

July 17, 2008

Mr. Gregory Gibson, Manager  
Regulatory Affairs  
STP Nuclear Operating Company  
P. O. Box 289  
Wadsworth, TX 77483

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 56 RELATED TO  
THE SRP SECTION 13.03 FOR THE SOUTH TEXAS COMBINED LICENSE  
APPLICATION

Dear Mr. Gibson:

By letter dated September 20, 2007, South Texas Project Nuclear Operating Company (STPNOC) 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 45 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.

Mr. Gregory Gibson

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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 2  
Division of New Reactor Licensing  
Office of New Reactors

Docket Nos.: 52-012  
52-013

eRAI Tracking Nos.: 57  
58

Enclosure:  
Request for Additional Information

cc: William Mookhoek

Mr. Gregory Gibson

-2-

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,

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Docket Nos.: 52-012  
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Enclosure:  
Request for Additional Information

cc: William Mookhoek

Distribution:  
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NRO-002

OFFICE	NSIR/DPR/DDEP/LIB/TR	NSIR/DPR/DDEP/LIB/BC	OGC	NGE2/PM
NAME	PChowdhury	KWilliams	SBrock	RFoster
DATE	03/27/08	05/08/08	06/20/08	07/17/08

**\*Approval captured electronically in the electronic RAI system.  
OFFICIAL RECORD COPY**

South Texas Project Units 3 and 4  
South Texas Project Nuclear Operating Co.  
Docket Nos. 52-012 and 52-013  
SRP Section: 13.03 - Emergency Planning  
Application Section: COLA Part 5

QUESTIONS

13.03-1

EVACUATION TIME ESTIMATE (ETE): ETE-1: Subject: Reconciling population projections in ETE (and EP) with those of the FSAR and ER [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50, Section IV; Regulatory Guide (RG) 1.206] Reconcile the population projections given in the ETE (and EP) with those of the FSAR and ER: FSAR Section 2.1S.3, provides different baseline and projected future values, using State of Texas county projections for the Year 2040 to determine an exponential increase rate constant (The Environmental Report also uses the FSAR population numbers in Section 2.5.1, Table 2.5-2.). It appears that the 10-mile resident population differs, the accounting for employees at OXEA, Equistar, and the STP differ. It is not possible to separate out the hotel/motel, recreation area, marina, and seasonal residents in the FSAR presentation, but they are not the same as in the ETE. Explain the differences.

13.03-2

EVACUATION TIME ESTIMATE (ETE): ETE-2: Subject: Missing information on communities [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. I] Provide missing information on communities: Section 1.2 states that Figure 1-1 identifies the communities in the area; however, this does not include communities. Include the communities on Figure 1-1.

13.03-3

EVACUATION TIME ESTIMATE (ETE): ETE-3: Subject: Information on MCR and political boundaries [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. I.A] (1). The current base map for all of the GIS-type figures appears to be outdated – none include the Main Cooling Reservoir (MCR). Provide updated maps to include the MCR. (2) Provide a separate updated map that identifies the political boundaries in the area.

13.03-4

EVACUATION TIME ESTIMATE (ETE): ETE-4: Subject: Additional information on assumptions [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. I.B] Provide additional information to support assumptions: (1) Clarify why Section 2.3, number 3b states 70% of households will await the return of a commuter, but Table 6-4 identifies a maximum value of 50% residents with commuters. Identify which value was used in the ETE calculation. (2) Clarify whether traffic control points in Section 3.2, assumption #7 were considered in the ETE calculation. The assumption states these should be established along routes to the Reception Centers to facilitate traffic flow. Clarify whether local emergency response agencies, such as Bay City police, have agreed to establish traffic control at the positions indicated. Identify the effect this would have on the ETE if the assumed traffic control points are not implemented.

13.03-5

EVACUATION TIME ESTIMATE (ETE): ETE-5: Subject: Additional information on methodology [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. I.C] Provide additional information on the methodology: 1) The report identifies PCDYNEV as the tool used for the travel time computation, but none of the underlying algorithms of the system have been included. Provide a general description of the algorithms. 2) Clarify the phrase in Section 7.3 “relatively few evacuation routes service the remaining demand”. This may be a terminology issue, but in fact all evacuation routes are available to service the remaining demand.

13.03-6

EVACUATION TIME ESTIMATE (ETE): ETE-6: Subject: Additional information on transient population [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II] 1) Provide additional information on the development of the transient population estimates: Page 3-8 and 3-9 identify values for the transient population that do not equal the values in Table 3-3. The population is identified for facilities including the golf course, harbor, lighthouse RV park, Riverside Park and Campgrounds, hotels and motels, seasonal homes, Matagorda Beach, and the Matagorda Bay Nature Park. Explain the differences between the total for the facilities listed and Table 3-3 which summarizes the values. 2) Provide clarification of Table 3-4: Table 3-4 provides an estimate for the Non-EPZ employees. A Zone 12 is listed on this table that appears to be an error as there are only 11 zones elsewhere. Clarify.

13.03-7

EVACUATION TIME ESTIMATE (ETE): ETE-7: Subject: Additional information on assumptions [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II.A] Provide additional information on the assumptions related to persons that require public assistance: The routes for individuals requiring public transit are identified, but there is no mention of how transit dependent individuals get from their residence to these bus routes. Provide information on the means by which these individuals are assumed to get themselves to the transit routes and clarify that the time required for this action is included in the ETE.

