

October 30, 2008

Mr. Thomas L. Williamson  
Manager, GGNS COLA Project  
Entergy Nuclear  
1340 Echelon Parkway  
Jackson, MS 39213

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 19 RELATED TO  
THE SRP SECTION 13.03 FOR THE GRAND GULF COMBINED LICENSE  
APPLICATION

Dear Mr. Williamson:

By letter dated February 27, 2008, Entergy Operations Incorporated (EOI) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-5787 or by e-mail at [rocky.foster@nrc.gov](mailto:rocky.foster@nrc.gov).

Sincerely,

**/RA/**

Rocky D. Foster, Project Manager  
ESBWR/ABWR Projects Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 052-0024

eRAI Tracking No. 1118 and 1120

Enclosure:  
Request for Additional Information

October 30, 2008

Mr. Thomas L. Williamson  
Manager, GGNS COLA Project  
Entergy Nuclear  
1340 Echelon Parkway  
Jackson, MS 39213

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THE SRP SECTION 13.03 FOR THE GRAND GULF COMBINED LICENSE  
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Dear Mr. Williamson:

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The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

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Sincerely,  
**/RA/**  
Rocky D. Foster, Project Manager  
ESBWR/ABWR Projects Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos. 052-0024  
eRAI Tracking No. 1118 and 1120  
Enclosure:  
Request for Additional Information  
Distribution:  
PUBLIC  
NGE 1/2 R/F  
JCruz  
MLesser, RII  
MTonacci, NRO

AJohnson, NRO  
SGreen, NRO  
RSchmitt, NSIR  
SBrock, OGC  
RidsNroDsraSbpb  
RidsNroDnrINge2

**ADAMS Accession No. ML083040249**

**NRO-002**

OFFICE	NSIR/LIB/TR	NSIR/LIB /BC	NGE1/PM	OGC	NGE2/L-PM
NAME	RSchmitt	KWilliams	RFoster	SBrock	MTonacci
DATE	09/22/08	10/03/08	10/07/08	10/14/08	10/30/08

\*Approval captured electronically in the electronic RAI system.

**OFFICIAL RECORD COPY**

Request for Additional Information  
Grand Gulf, Unit 3 COLA  
Entergy Operations, Inc.  
Docket No. 52-024  
SRP Section: 13.03 - Emergency Planning  
Application Section: COLA Part 5

QUESTIONS for Licensing and Inspection Branch (NSIR/DPR/LIB (EP))

13.03-1

**ETE-1: Estimated Population Growth**

Acceptance Criterion: 11, 17

Regulatory Basis: Regulatory Guide 1.206, Appendix 4 to NUREG-0654 Section II.A

- A. Section 2.1.1, "Data Estimates," (page 2-1) states population estimates are based on the 2000 census data that were extrapolated to 2007. The footnote to Table 6-4, "Vehicle Estimates for Various Combinations of Regions and Scenarios," (page 6-6) states permanent resident and shadow populations were not extrapolated to 2007. Explain why the permanent resident and shadow populations were not extrapolated to 2007 as stated in Section 2.1.1.

13.03-2

**ETE-1: Estimated Population Growth**

Acceptance Criterion: 11, 17

Regulatory Basis: Regulatory Guide 1.206, Appendix 4 to NUREG-0654 Section II.A

- B. County-specific projections are based on growth rates estimated by comparing the 2000 census data with the 2004 census data. The data show that the population inside of the plume exposure pathway Emergency Planning Zone (EPZ) has decreased by 3.5%. However, in COL Application Part 3: Grand Gulf Nuclear Station Environmental Report [ER] Section 2.5.1, "Demography," (page 93) which states population estimates for the counties in Mississippi and parishes in Louisiana show increasing trends. Clarify which growth rate is correct and make the appropriate changes to the Evacuation Time Estimate.

13.03-3

**ETE-1: Estimated Population Growth**

Acceptance Criterion: 11, 17

Regulatory Basis: Regulatory Guide 1.206, Appendix 4 to NUREG-0654 Section II.A

- C. Section 2.1.1, "Data Estimates," (page 2-1) states county-specific projections are based upon growth rates estimated by comparing the 2000 census data with 2004 census data. The footnote to Table 6-4, "Vehicle Estimates for Various Combinations of Regions and Scenarios," (page 6-6) states comparisons were made between the 2000 census and the 2006 census. Explain which census data were compared to determine county specific growth rates.

13.03-4

**ETE-2: Site Location and Emergency Planning Zone**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section I.A.

- D. Figure 1-1, "Grand Gulf Site Location," (page 1-6) contains a map of the area showing the plant location, but does not identify road networks, topographical features or political boundaries. Figure 3-1, "Grand Gulf Nuclear Station EPZ [plume exposure pathway Emergency Planning Zone] ERPAs [Emergency Response Planning Areas]," (page 3-4) shows the location of the station with ERPA boundaries but transportation networks and political boundaries are not identified. The entire transportation network is laid out in Figure 1-2, "Grand Gulf Link-Node Analysis Network," (page 1-10) but sufficient detail is not provided to identify the important features of the surrounding areas. Provide detailed maps that clearly identify topographical features, political boundaries, and the transportation network.

