PMSTPCOL PEmails

From: Lopas, Sarah
Sent: Monday, October 05, 2009 2:06 PM
To: rwkiesling@stpegs.com
Cc: STPCOL
Subject: FW: STP RAI Submittal 5
Attachments: STP RAIs - Alternatives FINAL 100109.doc

Hi Russ,

Talked to our secretary and the paper copy was mailed out on Friday, however, it has not been made public in ADAMS which is why you don't have an electronic copy yet.... Here is the Word version for tomorrow's call.

Thanks!
Sarah

Hearing Identifier: SouthTexas34Public_EX
Email Number: 1795

Mail Envelope Properties (A56E37EC1CBC8045910287CEF5E7AE6CF037E541)

Subject: FW: STP RAI Submittal 5
Sent Date: 10/5/2009 2:06:04 PM
Received Date: 10/5/2009 2:06:03 PM
From: Lopas, Sarah

Created By: Sarah.Lopas@nrc.gov

Recipients:
"STPCOL" <STP.COL@nrc.gov>
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Requests for Additional Information (RAIs)
South Texas Project Units 3 and 4
Combined Operating License Application
Supplemental Alternative Sites RAIS

RAI Number	Regulatory Basis	RAI Summary	Full Text (Supporting Information)
9.3 – 10	10 CFR 51.45(c) 10 CFR 51.71(d)	Clarify the assumptions behind the in-migration scenarios for each alternative.	For each alternative site a two-county Region of Interest (ROI) (host county plus an additional county) is used without explanation as to how the second county (non-host county) was chosen. Additionally, the same percentages of workers in-migrating used at STP (60.7% in one county, 22.4% in the other) are used at each alternative site without an explanation of why the same in-migration pattern is assumed. Given the proximity of Allens Creek to Houston and its suburbs, explain why the same number of workers is expected to in-migrate to the Allens Creek site as to the STP site.
9.3 – 11	10 CFR 51.45(c) 10 CFR 51.71(d)	Provide additional information regarding the transportation network for each alternative site.	In regards to roads, please provide the number of lanes, current condition, current utilization, capacities, likely commuter routes and where any pinch points would occur during construction for each alternative site.
9.3 – 12	10 CFR 51.45(c) 10 CFR 51.71(d)	Clarify the use of census blocks, census block groups, and census block points as applied to the Environmental Justice analysis, as well as the 5-mile radius for minorities and 10-mile radius for low-income populations.	The bullet on page 48 of revised ER Section 9.3 indicates there are 172 census blocks within 5 miles of the Red 2 site. But page 49 indicates that there are only 12 census block groups within a 10-mile radius. In addition, the analysis for the Freestone alternative site uses census block points. Please clarify whether census block points are the same as census block groups. Please clarify why a 5-mile radius is used to ascertain minority populations in the area, but a 10-mile radius is used for ascertaining the low-income population. It's not clear why different approaches would be used for minority versus low-income populations.
9.3 – 13	10 CFR 51.45(c) 10 CFR 51.71(d)	Provide information as to how construction of the Allens Creek Reservoir would impact the Texas Independence trail.	The ER states that construction of the Allens Creek Reservoir could directly impact the Texas Independence Trail. What part of the Texas Independence Trail is located near the Allens Creek site, how many visitors does it receive, and how would construction impact it?