13.03-8

EVACUATION TIME ESTIMATE (ETE): ETE-8: Subject: Additional information on transient and peak population [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II.B] 1) Provide additional information for the transient population: a) Assumption number 6 states that there are 5000 people on the beach, the peak population of the beach is identified as 6,000 in Section 3, and a beach population of 1,130 is listed in Table 3.3. Clarify which value was used in the ETE calculations. If more than one were used, clarify which scenarios each value was used in. b) The FSAR mentions additional parks in the EPZ: Baycel Golf Club, FM 251 River Park (Wadsworth Park), and the Mad Island Wildlife Management Area. Clarify whether transients in these parks have been included in the ETE. c) The ETE estimates a seasonal (summer-home) population of 2817 based on a 1994 report, while the FSAR states that it is 1864 based on USCB estimates. Are the USCB and ETE methods for estimating seasonal residents the same? d) The ETE mentions that estimates of non-resident employees were provided by the Matagorda County Emergency Management Office. Appendix E identifies large employers as special facilities. But Section 8 does not identify large employers as special facilities. The reported number of employees differs markedly between the FSAR and ETE. Clarify where the employer evacuees were considered, and how many, in the calculation? 2) Provide additional information on the peak population

used in calculating the ETE: Table 6.5 presents a summary that is generally consistent with other tables; however, it is not stated how this table was used in the calculation. Section 5 states that the peak population within the EPZ approximates 6,850 people; clarify if Table 6.5 presents the number of vehicles modeled. Clarify whether the percentages in Figure 7.1 were invoked upon the values from Table 6.5. Clarify how Figure 7.1 "Assumed Evacuation Response" was integrated into the ETE calculation.

#### 13.03-9

EVACUATION TIME ESTIMATE (ETE): ETE-9: Subject: Additional information on special facility population [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II.C] Additional information is needed to support the analysis of the special facility population: Clarify why the basis for loading school children in five minutes is the same as loading of public transportation buses as described in Section 8.3 which references the HCM 2000. School bus loading is quite different. Teachers must have children seated and accounted for prior to leaving, whereas public buses do not wait for all parties to sit prior to driving.

#### 13.03-10

EVACUATION TIME ESTIMATE (ETE): ETE-10: Subject: Additional information on subarea and on use of evacuee quantities [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II.D] 1) Provide additional information on the subarea descriptions: Explain where the 'Affected Downwind Sectors' in column two of Table 6-1 are located. 2) Provide additional information on how quantities of evacuees were actually used in the calculation of the ETE: a) Clarify how the percentages of evacuees in Figure 2-1 were allocated within the calculations. Inform if any calculations were performed for a 100% evacuation of the EPZ. b) Clarify where in Table 6.5 the vehicles of employees involved in constructing the new plant are included. The definitions for Table 6.4 would indicate that these are included in the Special Events column. If so, clarify why the vehicles do not appear to be 'in addition' to the special event population. c) In Table 6.5, clarify what the school buses are for in Scenarios 1 and 2 which are summer scenarios. d) Section 7.1 states that both voluntary and shadow evacuations are assumed to take place (or "shelter in place") over the same time frame. Clarify how shelter in place is used in this context and how this affects the ETE calculation. e) Provide the population used to calculate the shadow evacuation identified in Section 7.1.

#### 13.03-11

EVACUATION TIME ESTIMATE (ETE): ETE-11: Subject: Reconciling details of figures [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. II.E] Figure 10-1 indicates two public Reception Centers (one in Bay City and one in Palacios). Figure 10-2 indicates four Reception Centers (including a second in Bay City and one in Markham). Neither indicates the school Reception Center in Blessing. Reconcile these figures.

#### 13.03-12

EVACUATION TIME ESTIMATE (ETE): ETE-12: Subject: Additional detail on analysis of travel times and congestion [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. III] Provide additional detail on the analysis of travel times and congestion: 1) Explain how Figures 7-3 and 7-4 as referenced in Section 7.3 imply that evacuation is a continuous process. 2) Explain how Figure 7.5 indicates the rate at which traffic flows out of the indicated area as stated in Section 7.3. 3) Following the example in Section 7.4 does not yield the

result of four hours as indicated. Clarify whether REGION R10 in the example should have read "REGION R21" which would correspond to a time of 3:30 rather than four hours as indicated.

4) Explain how the traffic management plan identified in Section 9 and Appendix G was integrated into the ETE calculation. Does the time estimate depend upon these controls being in place? Clarify whether the priority for establishing traffic control points (Section 9) has been agreed to by local and state response agencies. 5) There are 28 traffic control points identified in the Attachment D, State of Texas Emergency Management Plan and there are 10 traffic control points identified on Figure G-1. Clarify which arrangement is used in the ETE calculation. Clarify if county or state officials reviewed and concurred with the traffic control point arrangements in the ETE.

#### 13.03-13

EVACUATION TIME ESTIMATE (ETE): ETE-13: Subject: Additional information and map [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. III.A] 1) Provide additional information to clarify the evacuation routes: The evacuation routes shown on Figure 10-2 do not correspond to the routes presented in Attachment 5 of Chapter 2 of the State of Texas Emergency Management Plan. Clarify which set of evacuation routes would be used. 2) Provide an additional map or maps that include the roadway network with legible nodes: a) Provide a map or maps that include the nodes identified in Appendix K. A larger scale may be necessary. b) Provide a roadway map that includes the sector and quadrant boundaries. c) The existing node network on Figure 1.2 appears to be missing a segment south and east of the plant. A node is represented with inputs from two directions and no output segments. d) Investigate whether the link-node map used for the evacuation time estimates includes the connection at the south-east corner of the main cooling reservoir (MCR). e) The node network of Figure 1-2 includes a segment that is not illustrated in Figure I-1 of the STP 3 and 4 Emergency Plan Figure I-1 and the November 20, 2003 map of "Designated Evacuation Routes, Traffic and Access Control Points" in the Texas Emergency Management Plan Tab 1 Chapter 2 Attachment 5. Confirm that Bear Ranch Road (CR248) connects with Brimstader Road (CR241), south of the route intersection with Chinquadin Road (CR 262). f) Clarify what width was used for a 'Full Lane'. Explain why lane widths do not vary within the EPZ?