13.03-5

**ETE-2: Site Location and Emergency Planning Zone**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section I.A.

- B. Section 1.2, "Grand Gulf Nuclear Station Site Location," (page 1-6) states Figure 1-1 shows surrounding communities, but they are not identified on the map. Provide additional information on the location of communities surrounding the Grand Gulf Nuclear Station.

13.03-6

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- A. Section 2.2., "Study Methodological Assumptions," (page 2-2) assumption #4, states: "Regions (i.e., of the EPZ) are defined by the underlying "keyhole" or circular configurations as specified in NUREG 0654. These Regions, as defined, display irregular boundaries reflecting the geography of the zones included within the underlying configurations." Additionally, in Figure 2-1, "Voluntary Evacuation Methodology," (page 2-3) it shows the "key-hole" region as a two mile circle and going downwind to 5 miles. However, NUREG 0654 does not show the "key-hole" staying at a 2 mile circle and going downwind to 5 miles. Discuss the apparent discrepancy between the text in Assumption #4 and the graphic in Figure 2-1, with respect to the "key-hole" configuration.

13.03-7

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- B. Section 2.3, "Study Assumptions," (page 2-5) assumption #2, states everyone within the group of Emergency Response Planning Areas (ERPAs) forming a Region will evacuate. ERPAs extend to 10 miles from the plant. However, Figure 2-1, "Voluntary Evacuation Methodology," (page 2-3) indicates that the area to evacuate 100% extends to 5 miles

from the plant. Clarify whether 100% of the people out to 10 miles are included in the ETE calculation. If so, Figure 2-1 may need to be modified to be representative of the evacuation assumptions.

13.03-8

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- C. Section 2.3, "Study Assumptions," (page 2-5) assumption #3, states schools may be evacuated prior to notification of the general public. Table 8-5A, "School Evacuation Time Estimates-Good Weather," (page 8-19) estimates that it will take on average of 2 hours and 15 minutes to evacuate the schools in the EPZ. If the assumption is correct the general public would not be notified until 2.25 hours after the emergency has been declared. Provide clarification of assumption #3.

13.03-9

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- D. In Figure 2-1, "Voluntary Evacuation Methodology," (page 2-3) clarify whether the voluntary and shadow evacuation is needed for the calculation of evacuation of the 5-mile ring when adjacent ERPA's extend to the 10-mile EPZ boundary. Would 30% or 35% be assumed for a voluntary/shadow evacuation in the area between the 10- and 15-mile rings?

13.03-10

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- E. Section 2.3, "Study Assumptions," (page 2-5) assumption #3, states that 39% of households will await the return of a family member prior to evacuating. Appendix F, "Telephone Survey," (page F-9) states 67% of households would await the return of a family member. Explain what percent of households is expected to await the return of a commuter.

13.03-11

**ETE-3: ETE General Assumptions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections I.B, Section II.C, Section III.A, IV.A.1

- F. Section 2.3.3, "Study Assumptions," (page 2-5) assumption #5, states traffic control points will be staffed over time and the number and location will depend on the Region being evacuated and available resources.
1. Provide information on changes that would have to be implemented due to lack of resources or regions being evacuated.
  2. Clarify whether there is an affect on the ETE if these traffic control points are not established.

13.03-12

**ETE-4: ETE Methodology**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11  
Regulatory Basis: Appendix 4 to NUREG-0654 Section I.C.

- A. Appendix B, "Traffic Assignment Model," describes the computer model used to analyze evacuation scenarios. Appendix C, "Traffic Simulation Model," discusses the traffic simulation model, PC-DYNEV. Only a few underlying algorithms of the system have been included. Provide a general description of other important algorithms used in the PC-DYNEV traffic simulation model.

13.03-13

**ETE-4: ETE Methodology**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11  
Regulatory Basis: Appendix 4 to NUREG-0654 Section I.C.

- B. With respect to the lane capacity equation in Section 4, "Capacity Estimations on Approaches to Intersections," (page 4-2):
1. Provide an explanation of the parameters, including "Mean Duration of Green Time" and "Mean Queue Discharge." Were these values estimated or field verified?
  2. Clarify whether this equation is applicable for manned intersections.
  3. Explain how the equation is affected by traffic control at intersections.
  4. Discuss whether the modeling, or the equation presented, address traffic through intersections using traffic control.
  5. Discuss the assumptions and inputs for the nodes and segments with respect to the field survey.
  6. Provide additional information on the various known factors (F) influencing  $h_m$ .

13.03-14

**ETE-5: Demand Estimation, Permanent Residents**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11  
Regulatory Basis: Appendix 4 to NUREG-0654 Section II.A.

Table 6.4, "Vehicle Estimates by Scenario," (page 6-6) presents the number of vehicles modeled for each scenario.

1. Clarify whether this table represents the total number of vehicles for a full plume exposure pathway Emergency Planning Zone evacuation.
2. Discuss why the numbers are different for each of the scenarios.

13.03-15

**ETE-6: Demand Estimation, Transient Populations**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11  
Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.B, II.E, IV.B.5

- A. Table 3-3, "Summary of Transient Population and Transient Vehicles," (page 3-12) is not consistent with the text. The peak day attendance at Lake Bruin State Park is listed as 519 but the text on page 3-10 lists it as 350. The table also lists peak evacuation vehicles used as 192 and the text as 128. Explain which values for peak day attendance and evacuating vehicles are correct.