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9.3 – 14	10 CFR 51.45 RG 4.2 ESRP 9.3	Explain whether the consumptive use of water at the Red 2 and Trinity 2 sites would cause significant adverse effects on other water users.	ESRP Section 9.3 (2007) states that consumptive use of water at a candidate site should not cause significant adverse effects on other users. The ER states that for both Red 2 and Trinity 2, the necessary water rights for cooling water consumption for the proposed two-unit plant are not presently owned by STPNOC and would need to be acquired, however, the ER does not discuss potential impacts of consumptive water use on surrounding water users.
9.3 – 15	10 CFR 51.45 RG 4.2 ESRP 9.3	Clarify the population screening criteria in ER Table 9.3-1.	ER Table 9.3-1 indicates that urban areas were excluded but does not indicate what criteria were used in designating urban areas. Explain the criteria used in designating urban areas.
9.3 – 16	10 CFR 51.45 RG 4.2 ESRP 9.3	Clarify why major highways were avoided in the identification of potential sites.	The first full bullet on page 9.3-6 of the ER states that areas around major highways were avoided. Explain why these areas were avoided.
9.3 – 17	10 CFR 51.45 RG 4.2 ESRP 9.3	Clarify the process used to eliminate some of the potential sites from further consideration.	The explanation for eliminating some of the potential sites isn't clear. For example, the Red 1 site looks suitable except in the "composite" ranking (ER, p. 9.3-164). Here the site is scored negatively with regard to access to water, transmission, barge, and rail. Using environmental-only criteria, the Red 1 site ranks second (ER, p. 9.3-164). In explaining the expanded environmental ranking, the ER (p. 9.3-8) says that rail and transmission access was used as a surrogate for related environmental impacts. Are the "Engineering and Cost Related Criteria" a mix of business and environmental factors? Do the "Environmental Criteria" already include the environmental impacts of needed improvements such as rail and transmission access? If yes, then including the scores for access as an environmental proxy would appear to be double-counting those impacts. That said, the explanation of Criteria D.2.1.1 and D.2.2.1 (Siting Report, pages D-76 and D-83) indicates that the evaluation was only done for the site area. These apparently conflicting statements need to be resolved.

RAI Number	Regulatory Basis	RAI Summary	Full Text (Supporting Information)
9.3 – 18	10 CFR 51.45 RG 4.2 ESRP 9.3	Explain the use of distance as a potential site screening criterion.	In Siting Report Table 5-1, Criteria P7 and P8 are stated as based on cost, and distance is used as a surrogate for cost. If cost was used to screen potential sites, please justify this. Cost is generally considered in a cost-benefit analysis after an environmentally preferable alternative site has been identified, and it is usually not appropriate to use cost for screening potential sites. However, distance can also potentially be a surrogate for environmental impacts; so the outcome may be acceptable. Explain how and why distance was used as screening criteria.
9.3 – 19	10 CFR 51.45 RG 4.2 ESRP 9.3	Explain the use of land acquisition cost as a potential site screening criterion.	In Siting Report Table 5-1, Criterion P9 is land acquisition cost. Please explain why land acquisition cost was chosen as a potential site screening criterion.
9.3 – 20	10 CFR 51.45 RG 4.2 ESRP 9.3	Explain the use of barge access in site screening.	The proposed STP site appears to be the only site for which barge access was considered (Siting Report, p. C-71). Was barge access considered for any of the alternative sites? Further explanation is needed.
9.3 – 21	10 CFR 51.45 RG 4.2 ESRP 9.3	Why was half of the Valley Lake acreage included in the wetlands estimate for the Red 2 site?	Page C-69 of the Siting Report indicates that half the acreage of Valley Lake is included in the wetlands estimate for the Red 2 site. Why was the lake acreage included given that no plant structures would be constructed there? If this approach is taken for the Red 2 site, would it be appropriate, for purposes of consistency, to include half of the MCR acreage at the STP site in the wetlands estimate?
9.3-22	10 CFR 51.70(b) 10 CFR 51 Appendix A	Provide a copy of the STP Nuclear Operating Company Nuclear Power Plant Siting Report (June 2009) on the docket.	The Siting Report contains details regarding the site selection process and approach that are not included in the revision to ER Section 9.3 (attachment to STPNOC Letter U7-C-STP-NRC-090066), and are needed for our analyses of alternative sites in the EIS. If the Siting Report contains proprietary information, provide a redacted version that can be made publicly available.