#### 13.03-14

EVACUATION TIME ESTIMATE (ETE): ETE-14: Subject: Additional information on roadway segment [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. III.B] Provide additional information on the roadway segment characteristic. Clarify for Appendix K what value was used for lane width. Identify where the narrowest roadway sections exist within the roadway network and explain how this was factored into the calculation.

#### 13.03-15

EVACUATION TIME ESTIMATE (ETE): ETE-15: Subject: Additional information on adverse weather [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. IV.A] 1) Additional information is needed on the adverse weather condition: a) Explain why dense fog which is experienced in coastal settings, including Matagorda County, is not considered an adverse weather case. b) The previous ETE for Units 1 and 2 also included consideration of flooding. Because of the low, flat nature of the local terrain, and the rural nature of the road network, flooding may be a problem. Flood potential is not discussed anywhere in the ETE report, although it is noted in Section 1.3 that flood warning signs were noted during the field survey of the road network. Some of the designated evacuation routes cross rivers and/or smaller

streams. Explain why localized flooding could not be an impediment to evacuation. 2) Provide a basis for the adverse weather times in Table 7.1C and D: a) In Table 7.1C, for R06 and R07, there is a reduction in evacuation time from 2:50 to 2:40 between normal conditions and adverse for the summer weekend midday scenario. Clarify if this is a mistake or provide a basis on why adverse weather would reduce the evacuation time. b) In Table 7.1D explain why adverse weather does not affect the evacuation times for any scenario.

13.03-16

EVACUATION TIME ESTIMATE (ETE): ETE-16: Subject: Additional information to clarify assumptions [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. IV.A] Provide additional information to clarify the underlying assumptions on evacuation scenarios: a) Clarify why in Table 6.5, the shadow evacuation has three values (33%, 49%, and 50%) while Figure 2.1 indicates a maximum shadow evacuation of 30%. b) Employees are identified primarily as plant personnel. Clarify if the plant does reduce to 15% staff during scenarios 3, 4, 5 and 8, 9, 10, 11. c) Clarify why Table 6.4 indicates that 50% of households are residence with commuters in Scenario 1. Whereas assumption 3b in Section 2 states that 70% of households have commuters that will return. d) Table 2 in Appendix 4 of NUREG-0654 shows the desired format for presenting the data and results for each type of evacuation. Each of the evacuation time components is presented along with the total evacuation time. Explain if the methodology used does not allow separating the evacuation time for permanent residents and transients.

13.03-17

EVACUATION TIME ESTIMATE (ETE): ETE-17: Subject: Additional information on various items [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. IV.B] 1) Provide additional information to clarify the development of trip generation times: For the events and activities described in Figure 5-1, explain why item number 2 (aware of accident) is not necessary to include in sequence (b) for residents and in sequence (d). 2) Provide additional information on the on road travel times and delay times: a) Figures 7.3 thru 7.5 indicates Level of Service F (congestion) at 45 minutes, 1.5 hours, and 2.5 hours after advisory to evacuate. Clarify which scenario these Figures represent. Clarify if congestion occurs during other scenarios. Clarify when congestion is alleviated. b) Provide estimates of the delay times at the intersections of State Highway 60 with routes 2668, 521 (north and south interchanges), and Ingram Street in Matagorda. 3) Provide additional information on the assumptions used in developing the ETes for the non car owning public: Section 8.3 states that buses should be dispatched for transit dependent people after those people have mobilized and are in a position to board the buses. Explain how the time estimate for mobilizing these buses was derived. Explain how the local authorities would inform the transit dependent public the time at which buses should be expected to arrive. 4) Provide additional details for the non-auto owning population: Provide a basis for the assumption that the speed for buses is 30 mph as indicated in Figure 8.6A. According to the HCM, 2000 when stopping and loading twice per mile are included; speeds of 15 mph would be more realistic. Clarify how these speeds can be achieved when buses are mixed with evacuating traffic and traveling through multiple traffic control points. Clarify how many stops the buses are expected to make. Clarify how long a bus is expected to wait for individuals at the bus stops. Explain why the chronology in Figure 8.1 does not include time to notify drivers and time for drivers to travel to bus depot, pick up the bus and receive routing instructions. Provide a basis for unloading the bus in 5 minutes as shown in Figure 8.6A and discussed in Section 8.3. This appears aggressive for individuals who are likely carrying belongings for 3 days. Explain why the ETE for the second wave in Table 8.6A and B is not an aggregate value inclusive of the time for the first wave. Alternately, provide a total ETE for the transit dependent population. 5) Provide information on any special services that might be initiated to serve this population subgroup:



a) The emergency planning brochure states that disabled residents that may need help in an evacuation register with the Matagorda County Chapter of the Red Cross. Those who require assistance during a disaster should place an orange "Assistance Needed" card in their window. Clarify whether any non-ambulatory special needs individuals have been identified in the population? Clarify whether Matagorda County has received any requests that might require special vehicles to support mobilization and transportation transit dependent individuals. Clarify, if necessary, whether the time to obtain transportation, mobilize and transport the non-ambulatory subgroup has been included in the ETE calculation. b) Because of the limited number of bus routes (effectively 2), there is considerable distance to potential pick-up points from individual homes. Explain (i) where assembly locations are designated, and (ii) how transit-dependent individuals get to the assembly points. 6) Provide additional information on the assumptions used in developing the ETE for special facilities: a) Clarify the number of buses and drivers needed to evacuate the schools. b) Clarify the mobilization time for buses and drivers. Section 8.3 states that drivers remain at or near the school throughout the day. The State of Texas Emergency Management Plan indicates some buses could come from Bay City or Palacios. Clarify if the time to notify drivers, time for drivers to mobilize, and drive to the schools has been considered. c) Table 8.4A indicates bus speeds of 45 mph for school buses. Clarify how these speeds can be achieved when mixed with evacuating traffic and traveling through multiple traffic control points. Clarify how the congestion indicated on Figures 7.3 and 7.4 affect the speed of the buses. d) Provide information about the ability to quickly shut down and evacuate the Celanese/OXEA and Lyondell/Equistar chemical facilities, and the necessity of any residual staff, and whether these considerations are included in Section 5, Distribution No. 2. e) There is a small community just east of the main cooling reservoir (MCR) with no direct road access ("Exotic Isle"). Explain why this should not be considered to be a "special facility". 7) Provide additional information about permanent resident and transient evacuation times: A variant of the NUREG-0654 format is used. Explain if there is a difference in the evacuation times for permanent residents and transients (the methodology used may not allow it).

13.03-18

EVACUATION TIME ESTIMATE (ETE): ETE-18: Subject: Additional information on evacuation, and on State/ County planners [Basis: 10 CFR 52.79(a); Appendix E to 10 CFR 50; NUREG-0654 FEMA-REP-1, Rev. 1, November 1980, App.4, Sec. V] 1) Provide additional information to support the time required for confirmation of evacuation: a) The requirement states the "time required for confirmation of evacuation shall be estimated". Clarify why the time for 80% of the population to evacuate is relevant. Provide an estimate of the time needed to confirm that the evacuation is complete. b) The ETE states that the confirmation time is suggested and that the county may have its own approach. Clarify whether the time for confirming the evacuation been agreed upon by the responsible county officials? Provide information to support that the time required to obtain the personnel needed to confirm the evacuation has been included in the time estimate. Provide information on the time and resources needed to obtain telephone numbers for the EPZ which are necessary prior to beginning the telephone survey. c) Provide information on the effect of intelligent transportation systems (ITS), dynamic message signs, and highway advisory radio, on the ETE as identified in Section 9. Explain if these systems were considered in the time estimate. If these were considered, clarify whether these systems and equipment are available within the EPZ. 2) Provide additional information on the involvement of State and county emergency planners and local and state police: Clarify whether state and local organizations involved in emergency response reviewed the entire ETE plan or just the traffic control plan. Clarify, whether state and local organizations provided any comments. Include any comments and resolution of such comments in the ETE document.

13.03-19

ONSITE EMERGENCY PLAN: SITE-1: Subject: Formatting "Table of Contents" [Basis: 10 CFR 50.47(b); Appendix E to 10 CFR 50] Refer to the Emergency Plan "Table of Contents": 1) Provide a formatted "Table of Contents" with a header identifying "Section", "Title" "Page", etc. 2) 5.3 is titled "Threshold Value Technical Basis"; provide clarification on what the threshold values are for, 3) Section 5.5, 5.6.1, 5.6.2, 5.6.3, 5.7, 5.8: clarify for which organization(s) these items are referenced

13.03-20

ONSITE EMERGENCY PLAN: SITE-2: Subject: Verification of citation [Basis: 10 CFR 50.47(b); Appendix E to 10 CFR 50] Emergency Plan Section "A Introduction", Section C.3 and some other Sections cite "NUREG-0654/Federal Emergency Management Agency Report-1, Rev. 1". The title of this citation appears wrong; verify the exact title of this citation and provide correction.

13.03-21

ONSITE EMERGENCY PLAN: SITE-3: Subject: Clarification on EPZ population distribution [Basis: 10 CFR 50.47(b); Appendix E to 10 CFR 50] Section "A.7 Station Population Areas" refers to Table A-1 and states: "The estimated population based on a 2000 census, within the two (2) mile radius of the Station is 0, and within the five (5) mile radius is 580". It appears that the number 580 applies to the total population of emergency planning zones 1 through 5 appearing in Table A-2. Clarify how "580" applies to the population within five (5) mile radius.

13.03-22

ONSITE EMERGENCY PLAN: SITE-5: Subject: Clarification on references to procedures [Basis: 10 CFR 50.47(b); Appendix E to 10 CFR 50] Previous references to some procedures (e.g., 0EPR01-ZV-IN01 in Emergency Plan, Section D.1 and Section D.2) have been struck out. Provide clarification if those procedures have been altogether eliminated, or replaced with new procedures, and if so, provide new references in the appropriate locations of the Emergency Plan.