13.03-16

**ETE-6: Demand Estimation, Transient Populations**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.B, II.E, IV.B.5

- B. Figure 5-1, "Events and Activities Preceding the Evacuation Trip," (page 5-7) shows transients will be notified, become aware of the incident, and then evacuate the area. The figure suggests that transients will not be returning to their "residence" prior to evacuation. Explain why the possibility for transients to return to a location to gather belongings was not considered in the evacuation time estimate.

13.03-17

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- A. In Table 8-1, "Transit-Dependent Estimates," (page 8-16) the transit-dependent population definition does not include individuals with special needs that may require assistance to evacuate. Clarify whether this special needs population exists.

13.03-18

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- B. Section 8-4, "Evacuation Time Estimates [ETEs] for Transit-Dependent People," (page 8-7) states if the impacted region is other than Region 3, there will likely be ample transit resources. Clarify whether there are enough buses available to evacuate all schools simultaneously and begin the bus routes for transit-dependent residents. If not, explain the effect multiple bus trips will have on the ETE.

13.03-19

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- C. The mobilization time for the J.B. Evans Correction Center, as discussed on Page 8-14, could range from 4 hours to 5.5 hours depending on the availability of buses. Clarify whether discussions with authorities confirmed that school buses available would be adequate to transport corrections center residents.

13.03-20

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- D. Table 6-3, "Percent of Population Groups for Various Scenarios," (page 6-5) indicates the number of school buses needed to support evacuations.

1. Discuss why 10% of the school buses are planned for use in summer Scenarios 1 and 2 when school is not in session.
2. Discuss why only 10% of the school buses are planned for use as in Scenario 12, which is winter midweek scenario when school is in session.

13.03-21

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- E. Mobilization times in Section 5, "Estimation of Trip Generation Times," do not include information on transit-dependent people getting to bus routes or waiting for buses. A discussion of this procedure is also not included in Section 8.4, "Evacuation Time Estimates for Transit-Dependent People." Explain how transit-dependent individuals are expected to get from their residences to the bus routes, and if this time was factored into the ETE.

13.03-22

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- F. Section 8, "Transit-Dependent and Special Facility Evacuation Time Estimates," (page 8-1) states transit service may be needed for residents, employees, transients, and child care facilities. It is not clear whether population groups other than residents have been factored into the estimates. Clarify how employees, transients, and child care facilities are included in the transit-dependent population estimate. If not, provide information on how the estimates will be modified to include these population groups.

13.03-23

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- G. According to Section 8, "Transit-Dependent and Special Facility Evacuation Time Estimates," (page 8-1) it takes 90 minutes to mobilize drivers and get the buses to their proper locations. This estimate is said to be based on "experience" at other rural plants. Provide information on the "experience" used to establish the mobilization time of 90 minutes for buses.

13.03-24

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- H. Section 8.4, "Evacuation Time Estimates for Transit-Dependent People," (page 8-11) provides an estimation of the amount of time needed to complete a second wave of evacuation. Buses are assumed to travel at an estimated speed of 40 mph. Discuss whether the average inbound bus speed considers that they would have to transverse traffic control points.

13.03-25

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- I. In Section 8.4, "Evacuation Time Estimates for Transit-Dependent People," (page 8-8) it is assumed that it will take 5 minutes to load buses for schools and public transportation in Activity C-D, which references Highway Capacity Manual (HCM) 2000. This would imply that it takes the same amount of time to load high school kids and elementary school kids on a bus. It also implies that people carrying belongings will load at the same speed as children. Provide clarification for the estimated time to load buses for evacuation.

13.03-26

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.

- J. Table 8-4, "Special Facility Transit Demand," (page 8-18) does not include all of the special facilities included in Appendix E, "Special Facility Data," such as the day care centers and the correctional facilities. Explain why these facilities are not included in the Special Facility transit demand analysis.

13.03-27

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- K. Table 8-4, "Special Facility Transit Demand," (page 8-18) indicates that 9 ambulance runs and 18 wheelchair bus runs may be required.
  1. Discuss why values are based on existing census of the facility and not on capacity.
  2. Explain if the transport requirements will increase if capacity values are used.

13.03-28

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- L. Section 8.4, "Evacuation Time Estimates for Transit-Dependent People," (page 8-12) states that additional ambulance are assumed to travel from major cities to the north if resources in the plume exposure pathway Emergency Planning Zone (EPZ) are not sufficient.
  1. Clarify whether there are a sufficient amount of ambulances available to evacuate the current population.
  2. Discuss how additional vehicles will be requested and how this might affect the ETE.

13.03-29

**ETE-7: Demand Estimation, Special Facility Population**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections II.C, II.E, III.A, IV.B.4, IV.B.5

- M. Special facilities that are within the plume exposure pathway Emergency Planning Zone (EPZ) are identified in Table 8.4, “Special Facility Transit Demand,” (page 8-18) and Appendix E, “Special Facility Data,” on an individual basis. A map identifying the physical location of the Special Facilities is not provided. Provide a map identifying the locations of special facilities within the EPZ.

