

PMSTPCOL PEmails

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Attachments: Preliminary Information Needs for the STP Site Audit.doc

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Paul

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Created By: Paul.Kallan@nrc.gov

Recipients:
"Raj Anand" <Raj.Anand@nrc.gov>
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The following table represents a preliminary list of information needs relative to the STPNOC Units 3 & 4 Environmental Report. Additional information needs will be added to the existing list and the information needs submitted below are subject to change pending further review. A final list of information needs will be submitted approximately two weeks prior to the site audit scheduled for the week of 02/04/08.

Preliminary Information Needs for the STP Site Audit

#	Information Needs	Discipline	Reviewer
1	Provide input and output files for the PAVAN code.	Accidents	Van Ramsdell
2	Provide the sources of dose factors for each of the DBA analyses. Three sources are listed in the ER; where was each used?	Accidents	Van Ramsdell
3	Confirm that the LPZ LOCA doses listed in ER Table 7.1-11 for each time are cumulative. The DCD footnote stating that LOCA doses are cumulative applies to doses for the control room, not the LPZ.	Accidents	Van Ramsdell
4	Explain how the Whole Body and Thyroid doses for the Clean Up Water Line Break Outside Containment in ER Table 7.1-12 can be the same.	Accidents	Van Ramsdell
5	Explain why dose calculated from the activity releases listed in Tables 7.1-2 through 7.1-6 do not give the doses calculated using the DCD doses and the X/Q ratios. What dose conversion factors were used for the DBA calculations?	Accidents	Van Ramsdell
6	Describe how the LOCA dose calculations were made using two different release points.	Accidents	Van Ramsdell
7	Provide input and output files for the MACCS2 code.	Accidents	Van Ramsdell
8	Describe the derivation of the MACCS2 input parameters used in the site-specific analysis. What was the source of the land use data? What was the source of the economic data? How were the evacuation parameters selected?	Accidents	Van Ramsdell
9	List the severe accident source term categories and provide the accident frequency and associated environmental risk estimates for each category.	Accidents	Van Ramsdell
10	Demographic Characteristics of the 0-km to 80-km (0-mi to 50-mi) Enclosed Population. This should include specific reporting of population characteristics and projections for the emergency planning zone defined as the area within a 16-km (10-mi) radius of the facility. Demographic characteristics and projections should also be shown for the "low-population zone" or "exclusion area" populations. Demographic characteristics should include age and sex distribution, transient or migrant population, racial and ethnic background, and income distribution (from the ER, latest decennial Census, other local/regional demographic sources such as planning commissions). These items were reported at the county level in the ER. Can these data be shown for the emergency planning zone in particular?	Socioeconomics/EJ	Mike Scott

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11	Social-structure information, including major community structures. Most community structure information appears to be omitted. No organizations were identified. In considering this, think about how social service organizations, and membership and volunteer organizations, would be affected, by a population increase or an influx of the construction workforce, for example? How would it be different for the operations phase?	Socioeconomics/EJ	Mike Scott
12	Public and private recreational facilities and opportunities, including present and projected capacity and percentage of use. There is no information about projected future use. Is there a possibility that any kind of water used by the plant or the plant-related population will affect either water quantity or water quality for any recreation purposes? We need to know the basis for any conclusions regarding this matter. This is also needed at the alternative sites. It appears from the Chapter 9 discussion, for example, that because cooling reservoirs appear to be small, water temperatures could rise significantly and/or evaporative loss could be a significant issue.	Socioeconomics/EJ	Mike Scott
13	Local plans concerning land use and zoning that are relevant to population growth, housing, and changes in land-use patterns. We understand that the counties do not have land use plans. Are there any other methods used to control the location of housing and business, such as constraints on water hookups? We will need to obtain copies of the cities' land use plans.	Socioeconomics/EJ	Mike Scott
14	Information on highways and transportation systems, for example: - regional and local highway systems, including carrying capacity and condition of roads and highways - availability and type of public transportation - modifications that might affect traffic flow to and from the station site. Capacity information may not be complete. We need to identify potential choke points in the transportation net and any plans to relieve those choke points	Socioeconomics/EJ	Mike Scott
15	Information about distinctive communities, including the characteristics of the State, Native American tribes, and the local region that may identify them as distinctive communities (e.g., historic districts, tourist attractions, cultural resources, and visual resources). None are mentioned. It is not clear whether this is because there are none, or because they have been omitted. What distinctive (e.g., minority, ethnic, religious) communities exist in the area of the plant? What about at the alternative sites?	Socioeconomics/EJ	Mike Scott
16	Comments of any organizations contacted by the applicant that locate and assess uniquely vulnerable minority and low-income communities located on or near the proposed station site. It will be necessary to obtain details on the contacts and their comments, if any. How extensive of an outreach has there been to minority communities? We need documentation of any outreach attempted at the proposed site and at the alternative sites	Socioeconomics/EJ	Mike Scott