13.03-23

ONSITE EMERGENCY PLAN: SITE-6: Subject: Confirmation and conclusion on a 50.54(q) review [Basis: 10 CFR 52.79(41), 10 CFR 52.79(b)(4)(last sentence), 10 CFR 50.54(q); RG 1.206, Section 13.3.2] RG 1.206, Section C.I.13.3.2 Emergency Plan Considerations for Multi-unit Sites states: If the new reactor is located on, or near, an operating reactor site with an existing emergency plan (i.e., multiunit site), and the emergency plan for the new reactor includes various elements of the existing plan, the application should do the following: (2) Include a review of the proposed extension of the existing site's emergency plan pursuant to 10 CFR 50.54(q), to ensure that the addition of a new reactor(s) would not decrease the effectiveness of the existing plans and the plans, as changed, would continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50. Note: Reference is made to the conference call of October 29, 2007, 3:15 p.m. with Mr. Fred Puleo, representing the applicant: The applicant said they had performed a review of proposed extension of the existing site's emergency plan pursuant to 10 CFR 50.54(q), and determined that the addition of two new reactors would not decrease the effectiveness of the existing plans. This statement is not included in the application, and explicit documentation in support of this does not exist. Provide a statement confirming that a review of the proposed extension of the existing site's emergency plan pursuant to 10 CFR 50.54(q) was performed, and it was determined that the addition of two new reactors would not decrease the effectiveness of the existing plans, and the plans as changed, would

continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR Part 50.

13.03-24

ONSITE EMERGENCY PLAN: SITE-7: Subject: Verification of Appendix E cross reference [Basis: 10 CFR 50.47(b); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980] Several NUREG-0654 Evaluation Criteria cross references to Appendix E, IV, that are provided in "Attachment 1 Cross Reference" to Emergency Plan, appear to be less or not appropriate; for example, "Attachment 1 Cross Reference" identifies Appendix E, IV.A.6 as being applicable to NUREG-0654 Criterion A.1.a. Appendix E, IV.A.8 appears more appropriate in this case. Verify this and all cross references and provide correction, or provide justification to retain the statement as written.

13.03-25

ONSITE EMERGENCY PLAN: SITE-8: Subject: Verification of statements [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.a] 1) Last line of Section B.4.7 "Matagorda County Sheriff's Office" of the Emergency Plan states "...in approximately thirty minutes, on a 24 hours a day basis". This response time is not specified in the Letter of Agreement (LOA) between the applicant and the Matagorda County Sheriff's Office. Verify this statement and provide correction, or provide justification to retain the statement as written. 2) The first sentence of Section B.4.8 "United States Coast Guard (Corpus Christi)" of the Emergency Plan states "...and if necessary, aircraft and surface craft during emergency situations that may develop at the Station". No statement regarding "aircraft and surface craft" appears in the Letter of Agreement (LOA) between the applicant and the United States Coast Guard (Corpus Christi). Verify this statement and provide correction, or provide justification to retain the statement as written. 3) The first sentence of Section B.4.9 "United States Coast Guard (Galveston)" of the Emergency Plan states "...traffic control on the Colorado River and other navigable waters in the vicinity of the Station by use of marine warnings, and if necessary, aircraft and surface craft during emergency situations that may develop at the Station". No such statement appears in the Letter of Agreement (LOA) between the applicant and the United States Coast Guard (Galveston). Verify this statement and provide correction, or provide justification to retain the statement as written. The last sentence of Section B.4.9 "United States Coast Guard (Galveston)" of the Emergency Plan states "...within approximately four hours, on a 24 hours a day basis". This response time is not specified in the Letter of Agreement (LOA) between the applicant and the United States Coast Guard (Galveston). Verify this statement and provide correction, or provide justification to retain the statement as written. 4) Section B.4.10 of the Emergency Plan "Resources of Other Federal Agencies", mentions "Federal National Response Plan". This title does not appear correct. Verify this and provide correction, or provide justification to retain the statements as written.

13.03-26

ONSITE EMERGENCY PLAN: SITE-9: Subject: COM EP-1 "Commitment Summary"; NSSS vendor [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.a] 1) Refer to ABR-AE-07000004, Attachment 3, Page 13 of 13, COM EP-1 "Commitment Summary". It will be appropriate to incorporate, in the narrative appearing in Section B.5.2 of the Emergency Plan, a statement regarding signing of a "Letter of Agreement (LOA)" with the NSSS vendor. 2) Per Figure F-2 of the Emergency Plan, General Electric (GE) appears to be the NSSS vendor for the proposed Units 3 and 4. Verify this and provide a response.

13.03-27

ONSITE EMERGENCY PLAN: SITE-10: Subject: Letter of Agreement with OXEA Chemicals [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criteria A.1.a and B.9] Section B.5.4 of the Emergency Plan mentions "OXEA Chemicals". The narrative in this section cites "separate Letters of Agreement". However, no Letter of Agreement (LOA) is found in the application or the Emergency Plan between the applicant and OXEA Chemicals. Provide LOA with OXEA Chemicals to address the requirement of NUREG-0654 Criteria A.1.a and B.9, or justify why it is not included.