13.03-30

**ETE-8: Demand Estimation, Emergency Planning Zone**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section II.D, Section III.B, IV.B.1

- A. In Table 6-1 (page 6-2) and Table 7-2 (page 7-13) both titled “Definition of Evacuation Regions”, it appears that not all of the Emergency Response Planning Areas (ERPAs) have been assigned to the regions. Provide information to address the following issues:
1. Discuss why ERPA 7 is not included in R4 as it is within the 5-mile ring.
  2. Discuss why ERPA 2A is not included in R5 as it is within the 5-mile ring.
  3. Discuss why ERPA 8 and 12 are not included in R6 as they are within the 5-mile ring.
  4. Discuss why ERPA 7, 8, and 12 are not included in R7 as they are within the 5-mile ring.
  5. Discuss why ERPA 6 is included in R7 as it is not within the SE region.
  6. Discuss why ERPA 10 is not included in R8 as it is within the 10-mile ring.
  7. Discuss why ERPA 7, 8, and 12 are not included in R9 as they are within the 5-mile ring.

13.03-31

**ETE-8: Demand Estimation, Emergency Planning Zone**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section II.D, Section III.B, IV.B.1

- B. In Table 7-1D, “Time to Clear the Indicated Area of 100% of the Affected Population,” (page 7-12) the longest evacuation time for 100% of the population in the Evacuation Time Estimate (ETE) is 4 hours 10 minutes. However, Figure F-11, “Time to Prepare Home for Evacuation, (page F-12) indicates that 360 minutes, or 6 hours, is the time for 100% of the population to “prepare to evacuate.” Explain how the maximum evacuation time for 100% of the public was calculated using the data from Figure F-11.

13.03-32

**ETE-8: Demand Estimation, Emergency Planning Zone**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section II.D, Section III.B, IV.B.1

- C. Section 7.3, “Evacuation Rates,” (page 7-4) states evacuation is a continuous process according to Figures 7-3 through 7-5. It is not clear how the figures describe this process. Provide an explanation for this statement.

13.03-33

**ETE-9: Traffic Capacity, Evacuation Roadway Network**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections III.A, Section III.B

- A. Section 2.3, “Study Assumptions” (page 2-7), assumption #11, states that the Natchez-Trace Parkway will be reserved for the movement of emergency vehicles and will not serve as an evacuation route for the general public.
  - 1. Discuss whether this was confirmed with local law enforcement.
  - 2. Discuss how the nodal network in Figure 1-2, “Grand Gulf Link Node Analysis Network,” (page 1-10), which includes the Natchez-Trace Parkway, was set up in the model to prevent general public use.

13.03-34

**ETE-9: Traffic Capacity, Evacuation Roadway Network**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Sections III.A, Section III.B

- B. A traffic management strategy is included in the plan in Section 9, “Traffic Management Strategy.” Implementation of this strategy, including access control points and traffic control points, is included in Appendix G, “Traffic Control”. It is not clear how these strategies affect the Evacuation Time Estimates (ETEs) or how they are used in the calculations. Explain how the traffic management strategy was applied to ETE.

13.03-35

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- A. Appendix K, “Evacuation Roadway Network Characteristics,” contains road characteristics for the links and nodes, but there is no reference tying them to the map in Figure 1-2, “Grand Gulf Link Node Analysis Network” (page 1-10). The maps also do not contain sector and quadrant boundaries. Provide an annotated map or maps that include the nodes identified in Appendix K, including sector and quadrant boundaries.

13.03-36

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- B. Appendix K, “Evacuation Roadway Network Characteristics,” lists lane widths as 1 or 2 inferring two-lane roads and highways. The actual width of the lane is not provided.
  - 1. Explain how lane widths were measured and if they are one consistent width.
  - 2. Provide the values used for the lane width.

13.03-37

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- C. Section 1.3 “Preliminary Activities” (page 1-7), states that unusual roadway characteristics were identified in the field survey including: Narrow bridges, sharp curves, poor pavement, flood warning signs, inadequate delineations, etc. Discuss how this information was

factored into the calculations for accurate Evacuation Time Estimates (ETE), as described in Grand Gulf Evacuation Time Estimates, Appendix D, "Detailed Description of Study Procedure," KLD Associates, Inc., Rev. 1.

13.03-38

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- D. Section 2.1.3, "Data Estimates," (page 2-1) states that roadway capacity was estimated for each segment based on the field surveys and on the Highway Capacity Manual. Clarify whether the field survey confirmed that lane widths meet the conditions for 'ideal'.

13.03-39

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- E. Discuss the operational considerations applied to the roadway capacity estimate. If necessary, explain the affect on the Evacuation Time Estimate (ETE) if the capacity is determined to be lower than the value used.

13.03-40

**ETE-10: Traffic Capacity, Roadway Segment Characteristics**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section III.B

- F. Section 4, "Estimation of Highway Capacity," (pg. 4-5) states a value of  $R=0.85$  was employed based on empirical data collected on freeways.

1. Describe the empirical data that supports the value of  $R=0.85$ , including how the value was determined.
2. Explain the basis for applying this factor to roadways other than freeways.

