

July 27, 2005

Mr. George A. Williams
Site Vice President
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - RE: PROPOSED UPGRADED
EMERGENCY ACTIONS LEVELS (EALs) USING NEI 99-01, REVISION 4,
METHODOLOGY (TAC NO. MC1630)

Dear Mr. Williams:

By letter dated December 16, 2003, as supplemented by letters dated November 19, 2004, June 3, and July 6, 2005, you submitted proposed emergency actions levels (EALs) and EAL Bases using the methodology outlined in Nuclear Energy Institute (NEI) 99-01, Revision 4, "Methodology for Development of Emergency Action Levels." The November 19, 2004, letter was a "complete revision" of the initial submission dated December 16, 2003. The letter dated July 6, 2005, provided the complete revised version, reflecting the changes made in the supplemental letters to the EAL Matrix, initiating conditions, EAL threshold values, and the EAL Bases.

The Nuclear Regulatory Commission (NRC) staff has completed its review. The NRC staff finds that the proposed Grand Gulf Nuclear Station, Unit 1, EAL revision, provided in the licensee's letter dated July 6, 2005, is consistent with the guidance in NEI 99-01, Revision 4, or provides an acceptable alternative, and meets the requirements of Paragraph 50.47(b) of Title 10 of the *Code of Federal Regulations* (10 CFR) and 10 CFR Part 50, Appendix E, Section IV.B. Therefore, the proposed upgrades to EALs and EAL Bases are acceptable. The NRC staff's related safety evaluation is enclosed.

Sincerely,

/RA/

David Terao, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Safety Evaluation

cc w/encl: See next page

July 27, 2005

Mr. George A. Williams
Site Vice President
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 - RE: PROPOSED UPGRADED EMERGENCY ACTIONS LEVELS (EALs) USING NEI 99-01, REVISION 4, METHODOLOGY (TAC NO. MC1630)

Dear Mr. Williams:

By letter dated December 16, 2003, as supplemented by letters dated November 19, 2004, June 3, and July 6, 2005, you submitted proposed emergency actions levels (EALs) and EAL Bases using the methodology outlined in Nuclear Energy Institute (NEI) 99-01, Revision 4, "Methodology for Development of Emergency Action Levels." The November 19, 2004, letter was a "complete revision" of the initial submission dated December 16, 2003. The letter dated July 6, 2005, provided the complete revised version, reflecting the changes made in the supplemental letters to the EAL Matrix, initiating conditions, EAL threshold values, and the EAL Bases.

The Nuclear Regulatory Commission (NRC) staff has completed its review. The NRC staff finds that the proposed Grand Gulf Nuclear Station, Unit 1, EAL revision, provided in the licensee's letter dated July 6, 2005, is consistent with the guidance in NEI 99-01, Revision 4, or provides an acceptable alternative, and meets the requirements of Paragraph 50.47(b) of Title 10 of the *Code of Federal Regulations* (10 CFR) and 10 CFR Part 50, Appendix E, Section IV.B. Therefore, the proposed upgrades to EALs and EAL Bases are acceptable. The NRC staff's related safety evaluation is enclosed.

Sincerely,

/RA/

David Terao, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION:

PUBLIC PDIV-1 Reading RidsOgcRp
EWeiss JAnderson
RidsNrrDlpmLpdiv (HBerkow) RidsNrrPMBVaidya
RidsNrrDlpmLpdiv1(DTerao) RidsNrrLALFeizollahi
RidsRgn4MailCenter (KKennedy)
RidsAcrcAcnwMailCenter

Accession No.: ML052020125

* No substantial change from SE Input

OFFICE	PDIV-1/PM	PDIV-2/LA	NSIR/SC*	PDIV-1/SC
NAME	BVaidya	LFeizollahi	EWeiss	DTerao
DATE	07/27/2005	07/27/2005	07/13/2005	07/27/2005

OFFICIAL RECORD COPY

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO PROPOSED UPGRADED EMERGENCY ACTIONS LEVELS (EALs)
USING NEI 99-01, REVISION 4, METHODOLOGY FOR
GRAND GULF NUCLEAR STATION, UNIT 1
ENTERGY OPERATIONS, INC., ET AL.
DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated December 16, 2003 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML040050635), as supplemented by letters dated November 19, 2004 (ADAMS Accession No. ML043280559), June 3 (ADAMS Accession No. ML051580391), and July 6, 2005 (ML051920191), Entergy Operations, Inc. (the licensee) requested changes to the emergency action levels (EALs) for Grand Gulf Nuclear Station, Unit 1 (GGNS). The November 19, 2004, letter was a “complete revision” of the initial submission dated December 16, 2003. The letter dated July 6, 2005, provided the complete revised version, reflecting the changes made in the supplemental letters to the EAL Matrix, initiating conditions, EAL threshold values, and the EAL Bases.