13.03-28

ONSITE EMERGENCY PLAN: SITE-11: Subject: Letters of Agreement [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.a] 1) Section B.5.8 of the Emergency Plan cites a Letter of Agreement (LOA) from the Institute of Nuclear Power Operations (INPO); however, this LOA is not addressed to the applicant; also, it does not provide for "24 hours a day basis" support. Revise the LOA with INPO and resubmit, or provide justification to retain the current version. 2) Refer to Section B.5.9 of the Emergency Plan. Provide a copy of the endorsement on Nuclear Energy Liability Insurance procured from the American Nuclear Insurers (ANI) indicating inclusion of the proposed Units 3 and 4 in the policy, or provide a statement regarding the expected time of obtaining a new or revised policy to include Units 3 and 4. 3) In Section B.5.11 of the Emergency Plan, the text cites a Letter of Agreement (LOA) with Areva NP Inc. to "...provide assistance in the radioanalyses of environmental samples or personnel dosimetry..". The LOA submitted with the application does not mention "personnel dosimetry". Provide a revised copy of the LOA with Areva NP Inc. or provide justification to retain the current version. 4) Revise Section B.5.17 of the Emergency Plan to reflect the Letter of Agreement (LOA) with Matagorda County Environmental Health. Also reflect in this Section response "on a 24 hour per day basis", or provide justification to retain the statement as written.

13.03-29

ONSITE EMERGENCY PLAN: SITE-12: Subject: Text for maintaining clarity [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.a] Refer to Plan Section B.6.2, 2nd bullet: "Upon declaration of a classified emergency," has been inserted at the beginning of this bullet. It will be appropriate to add "by the Station's Unit-specific Emergency Director" (or a similar statement) after the inserted text in order to maintain clarity, since "The Station's Emergency Director initiates a declaration of Unusual Event, Alert, Site Area Emergency, or General Emergency." has been struck out.

13.03-30

ONSITE EMERGENCY PLAN: SITE-13: Subject: Plan Section and NUREG-0654 cross reference [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.b] "Attachment 1 Cross Reference" to Emergency Plan identifies Plan Section B.1 as being responsive to NUREG-0654 Criterion A.1.b. However, Plan Section B.1 does not specify "its (each organization's) concept of operations, and its (each organization's) relationship to the total effort". It appears that Plan Sections B.2 through B.6 address the relevant requirement. Verify this cross reference and provide correction, or provide justification to retain the statement as written.

13.03-31

ONSITE EMERGENCY PLAN: SITE-14: Subject: Assignment of Unit Supervisor; responsibilities of Plant Operators [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:

Criterion A.1.c] 1) Figure C-1 identifies “Offsite Communicator (5)”. According to the legend provided, Plant Operators fill these positions. Emergency Plan Section “C.3.7 Plant Operators” identifies 6 responsibilities for onshift Plant operations personnel, and then adds “A Plant Operator is assigned to report to the affected unit’s control room upon any declaration of the Emergency Plan to act as the State/County Communicator”. Explain why this responsibility is not conflicting to the 6 previously identified responsibilities.

13.03-32

ONSITE EMERGENCY PLAN: SITE-15: Subject: Consistency between header and text [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.1.d] The header for Plan Section C.3.6 needs to be consistent with the inserted text.

13.03-33

ONSITE EMERGENCY PLAN: SITE-16: Subject: Clarification for Figure B-1 [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criteria A.1.c, A.2a] Figure B-1 of the Emergency Plan identifies National Response Plan as a “LEAD ORGANIZATION” (see legend at the bottom of the Figure B-1). A plan cannot serve as an organization. Provide proper nomenclature or provide justification to retain the statement as written.

13.03-34

ONSITE EMERGENCY PLAN: SITE-17: Subject: Clarification for Table B-1 [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.2.a] Emergency Plan, Section “B Assignment of Responsibility” refers to Table B-1. This table identifies “Department of State Health Services” (DSHS) as an organization and “Bureau Chief” as the “Individual in Charge” for that organization. Clarify if the title of the Chief of DSHS is “Bureau Chief” or the “Bureau Chief” belongs to another organization which is a Bureau under DSHS.

13.03-35

ONSITE EMERGENCY PLAN: SITE-18: Subject: Plan Section and NUREG-0654 cross reference [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.2.a] Emergency Plan, Section B.1 should be included in the Plan Section reference (Attachment 1 Cross Reference) for NUREG-0654 Criterion A.2.a.

13.03-36

ONSITE EMERGENCY PLAN: SITE-19: Subject: OSC activation [Basis: 10 CFR 50.47(b)(1); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion A.2.a] In Plan Section “C.4.8 Operations Support Center Coordinator”, identify when the Operations Support Center (OSC) Coordinator reports to OSC; this is needed for consistency with the narratives of other facilities listed under C.4.

13.03-37

ONSITE EMERGENCY PLAN: SITE-20: Subject: Addressing of stipulations in NUREG-0654 [Basis: 10 CFR 50.47(b)(2); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion B.3] 1) Emergency Plan Section C.3, cross-referenced in “Attachment 1 Cross Reference” as addressing part of NUREG-0654 Criterion B.3, does not identify “a line of succession” as stipulated in the Criterion.

Include in C.3 additional text to address this, or provide justification to retain the statement as written. 2) Emergency Plan Sections C.4.1 and C.4.9, cross-referenced in "Attachment 1 Cross Reference" as addressing part of NUREG-0654 Criterion B.3, do not identify "specific conditions" as stipulated in NUREG-0654 Criterion B.3. Include in C.4.1 and C.4.9 additional text to address this, or provide justification to retain the statement as written.