13.03-41

**ETE-11: Analysis of Evacuation Times, Report Format**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.A.1

- A. The evacuation times are presented for the evacuation regions and 10 scenarios in Appendix J, "Evacuation time Estimates [ETEs] for all Evacuation Regions and Scenarios." Results are presented for 50%, 90%, 95%, and 100% of the population for good and adverse (rainy) conditions. The format used for presentation of the ETEs is similar to that in Appendix 4 of NUREG-0654, but separate evacuation times for permanent residents and transients are not provided. Explain why separate evacuation estimates were not calculated for residents and transients.

13.03-42

**ETE-11: Analysis of Evacuation Times, Report Format**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.A.1

- B. Table 1-1, "ETE Study Comparisons," (page 1-13/15) identifies that the ETEs for the entire plume exposure pathway Emergency Planning Zone (EPZ) is 4 hours and 4 hours 10 minutes, respectively, for winter and summer, good weather. The Topic would indicate that this is the ETE for the entire EPZ. This estimate does not include special facilities and transients whose evacuation estimates in Table 8-6, "Transit-Dependent Evacuation Time Estimates," (page 8-21) may be greater than 5 hours. Clarify which populations were used for the estimate in Table 1-1.

13.03-43

**ETE-12: Analysis of Evacuation Times, Methodology, Total Evacuation Times**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.1

- A. Regarding the shadow evacuation values used in Table 6-4, "Vehicle Estimates for Various Combinations of Regions and Scenarios," (page 6-6):
1. Provide the assumptions used for developing trip generation times and loading of the transportation network.
  2. Provide the basis for the population used to calculate the shadow evacuation vehicles.

13.03-44

**ETE-12: Analysis of Evacuation Times, Methodology, Total Evacuation Times**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.1

- B. The assumption for the base case for shadow evacuation is stated as 30% in Section 2.2, "Study Methodological Assumptions," (page 2-3) assumption #5 and Figure 2-1, "Voluntary Evacuation Methodology" (page 2-3). Table 6-3, "Percent of Population Groups for Various Scenarios," (page 6-5) shows varying percentages of shadow evacuees for all scenarios. Explain what percentage of shadow residents are expected to evacuate.

13.03-45

**ETE-12: Analysis of Evacuation Times, Methodology, Total Evacuation Times**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.1

- C. Regarding Appendix I, "Evacuation Sensitivity Studies":
1. Provide population values for the percent shadow evacuation in Table I-2, "Evacuation Time Estimates for Shadow Sensitivity Study".
  2. Explain how the 30% increase of vehicles was distributed throughout the plume exposure pathway Emergency Planning Zone. Was this uniform or based on the current population densities?

13.03-46

**ETE-12: Analysis of Evacuation Times, Methodology, Total Evacuation Times**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.1

- D. Table 5-3, "Time Distribution for Employees to Leave Work," (page 5-8) contains a note that states survey data were normalized to distribute the "Don't know" response. Provide an explanation of the note that includes the process used to normalize the data.

13.03-47

**ETE-13: Analysis of Evacuation Times, Methodology, Distribution Functions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.2

- A. The process used to develop trip generation times is discussed in Section 5, "Estimation of Trip Generation Time." For the trip generation time events and activities in Figure 5-1, "Events and Activities Preceding the Evacuation Trip," (page 5-7) it appears that for scenarios (b) and (d), the assumption is that 100% of the public is at home when the sirens sound. These scenarios correspond to weekend, midday, summer and evening, non-summer. Explain the basis for not having a "prepare to leave activity" and "travel home" sequence for these scenarios.

13.03-48

**ETE-13: Analysis of Evacuation Times, Methodology, Distribution Functions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.2

- B. Table 5-3, "Time Distribution for Employees to Leave Work," (page 5-8) identifies 100% of the employees have left work at 95 minutes. However, in Figure F-9, "Time to Prepare to Leave Work/School," (page F-10) the tail of the curve does not reach 100% until 120 minutes. Explain which estimate is correct.

13.03-49

**ETE-13: Analysis of Evacuation Times, Methodology, Distribution Functions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.2

- C. Table 5-4, "Time Distribution for Commuters to Return Home," (page 5-9) identifies 100% of the population returning home in 80 minutes. However, in Figure F-10, "Work to Home Travel Time," (page F-11) the tail of the distribution does not reach 100% until 120 minutes. Explain whether the 100% evacuation Time Estimate (ETE) identified in Table 7-1D, "Time to Clear the Indicated Area of 100% of the Affected Population," (page 7-12) includes these tail values or if the tails were truncated for the tables in Section 5.

13.03-50

**ETE-13: Analysis of Evacuation Times, Methodology, Distribution Functions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.2

- D. Table 5-5, "Time Distribution of Population Ready to Evacuate," (page 5-10) identifies 100% of the population is prepared to evacuate in 145 minutes. Appendix F, "Telephone Survey," (page F-11) states that 90% are prepared in 1.5 hours and the remaining population (10%) may take up to an additional 4.5 hours, or 6 hours in total. Discuss how the Evacuation Time Estimate for 100% of the population can be 4 hours as indicated in Table 7-1D, "Time to Clear the Indicated Area of 100% of the Affected Population," (page 7-12) when it may take up to 6 hours for a portion of the population to prepare to evacuate.

13.03-51

**ETE-13: Analysis of Evacuation Times, Methodology, Distribution Functions**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.2

- E. In Figure 5-2, "Evacuation Mobilization Activities," (page 5-11) the time to prepare home is identified as approximately 140 minutes. However, Appendix F, "Telephone Survey," (page F-12) indicates this would be about 210 minutes and may be as long as 360 minutes. Explain why Figure 5-2 indicates 140 minutes.