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17	More specific description of any unique minority or low-income communities within each environmental-impact area that is likely to be disproportionately affected by the proposed project construction or operation. The description is very short and no impacts were noted. Are there more details on the thoroughness of the search?	Socioeconomics/EJ	Mike Scott
18	Applicable standards for levels of noise, dust, and gaseous pollutants. These seem to be only partially reported. Were all standards reported or were the ones reported just examples?	Socioeconomics/EJ	Mike Scott
19	Pathways where any environmental (including socioeconomic) impact during construction may interact with cultural or economic facts that may result in disproportionate environmental impacts on minority and low-income populations. None in the natural system were found to be adverse, but only a summary of agency comments was reported. No information was supplied on potential pre-existing health conditions among minority and low-income communities, although the Texas Department of Health keeps fairly extensive local statistics on the health status of the population. Not clear how thorough the search was of other sources in minority community and literature. However, impacts on housing costs were noted.	Socioeconomics/EJ	Mike Scott
20	Applicant's proposed methods to reduce visual impacts and impacts of noise and other pollutants. These were discussed, but not committed to. Are there specific plans? What about at the alternative sites? At least one of the alternative sites appears to have residential development along the shoreline of the reservoir that would be used as a water source.	Socioeconomics/EJ	Mike Scott
21	Expenditures within the region for materials and services during operation. The applicant may be able to say very little, but it would be helpful to have some idea of the general scale and type of local expenditures. Is it likely to be billions of dollars? Tens of millions? Only a few thousand?	Socioeconomics/EJ	Mike Scott
22	The revised cultural resource section for the STP 3 & 4 Environmental Report (2.5.3 - Historic Properties) and supporting documentation (if the ER input is based on a separate cultural resource assessment).	Cultural Resources	Darby Stapp
23	Section 2.3.2 (Historical and Archaeological Sites). Need the 1974/1975 Environmental Report for STP 1&2, (as referenced in the Construction FES, pp. 2-5 [NUREG 75/019]).	Cultural Resources	Darby Stapp
24	Also, need the archaeological assessment produced by the Texas Archaeological Survey and University of Texas Austin ca.1974 (as mentioned in the Construction FES, pp. 2-5 [NUREG 75/019]). I saw this report at the pre-app trip, which was provided Kathy Roxlau (Tetra Tech).	Cultural Resources	Darby Stapp
25	Pre- and post-construction aerial photographs, if available.	Cultural Resources	Darby Stapp