The proposed changes revise the GGNS EALs using the guidance provided in Nuclear Energy Institute (NEI) document, NEI 99-01, Revision 4, “Methodology for Development of Emergency Action Levels,” (NEI 99-01) which was endorsed by the Nuclear Regulatory Commission (NRC) in Regulatory Guide (RG) 1.101, Revision 4, “Emergency Planning and Preparedness for Nuclear Power Reactors.”

2.0 REGULATORY EVALUATION

The applicable regulations and guidance that the NRC staff used to review the licensee’s submission, are discussed in the following sections:

2.1 Regulations

Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 50), Section 50.47, “Emergency plans,” states that no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Section 50.47 of 10 CFR also establishes requirements that must be met by the onsite and offsite emergency response plans for the NRC staff to make a positive finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Paragraph 50.47(b)(4) of 10 CFR stipulates that emergency plans include a standard emergency classification and action level scheme.

Part 50 of 10 CFR, Appendix E, Section IV.B, "Emergency Planning and Preparedness for Production and Utilization Facilities," provides that emergency plans are to include EALs, which are to be used as criteria for determining the need for notification and participation of local and State agencies and which are to be used for determining when and what type of protective measures should be considered, both onsite and offsite, to protect health and safety. EALs are to be based on in-plant conditions and instrumentation, and on onsite and offsite monitoring. Section IV.B of Appendix E provides that initial EALs shall be discussed and agreed on by the applicant and State and local authorities, be approved by the NRC, and reviewed annually thereafter with State and local authorities. In addition, 10 CFR Part 50, Appendix E, Section IV.B states that an EAL revision must be approved by the NRC before implementation if: (1) The licensee is changing from one EAL scheme to another EAL scheme (e.g., a change from an EAL scheme based on NUREG-0654 to a scheme based upon NUMARC/NESP-007 or NEI-99-01); (2) The licensee is proposing an alternate method for complying with the regulations; or (3) The EAL revision decreases the effectiveness of the emergency plan.

2.2 Guidance

As stated in Section 1.0, for developing EALs required by 10 CFR Part 50, Appendix E, Section IV.B and 10 CFR Paragraph 50.47(b)(4), NRC RG 1.101, Revision 4, endorsed the guidance provided in NEI 99-01, Revision 4, as acceptable alternative methods to those described in the following documents:

- Appendix 1 to NUREG-0654/Federal Emergency Management Agency (FEMA)-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980), and
- Nuclear Utilities Management Council (NUMARC) document, entitled NESP-007, "Methodology for Development of Emergency Action Levels" (Revision 2, January 1992).

Regulatory Issue Summary (RIS) 2003-18, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," dated October 8, 2003, provides guidance for developing or changing a standard emergency classification and action level scheme. In addition, this RIS provided recommendations to assist licensees, consistent with Part 50, Appendix E, Section IV.B, in determining whether to seek prior NRC approval of deviations from the new guidance.

3.0 TECHNICAL EVALUATION

3.1 Scope

The proposed revision to the GGNS EALs involves a scheme conversion from Appendix I of NUREG-0654/FEMA-REP-1 to the NEI 99-01, Revision 4. Therefore, the proposed changes were submitted by the licensee to the NRC for approval prior to implementation, as required in Section IV.B to 10 CFR Part 50, Appendix E.

The NRC staff's evaluation of the proposed revisions to initiating conditions (ICs) and EAL threshold values is based on the licensee's letter dated November 19, 2004, as supplemented by letters dated June 3 and July 6, 2005. The NRC staff's review did not consider ICs and EAL

threshold values proposed in the December 16, 2003 letter, since the revisions in the November 19, 2004, letter provided a complete revision to the licensee's initial application. ICs, entitled, "Defueled Station Malfunctions," and listed under Category D in NEI 99-01 (Revision 4), are not applicable since GGNS has a current operating license, and therefore, were not considered during this technical evaluation. In addition, the licensee did not request approval of ICs, entitled, "Events Related to Independent Spent Fuel Storage Installation (ISFSI)," as listed under Category E in NEI 99-01, Revision 4.

Proposed deviations or differences from the guidance in NEI 99-01 (Revision 4), other than minor differences, such as station-specific terminology, system and component names, or formatting, were identified in the licensee's letter dated November 19, 2004, Attachment 5, which provided a specific evaluation for each.

A complete revised version of the EAL Bases document, including EAL Matrix, ICs, and associated EAL threshold values, is provided in the licensee's letter dated July 6, 2005. This EAL Bases document reflects the changes made to EAL Matrix, ICs, EAL threshold values, and Bases provided by letter dated November 19, 2004, as supplemented by letters dated June 3 and July 6, 2005.