13.03-52

**ETE-14: Analysis of Evacuation Times, Methodology, Traffic Congestion**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.3

Congestion patterns are discussed in Section 7.2, "Patterns of Traffic Congestion during Evacuation," (page 7-2). Congestion points are identified in Figures 7-3 through 7-5, "Area of Traffic Congestion After *X time* Advisory to Evacuate," (pages 7-16/18) for 30 minutes, 1 hour, and 3 hours, following advisory to evacuate.

1. Provide information on traffic queue locations (if they exist), and any estimates of traffic delay times.
2. Provide a map that identifies traffic queue locations.

13.03-53

**ETE-15: Analysis of Evacuation Times, Methodology, Maximum Evacuation Times**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section IV.B.6

Table 7-1C, "Time to Clear the Indicated Area of 95% of the Affected Population," (page 7-11) estimates 95% of the population can be evacuated under normal and adverse weather conditions in the same amount of time. Table 7-1D, "Time to Clear the Indicated Area of 100% of the Affected Population," (page 7-12) estimates it will take ten minutes longer to evacuate 100% of the population under adverse conditions. Provide an explanation for why adverse weather does not affect the total evacuation time.

13.03-54

**ETE-16: Other Requirements, Confirmation of Evacuation**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section V.A

The estimated time needed to confirm that the evacuation is complete is 8.5 person hours as stated in Section 12, "Confirmation Time," (page 12-1). Please clarify:

1. Whether the mobilization time for personnel needed to confirm the evacuation has been considered.
2. The amount of time and resources needed to obtain telephone numbers for the plume exposure pathway Emergency Planning Zone (EPZ), which are necessary prior to beginning the telephone survey.
3. Whether the process for confirming the evacuation has been agreed upon by the responsible officials.

13.03-55

**ETE-17: Other Requirements, Specific Recommendations**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section V.B

Section 1.3, "Analytical Tools," (page 1-11) states the analyst can identify bottlenecks and develop countermeasures that are designed to expedite the movement of vehicles.

1. Discuss whether this iterative approach was used.
2. Identify any adjustments that were made to expedite the movement of vehicles and improve evacuation times.
3. Identify whether any such adjustments have been integrated into the traffic management plan.

13.03-56

**ETE-18: Other Requirements, Draft Review**

Acceptance Criteria: Requirements A and H; Acceptance Criterion 11

Regulatory Basis: Appendix 4 to NUREG-0654 Section V.C

The Executive Summary on page ES-2 states that the telephone survey designed to gather population data was reviewed and modified by state and county personnel prior to use. Page ES-5 of the Executive Summary also states that the traffic management plan was reviewed with state and local law enforcement. Section 1.1.4, "Overview of the ETE [Evacuation Time Estimate] Update Process," (page 1-2/4) states that local and state police personnel should review all traffic control plans.

1. Clarify whether such reviews have taken place and whether comments were received.
2. If comments were received, discuss how the comments were addressed.
3. Clarify whether the priority assigned to each traffic control point in Appendix G, "Traffic Control," has been agreed to by local response agencies.

13.03-57

**SITE-1: Medical and Public Health Support and SITE- 11: Assignment of Responsibility**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(8) and (12); Section IV.E of Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion L.1 and 10 CFR 50.47(b)(1); Appendix E to 10 CFR Part 50); NUREG-0654/FEMA-REP-1, Evaluation Criterion A.3  
SRP ACCEPTANCE CRITERIA: Requirement A; Acceptance Criterion 1 and 18

Section II.L.1, "Medical and Public Health Support" describes the arrangements with local and backup hospitals to provide medical services for injured and/or contaminated personnel from

GGNS3. Section II.A.3, "Written Agreements," states that the description of contacts and arrangements provided in Section 3.17, "Contacts and Arrangements" of Part 4, "Emergency Planning Information" of the GGNS ESP is incorporated into the GGNS Emergency Plan by reference. Please describe the type of arrangements, e.g. letter of agreement, that provide assurance that local and backup hospitals will be available and the type of arrangements that refer to the concept of operations developed between not only state, and local agencies, but also other support organizations having an emergency response role within the Emergency Planning Zones, and the applicant for the GGNS.

13.03-58

**SITE-2: Public Education and Information**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(7); Appendix E to 10 CFR Part 50); NUREG-0654/FEMA-REP-1, Evaluation Criterion G.3; Evaluation Criterion G.4

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- A. Section II.G, "Public Education and Information," identifies the EOI company spokesperson, the public affairs liaison, and the Off-site Emergency Coordinator. Describe the distinction between each of the three positions and where each staffing position is located (e.g., EOF, corporate EOI office, etc.,).

13.03-59

**SITE-2: Public Education and Information**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(7); Appendix E to 10 CFR Part 50); NUREG-0654/FEMA-REP-1, Evaluation Criterion G.3; Evaluation Criterion G.4

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- B. Section II.G, "Public Education and Information," identifies the Emergency News Media Center and Corporate Emergency Center in subsection II.G.3, and the Emergency Information Center in subsection II.G.4. Discuss the relationship between the three facilities.