#	Information Needs	Discipline	Reviewer
26	Source of the offsite limestone material that contains the red chert chunks that look like prehistoric artifacts	Cultural Resources	Darby Stapp
27	Under the first bullet of Section 9.3.1 of the ER (p. 9.3-2), explain how alternative sites were selected from the candidate sites. The text does not appear to recognize that the candidate sites are composed of the alternative sites plus the proposed site [see footnote (a) on p. 9.3-10 of NRC's proposed revision to ESRP 9.3]. The proposed revision to the ESRP can be accessed at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1555/#updates .	Site Selection	Paul Hendrickson
28	Section 9.3.2.3.2 of the ER does not identify any specific greenfield potential sites. Are the greenfield sites that were considered identified anywhere other than in Table 9.3-6?	Site Selection	Paul Hendrickson
29	The site selection process for applicants is shown in Figure 9.3-1 of NRC's proposed revision to ESRP 9.3. This figure calls for the identification of potential sites. Does the ER contain a list of STPNOC's potential sites?	Site Selection	Paul Hendrickson
30	Table 9.3-6 of the ER does not indicate whether the sites in column 1 of the table are greenfield or brownfield sites.	Site Selection	Paul Hendrickson
31	Section 9.3.2.4.1 of the ER, "Screening of Potential Sites with Existing Generating Facilities" does not identify the Limestone site or discuss why the Limestone site was selected as a candidate site.	Site Selection	Paul Hendrickson
32	Should the last line of Section 9.3.2.4.2 of the ER be "potential sites" instead of "candidate sites?" The list of candidate sites is presumably only the proposed site and Limestone, Allen's Creek, and Malakoff [see footnote (a) on p. 9.3-10 of NRC's proposed revision to ESRP 9.3].	Site Selection	Paul Hendrickson
33	Section 9.3.2.4.3 of the ER does not identify all of the potential brownfield sites that were considered by STPNOC.	Site Selection	Paul Hendrickson
34	Section 9.3.2.5 of the ER purportedly covers "Review of the Candidate Sites to Identify the Alternative Sites." This caption does not appear to recognize that the candidate sites are composed of the alternative sites plus the proposed site [see footnote (a) on p. 9.3-10 of NRC's proposed revision to ESRP 9.3]. Section 9.3.2.5 seems to cover a review of a subset of the potential sites to identify candidate sites.	Site Selection	Paul Hendrickson
35	Notwithstanding the exception at the bottom of p. 9.3-11 of the proposed revision to ESRP 9.3, there is no subsection in Section 9.3 of the ER that discusses why the proposed site was selected. For example, does the proposed site satisfy the seven bullets listed at pages 9.3-9 – 9.3-10 of the proposed revision to ESRP 9.3?	Site Selection	Paul Hendrickson
36	Section 9.3.3.1 of the ER does not take into account NRG's planned unit 3 at the Limestone site. Will the addition of the Limestone unit 3 affect the capability of Limestone to be an alternative site?	Site Selection	Paul Hendrickson

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37	Section 9.3.2.5 of the ER states that the alternative sites represent the best available alternative sites. It is not clear how the Allen's Creek site is among the best alternative sites when water for nuclear generating units would be contingent on future development of a reservoir.	Site Selection	Paul Hendrickson
38	Is the STP site located in an incorporated area?	Land Use	Paul Hendrickson
39	How will the addition of the planned unit 3 to the Limestone site affect the discussion of land use and transmission lines in Section 9.3.3.1.1 of the ER?	Land Use	Paul Hendrickson
40	Who is the current owner of each of the alternative sites?	Land Use	Paul Hendrickson
41	What is the current site zoning at each of the alternative sites?	Land Use	Paul Hendrickson
42	What are the dimensions of the existing transmission line right-of-ways serving the Limestone site?	Land Use	Paul Hendrickson
43	Are there existing transmission line right-of-ways passing through or adjacent to the Allen's Creek or Malakoff sites? Approximately, how long would new transmission corridors have to be to serve these sites?	Land Use	Paul Hendrickson
44	What is the status of compliance with the Texas Coastal Management Program for the proposed site? Would any of the alternative sites be subject to the Texas Coastal Management Program?	Land Use	Paul Hendrickson
45	Section 9.2.2.5.4 of the ER indicates that the existing rail spur would be upgraded. Would this upgrade have any land use impacts? Table 4.1-1 in the ER does not indicate any impacts.	Land Use	Paul Hendrickson
46	Section 9.2.1.2 of the ER does not discuss the possibility of extending the service life of non-nuclear generating facilities owned by STPNOC or the entities making up STPNOC. Is information available on this topic?	Energy Alternatives	Paul Hendrickson
47	Section 9.2.1.3 of the ER provides general information, but no specific information on demand side management or conservation programs operated by STPNOC or the entities making up STPNOC. Is information available on this topic?	Energy Alternatives	Paul Hendrickson
48	Section 9.2.2.5.4 of the ER indicates that coal for an alternative coal-fired plant would be delivered by rail. Section 9.2.3.1.4 of the ER indicates that coal would be delivered by truck. Which section is correct?	Energy Alternatives	Paul Hendrickson
49	Would an alternative natural gas-fired plant have a solid waste impact from the spent selective catalytic reduction process to reduce NO _x emissions? Section 9.2.3.2.2 of the ER indicates there would be almost no solid waste generation.	Energy Alternatives	Paul Hendrickson
50	Tables 9.2-3 and 9.2-4 of the ER refer to a combination of alternatives. What combination of energy alternatives is being referred to in these tables? Can a table such as 9.2-1 for coal and 9.2-2 for gas be provided for the combination of alternatives? Can estimated air emissions for the combination of alternatives be provided?	Energy Alternatives	Paul Hendrickson