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9.3.2 – 6	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on the selection process for alternative sites regarding consideration of "important species."	The proposed text for revision to ER Section 9.3.2 (the Attachment to STPNOC Letter U7-C-STP-NRC-090066) states that "important species" were considered in the criteria for primary site selection, and "important species" includes the evaluation of threatened and endangered species. During discussions with the applicant and in the staff's review of STPNOC Nuclear Power Plant Siting Report (June 2009), the evaluation of important species was considered with information available at the county level. However, in the proposed text for revision to ER Section 9.3.3.1 (the Attachment to STPNOC Letter U7-C-STP-NRC-090066) the discussion for the STP site includes only those species known to be on-site, not within the county. Clarify why the evaluation of important aquatic and terrestrial species for STP is discussed only at the site-level, rather than at the county-level, as is done for the other potential sites.
9.3.2 – 7	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification as to why once-through cooling system was chosen for the coastal sites.	The proposed text for revision to ER Section 9.3.2 (the Attachment to STPNOC Letter U7-C-STP-NRC-090066) states that "For purposes of the siting study, … once-through cooling was assumed for the coastal locations." Given the restrictions placed on once-through cooling technology by Clean Water Act Section 316(b) and EPA's implementing regulations in 40 CFR 125 Subpart I, it is not clear why this cooling system is considered viable. Explain why once-through cooling system is a viable option.
9.3.2 – 8	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification regarding the selection of Candidate Areas within the Region of Interest with respect to guidance described in Regulatory Guide 4.7, ESRP Section 9.3 and the EPRI Siting Guide as it relates to water availability.	The NRC staff's meeting with Texas Commission on Environmental Quality (TCEQ) staff on August 27, 2009, regarding water availability and permitting at STPNOC's alternative sites revealed that although it is possible to obtain a permit for a reliable supply of water in the quantities required by proposed STP Units 3 and 4, obtaining such a permit would be difficult for the Red 2 and Trinity 2 alternative sites. TCEQ staff stated that it would be significantly easier to obtain a water use permit for sites that used waters from the Gulf of Mexico because such use would not compete with fresh surface water supplies. Regulatory Guide 4.7, Section 7.2, p. 4.7-13, states: "To evaluate the suitability of sites, there should be reasonable assurance that permits for consumptive use of water in the quantities needed for a nuclear power plant of the stated approximate capacity and type of cooling system can be obtained by the applicant from the appropriate State, local, or regional agency."

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			Explain how it was determined that there is a reasonable assurance that water use permits at the alternative sites (Red 2, Trinity 2, and Allens Creek) can be obtained. ESRP 9.3 lists Federal, State, local, and Native American Tribal laws and regulations affecting the siting of new energy facilities as an acceptance criterion. Further, ESRP 9.3 states "[t]he reviewer should determine if the applicant has employed a practicable site-selection process with the principal objective of identifying candidate sites that would be among the best that could reasonably be found for the proposed plant. This standard implies that all such candidate sites should be licensable (which includes consideration of whether other necessary Federal, State, and local permits could be obtained)." Please explain how TCEQ's requirements related to water availability and permitting were considered in the alternative site selection by STPNOC, or justify an alternative approach. The EPRI Siting Guide (used by STPNOC according to section 9.3.1 of the ER), states in Chapter 3, Detailed Discussion of Siting Criteria, Section 3.1.1.2.1, Cooling Water Supply: (a) "Sites that are incapable of providing these levels of water supply within applicable physical *and regulatory constraints* should be excluded from further consideration. The evaluation of water supply capability should include both the effects on water quantity left in the source water body and the effects on water quality as a result of reduced waste assimilation capacity." (emphasis added), (b) "The allocation *policies and laws operable at the state level* govern the use and consumption of cooling water. ... Evaluations of the ability to supply the facility water requirements *must take such allocations for other uses into account*." (emphasis added), and (c) "Criteria that apply to the unique physical and *regulatory characteristics* of the ROI under study should be defined…" (emphasis added). Explain how the guidance related to state regulatory characteristics and constraints listed in the EPRI Siting Guide were used by STPNOC in the

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			alternative site selection study. Specifically, explain how the surface water availability and permitting issues from rivers in the state of Texas were taken into account in the exclusionary and avoidance criteria used to select Candidate Areas and further, in the process and criteria used to select Primary and Potential Sites. Explain how the approach used in the Siting Report, with regards to access to water, provides a reasonable expectation that the sites identified would be among the best available in the ROI.
9.3.2 – 9	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on screening criteria used for identification of Candidate Areas with regard to proximity to rivers or the gulf.	Table 3-1 of the Siting Report sets the screening distance as 5 miles for rivers and 10 miles for the Gulf of Mexico. Explain the basis for the difference in these distances with respect to impacts from a pipeline that may need to be constructed from the site to the respective water body for conveyance of cooling or makeup water.