13.03-60

**SITE-3: Radiological Emergency Response Training**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(15), Appendix E to 10 CFR Part 50, Appendix E.IV.F.2.g, to 10 CFR Part 50); NUREG-0654/FEMA-REP-1, Evaluation Criterion O.3; Evaluation Criterion O.4

SRP ACCEPTANCE CRITERIA: Requirement A; Acceptance Criteria 1 and 2

- A. Section II.O, "Radiological Emergency Response Training," states that EOI provides first aid training, including cardio-pulmonary resuscitation (CPR) training, consistent with the projected hazards and events, for selected members of the ERO. Describe the equivalency between the first aid training received from EOI and Red Cross Multi-Media training.

13.03-61

**SITE-3: Radiological Emergency Response Training**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(15), Appendix E to 10 CFR Part 50, Appendix E.IV.F.2.g, to 10 CFR Part 50); NUREG-0654/FEMA-REP-1, Evaluation Criterion O.3; Evaluation Criterion O.4

SRP ACCEPTANCE CRITERIA: Requirement A; Acceptance Criteria 1 and 2

- B. Section II.O.4, "Emergency Response Training and Qualification," states that instructors or evaluators immediately correct any erroneous performance noted during practical drills; and, if appropriate, demonstrate proper performance consistent with approved procedures and accepted standards. Discuss how formal critiques are used to identify weak or deficient areas that need correction during training, including exercises.

13.03-62

**SITE-4: Protective Response**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(10); Section IV.E of Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion J.10.a

SRP ACCEPTANCE CRITERIA: Requirement A; Acceptance Criterion 1

Section II.J10.a, "Protective Response" states that Appendix 4, "Evacuation Time Estimate" of the GGNS Emergency Plan, contains maps of the Plume Exposure Pathway EPZ illustrating evacuation routes, evacuation areas, pre-selected radiological sampling and monitoring points, and locations of shelter areas and relocation centers. Provide the specific locations of the pre-identified sampling/monitoring locations.

13.03-63

**SITE-5: Accident Assessment**

Basis: 10 CFR 50.47(b)(9); 10 CFR 52.79(a)(21); Section IV.E of Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion I.2; Evaluation Criterion I.5

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 4

- B. Section II.I.5, "Accident Assessment," states, in part (page II-43), that Section II.H.8 and Appendix 2, "Radiological Assessment and Monitoring" of the GGNS Emergency Plan provides a description of the meteorological monitoring systems that are used to provide initial values and continuing assessment of meteorological conditions under emergency conditions. Additionally, Appendix 2, Section 2.3, "Remote Interrogation, states that remote polling of meteorological data for GGNS is available through the Emergency Response Data System (ERDS), which is activated by the licensee at an Alert or higher classification.

In contrast, NUREG-0654/FEMA-REP-1, Rev.1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Appendix 2, "Meteorological Criteria for Emergency Preparedness at Operating Nuclear Power Plants," states in part (page 2-5) that..."Documentation for procedures to access and use the system shall be provided to the emergency response organizations and the NRC, and shall be available in the control room, the Technical Support center (TSC) and the emergency Operations Facility (EOF)." Please describe how COL Plan Section II.I.5 "Meteorological Information," comports with the above statement in Appendix 2.

13.03-64

**SITE-6: Emergency Communications**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(6); Appendix E to 10 CFR Part 50; Appendix E.IV.9, to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion F.1.f; Evaluation Criterion F.3

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- A. Section II.F.1.f, "Description of Communication Links" states that EOI provides for communications between Control Room/TSC/EOF and the NRC Operations Center via the systems discussed in Section II.F.1.c, "Description of Communication Links" of the GGNS Emergency Plan. Provide additional information that describes the clear lines of communication, via the applicant's communications systems with NRC Headquarters and the appropriate NRC Regional Office Operations Center, and monthly testing of these lines.

13.03-65

**SITE-6: Emergency Communications**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(6); Appendix E to 10 CFR Part 50; Appendix E.IV.9, to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion F.1.f; Evaluation Criterion F.3

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- B. Section II.F.3, "Communications Systems Tests" states that communications with the facility and EOF and the state/local warning points are tested monthly. Provide clarifying information to ensure that the communications systems with Federal emergency response organizations are tested annually.

13.03-66

**SITE-7: Protective Response**

Basis: 10 CFR 50.47(b)(2); 10 CFR 50, Appendix E.IV.A.2.b; NUREG-0654/FEMA-REP-1, Evaluation Criterion B.2

SRP ACCEPTANCE CRITERIA: Requirement A; Acceptance Criteria 1 and 18

Subsection II.B.5, "Plant Emergency Response Staff," of Section II.B, "On-site Emergency Organization," states that the minimum emergency response staffing in Table II-2, "Plant Staff Emergency Functions," of the GGNS 3 Emergency Plan is based upon guidance provided in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies," of NUREG-0654 and is consistent with the emergency response staffing requirements previously approved and successfully implemented for GGNS Unit 1. It further states that the minimum on-shift staffing and goals for augmenting on-shift resources after declaration of an emergency are also indicated in Table II-2. However, Table B-1 identifies the need for a capability for additional staff within 30 and 60 minutes while Table II-2 of the GGNS 3 Emergency Plan, under the column "Capability for Additions", states "time to be provided" with the following note: "If personnel are on-site they report and augment the on-shift personnel as soon as possible without delay, but no later than 45 minutes." Provide the comparable Table B-1 from the current Unit 1 emergency plan. In addition, describe the bases for the staff augmentation times and staffing requirements in the Unit 1 Table B-1, including how they comport with the guidance in Table B-1 of NUREG-0654.