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51	Section 9.2.3.1.2 of the ER indicates the quantity of waste from coal production but does not indicate an acreage figure for coal waste disposal. Can an acreage figure be provided?	Energy Alternatives	Paul Hendrickson
52	Section 9.2.3.1.2 of the ER indicates that 75% of the coal ash could be recycled. What is the basis for the 75% figure? Is this a reasonable percentage based on the experience of other coal-fired power plants in Texas?	Energy Alternatives	Paul Hendrickson
53	Documentation to support the assertion that the MCR is not waters of the U.S. nor is it waters of the state.	Surface Water Hydrology	Rajiv Prasad
54	A copy of the TPDES permit.	Surface Water Hydrology	Rajiv Prasad
55	Renewal schedule for various permits (currently issued for Units 1 and 2)	Surface Water Hydrology	Rajiv Prasad
56	Where will dewatering water be discharged during construction? Are there any permitting requirements for this activity? (Sec. 2.3.1)	Surface Water Hydrology	Rajiv Prasad
57	A copy of "Water for Texas 2007," TWDB (Texas Water Development Board), Document No. GP-8-1, January 2007. (Sec. 2.3.2)	Surface Water Hydrology	Rajiv Prasad
58	What is the seniority status of STP Units 3 and 4 water use rights? (Sec. 2.3.2)	Surface Water Hydrology	Rajiv Prasad
59	Under extreme drought conditions, worse than the worst drought of record, how are the water rights for STP Units 3 and 4 affected? (Sec. 2.3.2)	Surface Water Hydrology	Rajiv Prasad
60	What is the maximum annual water use (in ac-ft) of STP Units 1 and 2 (the makeup to the MCR)? (Sec. 2.3.2)	Surface Water Hydrology	Rajiv Prasad
61	What is the expected maximum annual water use (in ac-ft) of STP Units 3 and 4 (the makeup to the MCR)? (Sec. 2.3.2)	Surface Water Hydrology	Rajiv Prasad
62	Where will the UHS water storage basin be located on the site? (Sec. 3.4.1)	Surface Water Hydrology	Rajiv Prasad
63	Are additional rights-of-way needed to make modifications to the existing transmission lines? (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
64	What water resources may potentially be impacted along the transmission line due to required transmission line modifications? (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
65	Describe construction-related impacts to the unnamed onsite drainage, Texas Prairie Wetland, Little Robbins Slough, and Kelly Lake. (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
66	When will the development of the STP 3 & 4 Erosion and Sediment Control Plan and Storm Water Management Plan be completed? (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
67	Describe the impact of the pump installation activity on the river makeup pumping facility and the intake area. (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad

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68	When will the locations of drainage ditches and retention ponds be determined? (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
69	Provide a description of the bases to conclude that the impact of construction on surface water hydrology would be SMALL. (Sec. 4.2.1)	Surface Water Hydrology	Rajiv Prasad
70	Describe construction-related impacts to water quality in the unnamed onsite drainage, Texas Prairie Wetland, Little Robbins Slough, and Kelly Lake. (Sec. 4.2.3)	Surface Water Hydrology	Rajiv Prasad
71	Describe impacts to water quality in the Colorado River due to activity associated with installation of additional pumps to support operation of STP Units 3 and 4. (Sec. 4.2.3)	Surface Water Hydrology	Rajiv Prasad
72	Describe the alteration of drainage patterns at the site, including those due to STP Units 3 and 4 and placement of drainage ditches to route surface runoff from the area of all four units. (Sec. 5.2.1)	Surface Water Hydrology	Rajiv Prasad
73	What is the maximum annual water use needed to make up losses from the MCR when all four units are in operation? (Sec. 5.2.1)	Surface Water Hydrology	Rajiv Prasad
74	What is the expected frequency of blowdown from the MCR to the Colorado River with all four units in operation? (5.2.3)	Surface Water Hydrology	Rajiv Prasad
75	Describe the storm water outfalls including any storm water treatment associated with each. Also, describe the water bodies these outfalls discharge into. (Sec. 6.3)	Surface Water Hydrology	Rajiv Prasad
76	Describe any additional storm water outfalls that may be needed during construction and operation of STP Units 3 and 4. (Sec. 6.3)	Surface Water Hydrology	Rajiv Prasad
77	Section 2.2.1.1 "The Site." The statement on mineral and petroleum resources at the site needs to address the potential presence or absence of resources in a broader area, e.g., at least the 6-mile radius if not the 50-mile radius region, and needs to include references (e.g., USGS or State of Texas reports).	Groundwater Hydrology	Charley Kincaid
78	Section 2.3.1.2.3.2 "Site-Specific Hydrogeologic Conditions." "Monthly water level measurements from these groundwater observation wells began in December 2006 and will be continued through December 2007." The groundwater data sets and figures included in the application do not represent a full year of observations. When will the complete data sets be available?	Groundwater Hydrology	Charley Kincaid
79	Section 2.3.1.2.3.3 "Groundwater Sources and Sinks." Please provide construction details of the relief wells, e.g., screened interval and depth. Do they isolate the MCR hydraulically from the Upper Shallow Aquifer? What fraction of relief well discharge originates in the MCR; the surrounding aquifer system? What is their potential impact on field observations presented later in the application?	Groundwater Hydrology	Charley Kincaid
80	Section 2.3.1.2.3.6 "Hydrogeologic Properties." Aquifer Properties. Regarding hydraulic conductivity, Fig 2.3.1-32 shows "Grain Size" results to be below, not above the "STP Pump Test" and "Slug Test" results.	Groundwater Hydrology	Charley Kincaid

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81	<p>Section 2.3.1.2.4.2 "Regional Groundwater Trends." The substantial decline in groundwater consumption in Matagorda County (~50%) by 2030 forecast by the State of Texas must have an underlying rationale (e.g., movement from groundwater to surface water sources because of salt-water intrusion). Please provide a summary discussion of the underlying rationale. Has salt-water intrusion been observed, evaluated, or forecast for the Chicot aquifer?</p>	Groundwater Hydrology	Charley Kincaid
82	<p>Section 2.3.1.2.4.3 "Plant Groundwater Use." "Water demand could be met by increasing the yield of the existing wells or installing new wells with the objective that total STP use would not exceed the 3000 acre-ft per year permitted amount. A detailed evaluation of groundwater availability and estimates of aquifer drawdown, water conservation measures, and identification of alternative sources, if practicable, will be addressed as part of the detailed engineering for STP 3 & 4." (emphasis added by reviewer)</p> <p>Our analysis and evaluation of the groundwater resource, its availability for the plant and the plant's impact upon it, requires an analysis of the resource. It may not need to go as far as the identification of alternative sources (e.g., additional wells), but it must address the impact of the current 3000 acre-ft per year permitted amount. An analysis is needed of the sustainable groundwater resource (e.g., safe yield) available from the Deep Aquifer portion of the Chicot aquifer from which the plant obtains its groundwater. Such an analysis cannot be deferred until completion of detailed engineering.</p> <p>Alternatively, by virtue of the existing permit, does the 3000 acre-ft per year permitted amount become a permit condition?</p>	Groundwater Hydrology	Charley Kincaid
83	<p>Section 2.3.1.2.5.1 "Groundwater Pathway." (last paragraph) The applicant states there is no credible offsite release pathway via groundwater because groundwater is moving toward the Deep Aquifer wells; hence, they would remove the contamination. Is there absolutely no potential for one or more of the Deep Aquifer wells to be removed from service? Should it be a permit condition that the Deep Aquifer wells be operated to maintain the current situation?</p>	Groundwater Hydrology	Charley Kincaid
84	<p>Section 2.3.1.2.6 "Monitoring and Safeguards." "As part of detailed engineering for STP 3 & 4, the current STP groundwater monitoring programs will be evaluated with respect to the addition of STP 3 & 4 to determine if any modification to the existing program is required to adequately monitor plant effects on the groundwater." (emphasis added by reviewer). When will this review be completed and the monitoring program for STP 3 & 4 be available for review?</p>	Groundwater Hydrology	Charley Kincaid