13.03-38

ONSITE EMERGENCY PLAN: SITE-21: Subject: Apparent inconsistencies in staff augmentation statements [Basis: 10 CFR 50.47(b)(2); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion B.5, and Table B-1] [NOTE: In response to the questions on minimum staffing and augmentation, information contained in the following publicly available document, particularly Attachment 2 ("Smart Application Template for Requesting Emergency Plan Changes Related to On-Shift Staffing Levels and Augmentation Times"), may be utilized: "SUMMARY OF MEETING WITH THE NUCLEAR ENERGY INSTITUTE REGARDING THE DEVELOPMENT OF A SMART APPLICATION TEMPLATE RELATED TO ON-SHIFT STAFFING LEVELS AND AUGMENTATION TIMES CHANGES" (NRC ADAMS Accession Number ML042530011; dated September 9, 2004)]

1) Section C. 4 of the Emergency Plan states: "Those members of the Emergency Response Organization who are not on site at the time of the emergency shall be able to augment the Onshift Response Organization within approximately 60 to 75 minutes of being notified as specified in Table C-1(prior to fuel load) to provide manning levels recommended in NUREG-0654." According to "Attachment 1: Cross Reference", Table C-1 of the Emergency Plan is responsive to NUREG-0654, Table B-1 (see NUREG-0654 Criterion B.5). There are differences between NUREG-0654 Table B-1 and Emergency Plan Table C-1, and additional information is being requested as follows: a) Explain why 30-minute "Capability for Additions" is not included in Table C-1. Per NUREG-0654, 30-minute augmentation is identified for Functional Areas "Notification/ Communication", "Radiological Accident Assessment and Support of Operational Accident Assessment", "Plant System Engineering, Repair and Corrective Actions", and "Protective Actions (In-Plant)". Justify how and indicate where the identified additional staffing need and/or function are satisfied; b) In the struck-out Table C-1, a column existed with the title "AVAILABLE 75 MINUTES#". Explain why this column was deleted, and justify how and indicate where the resulting changes are addressed; c) The note with "#" at the end of Table C-1 says: "Although such a short response time may be achieved in many cases, it is not possible to assure this response time in every instance.". Elaborate which cases and under what conditions this stipulation will be used, and why a disclaimer to program capabilities is necessary in relation to NUREG-0654; d) Under Major Functional Area "Radiological Accident Assessment and Support of Operational Accident Assessment", 2 personnel onshift were identified for Major Task "onsite/offsite surveys". Justify how and indicate where the identified additional staffing need and/or function are satisfied in comparison to any unit requirements for HP expertise (per Tech. Specs. or other specific requirements); e) Under Major Functional Areas "Radiological Accident Assessment and Support of Operational Accident Assessment" and "Protective Actions (In-Plant)", NUREG-0654 identifies 7 HP (RP) Tech.-specific positions to be available within 30 minutes. Table C-1 does not provide clear staffing to satisfy this need within 30 minutes, but does identify 11 HP (RP) Tech.-specific positions available to respond within 60 minutes. Justify how and indicate where the identified staffing need and/or function are satisfied for the 30-minute positions; f) Under Major Functional Area "Plant System Engineering, Repair and Corrective Actions", NUREG-0654 identifies one "Core/ Thermal Hydraulics" position for Major Task "Technical Support" to be available within 30 minutes. Table C-1 identifies one "Nuclear Engineer" to be available within 60 minutes. This is contrary to the stipulation in NUREG-0654. Justify how and indicate where the identified additional staffing need and/or function are satisfied; g) Under Major Functional Area "Plant System Engineering, Repair and Corrective Actions", two Shift Technical Advisors (STAs) are identified with "\*\*\*", meaning "These positions may be covered by onshift personnel assigned other functions". Provide justification to support this statement, including license amendment approval if the

STA position criteria have been altered; 2) Section C.4, page C-6, of the Emergency Plan discusses staff augmentation allowable time "...within approximately 60 to 75 minutes of being notified as specified in Table C-1( prior to fuel load)..": a) Neither NUREG-0654 Table B-1 nor Emergency Plan Table C-1 provides an option for 75-minute addition capability (i.e., "AVAILABLE 75 MINUTES #" option). Refer to Section C.4 and explain how the extended period of time for staff augmentation following declaration of an emergency provides an acceptable alternative to 10 CFR 50.47(b)(2) requirements, as exemplified by guidance in NUREG-0654, and then revise Table C-1 to reflect this change; b) "...60 to 75 minutes of being notified.." is an open-ended initiation of staff augmentation. Revise this statement to be consistent with 10 CFR 50.47(b)(2) requirements, as amplified by guidance in NUREG-0654, or explain how this provides an acceptable alternative to 10 CFR 50.47(b)(2) requirements, as exemplified by guidance in NUREG-0654. 3) Explain the reference regarding "( prior to fuel load)". Are there expectations that emergency response organization complements or activation times will change following fuel load?

13.03-39

ONSITE EMERGENCY PLAN: SITE-22: Subject: Inconsistency and footnotes clarification involving minimum staffing [Basis: 10 CFR 50.47(b)(2); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:Criteria B.5, B.7] 1) Describe how the minimum staffing availability described in Table C-1 aligns with identified minimum staffing positions in Figures C-2, C-3, C-4, and C-5. 2) Explain the meaning and application for the "#" and "##" footnotes under Table C-1, page C-16. For the "#" reference, are you implying that the capability for consistent response capabilities is not in place? For the "##" reference, will this be a collateral duty of operations staff minimally required by Technical Specifications? Will other unit operations staff be collaterally used for emergency response functions? Please discuss detailed examples for application of these footnotes.