13.03-67

**SITE-8: Part 2, FSAR**

Basis: 10 CFR 52.79(a)(21); 10 CFR 52.79(b)(1); 10 CFR 50.47; Appendix E of 10 CFR Part 50  
SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

COLA FSAR (Part 2) Section 13, "Conduct of Operations," under subsection 13.1.1, "Management and Technical Support Organization," states that corporate offices provide support for the nuclear stations. This support includes functional level management in areas such as emergency planning. Additionally, in COLA FSAR (part 2) Section 13.1.1.2.11,

“Emergency Organization”, it states that resources of the emergency planning group are shared between units.

Contrary to the above, COLA FSAR (Part 2, page 1-134) Table 1.9-203, “Conformance With the FSAR Content Guidance In RG 1.206,” states in Sections C.III.1, 13.3.2 (1) and (2), that the Unit 3 Emergency Plan is a stand-alone plan and does not rely upon the Emergency Plan for Unit 1.

Provide resolution to the apparent above contradictions, and describe the applicability of the existing Unit 1 emergency plan (including corporate support) to the Unit 3 Emergency Plan and the statements in the COL application.

13.03-68

**SITE-9: Emergency Plan**

Basis: 10 CFR 52.79(a)(21); 10 CFR 52.79(b)(1); 10 CFR 50.47; Appendix E of 10 CFR Part 50

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

Emergency Plan (Part 5) Section II, “Emergency Plan,” states that within each planning standard subsection (except for B, M, and N) a referenced section “of the GGNS ESP is incorporated into this plan by reference. The references to the various sections of the GGNS ESP are actually references to the various corresponding subsections of ESP application SSAR (Part 2), Section 13.3, “Emergency Planning.” (See 10 CFR 52.79(b)(1), which addresses incorporating by reference the early site permit site safety analysis report (ESP SSAR) into the COL application final safety analysis report (FSAR).)

The NRC issued Early Site Permit ESP-002 for the Grand Gulf ESP site on April 5, 2007. Emergency planning is only addressed in ESP-002 Section 1.E, which states in part that “[m]ajor features A, B, C, D, E, F, G, I, J, K, L, O, and P of the emergency plan are acceptable to the extent specified in NUREG-1840, “Safety Evaluation Report for an Early Site Permit (ESP) at the Grand Gulf ESP Site,” issued April, 2006.” The referenced major features of the emergency plan were proposed by the ESP applicant in ESP application SSAR (Part 2), Section 13.3, and the staff reviewed and evaluated the major features in NUREG-1840.

Confirm that the statement “incorporated into this plan by reference” in the COL application planning standard subsections should be references to the corresponding SSAR (Part 2) subsections of the ESP application (Revision 3, March 8, 2006), Section 13.3.

13.03-69

**SITE-10: Exercises and Drills**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(14); Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion N.2.a; Evaluation Criterion N.2.e (2)

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- A. Section II.N.2.a., “Communication Drills,” states that EOI tests communication with affected state agencies within the Ingestion Pathway EPZ, as identified in Section II.A, “Assignment of Responsibility (Organization Control)” of the GGNS Emergency Plan, at least once each calendar quarter. Provide further information that describes the communications testing with Federal emergency response organizations within the ingestion pathway on a quarterly basis.

13.03-70

**SITE-10: Exercises and Drills**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(14); Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion N.2.a; Evaluation Criterion N.2.e (2)

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1 and 2

- B. Section II.N.2.e.(2), "Health Physics Drills," states that EOI conducts on-site Health Physics drills at least semi-annually. Health Physics drills include the use of the Post-Accident Sampling System, response to, and analysis of, simulated elevated airborne and liquid samples, and direct radiation measurements in the environment. Provide clarifying information that describes Health Physics drills that include the analysis of in-plant liquid samples with actual elevated radiation levels including the use of the Post-Accident Sampling System on an annual basis.

13.03-71

**SITE- 13: Emergency Facilities and Equipment**

Basis: 10 CFR 52.79(a)(21); 10 CFR 50.47(b)(8); Section IV.E of Appendix E to 10 CFR Part 50; Appendix E to 10 CFR Part 50; Section VI.1, 2a-.2c, .3a-.3c, and .4a-.4d of Appendix E to 10 CFR Part 50; NUREG-0654/FEMA-REP-1, Evaluation Criterion H.2; Evaluation Criterion H.5

SRP ACCEPTANCE CRITERIA: Requirements A and B; Acceptance Criteria 1, 2, and 12

- A. Section II.H.5, "On-site Monitoring Systems" states that EOI maintains and operates on-site monitoring systems needed to provide data that is essential for initiating emergency measures and performing accident assessment. This includes monitoring systems for geophysical phenomena, radiological conditions, plant processes, and fire hazards. Provide further information to demonstrate compliance with the requirements of 10 CFR Part 50, Appendix E.VI., "Emergency Response Data System."