigator Series Life Safety Products (Holophane)	2
VMA 97/0144	Big Beam Vendor Information	Received 8/26/97

MISCELLANEOUS

Cable Routing Data (Computer Printout)

Comparison of MELCOR Modeling Techniques and Effects of Vessel Water Injection on a Low-Pressure, Short-Term, Station Blackout at the Grand Gulf Nuclear Station (ORNL/TM-12771), June 1995

Evaluation of SSW safe shutdown boundaries for valves that may fail to isolate in case of a local and control room fires (NPE 87-096), dated July 28, 1987

Grand Gulf Engineering Report for Spurious Opening of Twenty Safety Relief Valves, Revision 0

Grand Gulf Nuclear Station Facility Operating License - No. NPF-29, Amendment No. 150

Grand Gulf Nuclear Station Updated Final Safety Analysis Report, Appendix 9A, “Fire Hazards Analysis Report,” Revision 10

Grand Gulf Nuclear Station Updated Final Safety Analysis Report, Section 9.5.1, “Fire Protection System,” Revision 10

Letter to Mr. Harold Denton, U.S. Nuclear Regulatory Commission from L. F. Dale, Mississippi Power & Light (AECM-85/0194), dated June 18, 1985

Letter to Mr. Harold Denton, U.S. Nuclear Regulatory Commission from L. F. Dale, Mississippi Power & Light (AECM-85/0222), dated July 19, 1985

Operator Training, Remote Shutdown Panels -C61(GLP-OPS-C6100), Revision 3

Plant Radio 1R61 riser diagram

Safety Evaluation Report Related to the Operation of Grand Gulf Nuclear Station, Units 1 and 2, NUREG-0831,dated September 1981

Safety Evaluation Report Related to the Operation of Grand Gulf Nuclear Station, Units 1 and 2, NUREG-0831, Supplement No. 2, dated June 1982

Safety Evaluation Report Related to the Operation of Grand Gulf Nuclear Station, Units 1 and 2, NUREG-0831, Supplement No. 3, dated July 1982

Safety Evaluation Report Related to Amendment No. 83 to Facility Operating License No. NPF-29, Entergy Operations, Inc., et al, Grand Gulf Nuclear Station, Unit 1, Docket No. 50-416, dated August 23, 1999

SSW Flow and Inventory Study - FHA (2.2.82-Q), dated August 5, 1987