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85	Section 2.3.2.1 "Surface Water." Provide a breakdown of the water demand (Table 2.3.2-6) between that to be provided by surface water and that provided by groundwater.	Groundwater Hydrology	Charley Kincaid
86	Section 2.3.2.2 "Groundwater Use." No projection of future groundwater use is provided.	Groundwater Hydrology	Charley Kincaid
87	Section 2.3.2.2 "Groundwater Use." "A comparison of the data in Table 2.3.2-10 and 2.3.2-11 indicates that groundwater use in Matagorda County was ~33% of the available groundwater." (emphasis by reviewer) Define "available" groundwater in terms of a "sustainable" groundwater resource, or in terms of the "safe yield" of the Deep Aquifer of the Chicot aquifer.	Groundwater Hydrology	Charley Kincaid
88	Section 2.3.2.2.1 "Onsite Use." "A detailed evaluation of groundwater availability and estimates of aquifer drawdown, water conservation measures, and identification of alternative sources, if practicable, will be addressed as part of the detailed engineering for STP 3 & 4." (emphasis added by reviewer) Since this is the final thought by the applicant in the Groundwater Use section, it leaves one with the feeling that the availability of the groundwater resource has not been analyzed. As noted in #82 and #87 above, some analysis of the sustainable groundwater resource (i.e., the aquifer) available for use in the region is still needed.	Groundwater Hydrology	Charley Kincaid
89	Section 2.3.3.2 "Groundwater (Water Quality)." Regarding the field observations of tritium in the REMP wells in 2005 and 2006, is the operative assumption that the tritium source is the MCR and that its waters have infiltrated into the shallow aquifer where windows exist in the clay sequences?	Groundwater Hydrology	Charley Kincaid
90	Section 2.6.1.1 "Long-Term Geologic Impacts." "Surface settlement (as a result of facility construction) could temporarily affect surface water drainage. ... This is supported by experience with STP 1 & 2 and ..." Please provide a summary of the experience with STP 1 & 2 regarding surface settlement. Could this impact of STP 3 & 4 construction be an impact to STP 1 & 2?	Groundwater Hydrology	Charley Kincaid
91	Section 2.6.1.1 "Long-Term Geologic Impacts." "...the potential for minimal settlement is possible, but the expected magnitude of settlement is considered manageable..." Please provide the "expected magnitude of settlement".	Groundwater Hydrology	Charley Kincaid
92	Section 4.2.1.2 "Groundwater Dewatering." The excavations for each unit (900'x950') and for each ultimate heat sink (650'x550') are given; however, it is not mentioned if they would overlap and create a larger excavation. No map or drawing is provided showing the extent of the excavations, and how close they will come to STP 1 & 2 or the MCR.	Groundwater Hydrology	Charley Kincaid

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93	Section 4.2.1.2 "Groundwater Dewatering." A range of subsidence estimates are provided in Table 4.2-1; however, the subsequent discussion focuses on the lower value. Can the upper estimate of subsidence be tolerated by STP 1 & 2 (0.25 ft at STP 1) and the MCR, or would mitigation measures be required? What level of subsidence would signal the need for an alternate approach (e.g., perhaps involving cutoff walls, injection wells, infiltration trenches)? How long before final construction plans are available the actual dewatering strategy, structures, etc., will be known?	Groundwater Hydrology	Charley Kincaid
94	Section 4.2.1.2 "Groundwater Dewatering." When will the decision be made on the disposal of dewatering product? Since some of the alternate solutions involve interactions with the aquifer water resource, when will an analysis of the four listed alternate solutions be available?	Groundwater Hydrology	Charley Kincaid
95	Section 4.2.1.2 "Groundwater Dewatering." "The presence of the surficial clays would also isolate wetlands and shallow surface water (natural and man-made drainage) features in the vicinity of STP 3 & 4 from the underlying subsurface soil units being dewatered during construction." Are there long-term pumping data sets from the construction of STP 1 & 2 that demonstrate the lack of connectivity between dewatering wells and wetlands and shallow surface water features? Have long-term aquifer tests revealed this situation? The applicant's statement appears to be an assumption. Where are the data to back it up?	Groundwater Hydrology	Charley Kincaid
96	Section 4.2.2 "Water Use Impacts." Since STP use would not exceed the site's 1860 gpm (3000 acre-ft/yr) existing permit "the Coastal Plain Groundwater Conservation District (CPGCD) would be aware of potential impacts to nearby groundwater users." Does this simply mean that all potential impacts are bounded by an existing analysis – consistent with the existing permit, and that the analysis has been provided to the CPGCD?	Groundwater Hydrology	Charley Kincaid
97	Section 4.2.2.1 "Confined Nonleaky Scenario." How well does this model predict present day drawdown at the production wells?	Groundwater Hydrology	Charley Kincaid
98	Section 4.2.2.1 "Confined Nonleaky Scenario." Prior to concluding as the applicant has that there is a SMALL or MODERATE impact to the groundwater resource that would warrant mitigation, an estimate of the sustainable groundwater resource, or the safe yield of the aquifer is needed. Is an estimate available?	Groundwater Hydrology	Charley Kincaid
99	Section 5.2.2.2 "Groundwater." How well does the equation (model) for a confined nonleaky scenario reproduce the field data on existing groundwater pumping and water table decline?	Groundwater Hydrology	Charley Kincaid