13.03-40

ONSITE EMERGENCY PLAN: SITE-23: Subject: Alignment of activation times [Basis: 10 CFR 50.47(b)(8); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criteria H.1 and 2; NUREG-0696, Rev. 1] Explain the alignment of identified activation times for emergency response facilities in Sections G.2, G.3, and G.4 of the STP 3 and 4 Emergency Plan, specifically, the meaning of "fully activated" for the OSC "within approximately 75 minutes after notification of an Alert", for the TSC "within approximately 75 minutes after notification of an Alert", and the EOF "within approximately 75 minutes of declaration of Site Area Emergency or higher". Provide an explanation for the difference among the three above facilities in the initiation of the activation clock and the difference between the timeliness of full facility activation and the minimum staffing positions and response times in Table C-1.

13.03-41

ONSITE EMERGENCY PLAN: SITE-25: Subject: Addressing of stipulations in NUREG-0654 [Basis: 10 CFR 50.47(b)(2); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:Criterion B.7.a] Emergency Plan Sections C.4.7 and C.4.12, cross-referenced in "Attachment 1 Cross Reference" as addressing NUREG-0654 Planning Standard B.7.a, are not explicit on areas of logistics support covered (transportation, communications, etc., as stipulated in NUREG-0654 Planning Standard B.7.a). Include in C.4.7 and C.4.12 additional text to address this, or provide justification to retain the statement as written.

13.03-42

ONSITE EMERGENCY PLAN: SITE-26: Subject: Identification of NSSS vendor [Basis: 10 CFR 50.47(b)(2); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:Criterion B.8] COM EP-1 is associated with Emergency Plan Section B.5.2. The vendor for the ABWR Nuclear Steam Supply Services (NSSS) has not been identified; however, per Figure F-2 of the Emergency Plan, General Electric (GE) appears to be the NSSS vendor for the proposed Units 3 and 4? Identify NSSS vendor to address the requirement of NUREG-0654 Planning Standard B.8 or provide justification to retain the statement as written.

13.03-43

ONSITE EMERGENCY PLAN: SITE-27: Subject: Plan Section cross reference [Basis: 10 CFR 50.47(b)(3); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:Criterion C.1.a] Refer to Attachment 1 Cross Reference table: For NUREG-0654, Criterion C.1.a, reference to Emergency Plan Section B.4.10 seems more appropriate than B.4. Verify this cross reference and provide correction, or justification to retain the statement as written.

13.03-44

ONSITE EMERGENCY PLAN: SITE-28: Subject: Plan Section cross reference [Basis: 10 CFR 50.47(b)(3); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980:Criterion C.1.c] Refer to Attachment 1 Cross Reference table: For NUREG-0654, Criterion C.1.c, reference to Emergency Plan Section G.8 appears to be irrelevant; however, reference to G.14 seems appropriate. Verify this cross reference and provide correction, or provide justification to retain the statement as written.

13.03-45

ONSITE EMERGENCY PLAN: SITE-29: Subject: Laboratory capabilities of Units 3 and 4, and of the mobile laboratory [Basis: 10 CFR 50.47(b)(3); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion C.3] 1) Station Emergency Plan Section G.9 Laboratory Facilities states: "The Station has radiological and radiochemistry laboratories located in each unit." Confirm if proposed Units 3 and 4 each will have such laboratory facilities as well. 2) The last sentence of the first paragraph under G.9 uses terminology "The radiological station". Explain what this means. 3) The second bullet after the first paragraph under G.9 refers to "A mobile radiological laboratory". Provide information to ascertain same or better capabilities of this laboratory to perform analyses of samples from the Station. 4) Table H-1, Page 4 of 4, sub-header: "Typical Offsite Assessment Equipment and Facilities". Explain why the sub-header changes from "Onsite" to "Offsite"

13.03-46

ONSITE EMERGENCY PLAN: SITE-30: Subject: Quick termination of most NOUEs [Basis: 10 CFR 50.47(b)(4); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion D.1] Emergency Plan Section D.1, middle of last paragraph on page D-1 states: "It should be noted that most of the listed initiating conditions for the Unusual Event classification are events that can be expected to be terminated quickly, and therefore, the notification process may occur after the event has been corrected." Provide clarification supporting the assumption that most of the listed Unusual Events will be terminated within 15 minutes of declaration.



13.03-47

ONSITE EMERGENCY PLAN: SITE-31: Subject: Addressing of FSAR postulated accidents by ICs [Basis: 10 CFR 50.47(b)(4); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion D.2] Provide verifying statement that the generalized initiating conditions (ICs) listed in tables D-1 and D-2 cover all postulated accidents in the Final Safety Analysis Report (FSAR).

13.03-48

ONSITE EMERGENCY PLAN: SITE-32: Subject: Addressing of NUREG-0654 Criteria [Basis: 10 CFR 50.47(b)(4); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criteria D.3, D.4] Although NUREG-0654 Criteria D.3 and D.4 are applicable to State and local plans, from a safety point of view and since emergency plans are “integrated”, applicant’s emergency plan should include a statement to verify that State and local plans have indeed addressed these. Provide a response to indicate if the Station plan has mentioned this, or provide justification to support why it is not necessary.

13.03-49

ONSITE EMERGENCY PLAN: SITE-33: Subject: Content of notification message forms [Basis: 10 CFR 50.47(b)(5); NUREG-0654, FEMA-REP-1, Rev. 1, November 1980: Criterion E.3] Refer to Emergency Plan Section E.1 (which is provided as a cross reference to NUREG-0654 Criterion E.3); confirm if the forms for messages, which are included in Emergency Response Procedure 0ERP01-ZV IN02 and sent from the Station to offsite agencies, contain information outlined in NUREG-0654 Criterion E.3