3.2 Approval by State and Local Authorities

As stated in Section 2.1, 10 CFR Part 50, Section IV.B of Appendix E states that initial EALs shall be discussed and agreed on by the applicant and State and local authorities, be approved by the NRC, and reviewed annually thereafter with State and local authorities. In addition, 10 CFR Part 50, Appendix E, Section IV.B states that an EAL revision must be approved by the NRC before implementation if: (1) The licensee is changing from one EAL scheme to another EAL scheme (e.g., a change from an EAL scheme based on NUREG-0654 to a scheme based upon NUMARC/NESP-007 or NEI-99-01); (2) The licensee is proposing an alternate method for complying with the regulations; or (3) The EAL revision decreases the effectiveness of the emergency plan.

In the Attachment 1 to the licensee's letter dated November 19, 2004, the licensee provided documentation signifying agreement on implementation of the proposed EAL changes by the following offsite agencies:

- Mississippi Emergency Management Agency
- State of Louisiana Department of Environmental Quality
- Mississippi State Department of Health
- Claiborne County Civil Defense
- Tensas Parish Office of Homeland Security & Emergency Preparedness
- Louisiana Office of Homeland Security & Emergency Preparedness

The licensee also indicated in Attachment 3 to the letter dated June 3, 2005, that future changes to the EALs would be discussed and agreed upon with State and local authorities as required by 10 CFR Part 50, Appendix E, Section IV.B.

3.3 List of Commitments

The licensee has made the following commitments in Attachment 3 to the letter dated June 3, 2005:

<u>Commitment</u>	<u>Scheduled Completion</u>
(1) Information contained in this submittal will be included in the Emergency Plan or Basis as applicable.	Upon implementation of upgraded EALs.
(2) Approved changes will be discussed and agreed upon with State authorities as required.	Upon implementation of upgraded EALs.

3.4 Evaluation

Based on the review of the information provided in the licensee's submissions dated November 19, 2004, and as supplemented by letters dated June 3 and July 6, 2005, the NRC staff finds that the proposed ICs, EAL threshold values, EALs and EALs Bases are consistent with the regulatory requirements of 10 CFR 50, Appendix E, Section IV.B, 10 CFR 50.47(b)(4), RG 1.101, Revision 4, and NEI 99-01, Revision 4, or provide acceptable alternatives, and hence the proposed GGNS EAL revisions, as reflected in the licensee's letter dated July 6, 2005, are acceptable.

4.0 CONCLUSIONS

The NRC staff has performed a review of the proposed GGNS EALs and EAL Bases conversion from the NUREG-0654 scheme to that using the guidance in the NEI 99-01, Revision 4, submitted by letter dated November 19, 2004, as supplemented by letters dated June 3 and July 6, 2005. The licensee's letter dated July 6, 2005, provided the complete revised version of the EAL Bases document, including EAL Matrix, ICs, and associated EAL threshold values. The NRC staff finds that the proposed GGNS EAL revisions, provided in the licensee's letter dated July 6, 2005, is consistent with the guidance in NEI 99-01, Revision 4, or provide an acceptable alternative as discussed in Section 3.0 above.

The NRC staff also finds that the proposed EAL changes meet the requirements of 10 CFR Paragraph 50.47(b) and 10 CFR Part 50, Appendix E, Section IV.B. Therefore, the NRC staff, based on the above discussion, concludes that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed emergency plan changes will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Joseph Anderson

Date: July 27, 2005

Grand Gulf Nuclear Station

cc:

Executive Vice President
& Chief Operating Officer
Entergy Operations, Inc.
P. O. Box 31995
Jackson, MS 39286-1995

Wise, Carter, Child & Caraway
P. O. Box 651
Jackson, MS 39205

Winston & Strawn
1700 K Street, N.W.
Washington, DC 20006-3817

Chief
Energy and Transportation Branch
Environmental Compliance and
Enforcement Division
Mississippi Department of Environmental
Quality
P. O. Box 10385
Jackson, MS 39289-0385

President
Claiborne County
Board of Supervisors
P. O. Box 339
Port Gibson, MS 39150

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 399
Port Gibson, MS 39150

General Manager, GGNS
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

Attorney General
Department of Justice
State of Louisiana
P. O. Box 94005
Baton Rouge, LA 70804-9005

State Health Officer
State Board of Health
P. O. Box 1700
Jackson, MS 39205

Office of the Governor
State of Mississippi
Jackson, MS 39201

Attorney General
Asst. Attorney General
State of Mississippi
P. O. Box 22947
Jackson, MS 39225-2947

Vice President, Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, MS 39286-1995

Director
Nuclear Safety Assurance
Entergy Operations, Inc.
P. O. Box 756
Port Gibson, MS 39150

Director
Nuclear Safety & Licensing
Entergy Operations, Inc.
1340 Echelon Parkway
Jackson, MS 39213-8298

May 2005