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100	Section 5.2.2.2 "Groundwater." How can an analysis of the operational impacts conclude a SMALL impact to the deep Chicot aquifer when a conclusion of SMALL to MODERATE has been reached as a result of construction impacts in the same aquifer? Both analyses considered pumping the aquifer at its maximum permitted level (3000 acre-ft/yr). Therefore, please provide the rationale for reaching the different conclusions for construction and operation, taking into consideration that a consistent basis for the evaluation of impacts is necessary, and that begins with an evaluation of the sustainable groundwater resource.	Groundwater Hydrology	Charley Kincaid
101	Section 5.2.3.1 "Water Quality Impacts." This section does not address chemical impacts on the groundwater system despite the fact that communication between the MCR and the shallow aquifer is part of the conceptual model. What is this potential impact? Is it detectable? What radionuclide and chemical levels in the MCR water could be introduced to the shallow aquifer? How would they change from MCR operation under STP 1 & 2, versus all four units operating?	Groundwater Hydrology	Charley Kincaid
102	Section 5.5.2.2 "Mixed Waste Storage and Disposal Plans." This section contains no mention of disposal plans. At a minimum, perhaps a statement that all mixed waste will be disposed offsite is in order.	Groundwater Hydrology	Charley Kincaid
103	Section 6.3.3 "Operational Monitoring." While the program initiated with the Nuclear Energy Institute is mentioned in Section 6.3.1.2, no mention is made here of the anticipated monitoring that will derive from this program. If no detailed information is available, provide a high-level overview of how monitoring objectives may broaden as a result of this program.	Groundwater Hydrology	Charley Kincaid
104	Section 10.5S.1.2 "Hydrology and Water Use." The applicant maintains that the maximum permitted withdrawal will be adhered to, and that conservation or other mitigation measures will be used. Could these conservation and other mitigation measures be described? The conclusions of cumulative impact to the aquifer need an underlying basis of greater regional significance than local drawdown. The sustainable groundwater resource needs to be evaluated and used to reach the conclusion of SMALL or MODERATE or LARGE impacts.	Groundwater Hydrology	Charley Kincaid
105	Section 10.5S.1.2 "Hydrology and Water Use." It is not clear how cumulative impacts to groundwater during construction can be SMALL when the conclusion in the construction impact section is SMALL to MODERATE with possible mitigation involving the construction of additional deep aquifer wells. We need an evaluation of the sustainable groundwater resource as the basis for impact conclusions.	Groundwater Hydrology	Charley Kincaid

#	Information Needs	Discipline	Reviewer
106	Section 10.5S.2.2 "Hydrology and Water Use." While the cumulative impact conclusion of SMALL by the applicant is consistent with the earlier conclusion in the operational impacts section, it remains inconsistent with the SMALL to MODERATE impact conclusion of the construction impacts section. Again, we need an evaluation of the sustainable groundwater resource as the basis for impact conclusions.	Groundwater Hydrology	Charley Kincaid
107	Additional information describing the dominant /common species found in areas where abandoned fields have undergone succession. Including information regarding whether pastures and abandoned field are dominated primarily by introduced or native species.	Terrestrial Ecology	Janelle Downs
108	Additional information describing how and where ecological surveys were conducted to determine the potential presence or absence of rare or important species. Specifically, any reports or documents that describe the ecological survey process, methods, and results (e.g., reference 2.4-3, ENSR 2007 in section 2.4).	Terrestrial Ecology	Janelle Downs
109	Additional information on the current abundance and type of water birds and waterfowl that regularly inhabit or visit the STP site. Information referenced in the Environmental Report is more than 20 years old.	Terrestrial Ecology	Janelle Downs
110	Additional information on the current presence, seasonality, habitat use and distribution of state-listed plant or wildlife species (important species) likely to be found on the STP site. (For instance, the STP webpage indicates the site provides habitat for white-tailed hawks, and the presence of other state-listed birds is described in the Environmental Report).	Terrestrial Ecology	Janelle Downs
111	Information describing the status of the Army Corps decision regarding wetland delineations on the STP 3 and 4 project sites.	Terrestrial Ecology	Janelle Downs
112	6 Month Interim Report: What were the deviations from the sampling protocol in Appendix 1?	Aquatic Ecology	Amoret Bunn
113	6 Month Interim Report: How was the 1983/1984 data compiled in order to compare to the 2007 data? For what locations and time duration is the data for 1983 and 1984 presented in Table 2?	Aquatic Ecology	Amoret Bunn
114	6 Month Interim Report: What do the results of the trawl, hoop net and gill net samples indicate about the fish and invertebrates at the intake structure (around NMM 8)?	Aquatic Ecology	Amoret Bunn
115	6 Month Interim Report: What would the conclusion be for trawl samples (number of organisms per catch) in 1983 compared to 2007 if the 3612 bay anchovy in one sample were removed from the 1983 analysis?	Aquatic Ecology	Amoret Bunn
116	6 Month Interim Report: How do the 2007 monitoring results compare to the species sampled as part of the baseline studies in 1973-74?	Aquatic Ecology	Amoret Bunn
117	ER: What are the current results for fish abundance in the MCR? [See statement on page 2.4-8, last paragraph, last sentence.]	Aquatic Ecology	Amoret Bunn

#	Information Needs	Discipline	Reviewer
118	What information is available to describe the saltwater wedge at the Reservoir Makeup Pumping Facility (~NMM 8 on the Colorado River)?	Aquatic Ecology	Amoret Bunn
119	Discuss uncertainties with evaluation of aquatic communities (e.g., ichthyoplankton) that exist currently in the Colorado River based on studies from 1974.	Aquatic Ecology	Amoret Bunn
120	In Table 2.4-2, what does the column, "STP Site", encompass in area? Is it Matagorda County or the site boundary? Does it include the Colorado River?	Aquatic Ecology	Amoret Bunn
121	Has there been any further correspondence with U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, and U.S. Army Corps of Engineers since the ER was completed?	Aquatic Ecology	Amoret Bunn
122	References Needed: "Ecological Survey Report Unit 3 and 4 Licensing Project, South Texas Project Electric Generating Station," Prepared for STP Nuclear Operating Company by ENSR Corporation, Houston, Texas, March 2007. [Ref. 2.4-3] Rapid Bioassessment Initial Report, Unit 3 and 4 Licensing Project," prepared by ENSR Corporation, Houston, for South Texas Project Electric Generating Station, Wadsworth, Texas 2007. [Ref. 2.4-63] Amended and Restated Contract by and between the Lower Colorado River Authority and STP Nuclear Operating Company, Effective as of January 1, 2006. [Ref. 2.3.1-11, describes the limits of water usage from the Colorado River] "South Texas Project, Units 1 and 2, Environmental Report," Docket Nos. 50-498 and 50-499, July 1, 1974, and Subsequent Amendments. [Ref. 2.4-2 contains detailed descriptions of the aquatic communities of the lower Colorado River, Matagorda Bay, etc.]	Aquatic Ecology	Amoret Bunn

General Comments:

Some reviewers have specified references they will need access to at the site audit. However, PNNL assumes that all references included in the applicant's ER will be available for review during the audit.