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9.3.2 – 10	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on screening criteria ratings for Potential Sites with regard to water supply.	1. Table 9.3-2 in the proposed text for revision to ER Section 9.3 shows the composite ratings of the Potential Sites. The Siting Report mentions that the rating for a Potential Site based on the screening criterion for Cooling Water Supply is the average of two components: (a) ability to meet cooling water quantity requirement and (b) availability of water rights. The site should be rated 5 for the first component if the water source has unlimited capacity. For the second component, a site should be rated 5 if water rights are currently owned by the applicant. Table 9.3-2 in the proposed text for revision to ER Section 9.3 shows that the water supply criterion score for the proposed site, the STP site, was 5. The applicant currently holds water rights at the STP site. However, the water supply source at the STP site, the Colorado River, does not have an unlimited capacity. Explain why the STP site was rated 5 for water supply. Table 9.3-2 in the proposed text for revision to ER Section 9.3 shows that the water supply criterion scores for the two coastal sites were each 4. The coastal sites, however, have access to a water source with an unlimited capacity. Also, the staff's discussions with TCEQ have revealed that there is little regulatory restriction on obtaining water rights from the Gulf of Mexico. Given this information, explain the basis for rating the coastal sites as 4 for water supply. 2. In Appendix C of the Siting Report, Section C.2, Screening Criterion Ratings, details of ratings for each criterion for all Potential Sites are provided. For the coastal sites, a note is included for the Cooling Water Supply criterion that states: "Pipeline construction to Gulf of Mexico could encounter permitability challenges from crossing critical habitat." This statement describes an ecology consideration and not a hydrology consideration. Explain what effect this consideration had on the coastal sites scoring a 4 for the Cooling Water Supply criterion.

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9.3.3 – 4	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on the evaluation of essential fish habitat at the STP site.	Section 2.4.2.4 of the Environmental Report (ER), Rev. 2, states that the lower Colorado River is designated essential fish habitat (EFH) by the Gulf of Mexico Fishery Management Council. The ER is also consistent with information available to the public on NOAA's Office of Habitat Conservation, Habitat Protection Division's website (http://www.nmfs.noaa.gov/habitat/habitatprotection/efh/GIS_mapper.htm). However, the proposed text for revision to ER Section 9.3.3.1.5 (the Attachment to STPNOC Letter U7-C-STP-NRC-090066) implies that the Colorado River is not essential fish habitat, and that EFH is seven miles away in the Gulf of Mexico or Matagorda Bay. Explain why there is a discrepancy regarding the designated EFH for the lower Colorado River.
9.3.3 – 5	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on the evaluation of water availability and aquatic resources for the Trinity 2 site.	The proposed text for revision to ER Section 9.3.3.4.5 (the Attachment to STPNOC Letter U7-C-STP-NRC-090066) does not consider the planned reservoirs within the vicinity of the Trinity 2 site. According to the Trinity River Authority Basin Master Plan, there are two significant reservoirs (Tennessee Colony Reservoir and Tehuacana Reservoir) that would be built in the vicinity of Trinity 2 and would be contiguous with Lake Fairfield. Evaluation of these reservoirs would be similar to the evaluation of Allens Creek Reservoir for the proposed Allens Creek site. The impact from construction of a reservoir for Trinity 2 was considered MODERATE, whereas the same evaluation for construction of a reservoir for Allens Creek was considered LARGE. The process of inundating land for the construction of a planned reservoir would appear to be similar. Clarify why Trinity 2 site was evaluated differently from Allens Creek with regard to planned reservoirs that are discussed in the public domain.

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9.3.3 – 6	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarification on groundwater use during operations and the groundwater availability at the alternative sites.	For all alternative sites, STPNOC stated that groundwater use during construction would be approximately 1200 gpm. There is no discussion of groundwater use during operations for the alternative sites. Provide a discussion of groundwater use during operations. Also provide a comparison of the quantity of groundwater that may be used during construction versus that used during operations for all alternative sites. In the proposed text for revision to ER Section 9.3, STPNOC stated for each alternative site: "In summary, due to the relatively small quantity requirements and the availability of groundwater or imported water, the sites will have a SMALL impact on water use for construction activity." How was groundwater and imported water availability determined at each alternative site? How was it determined that the groundwater or imported water demand during construction would be "relatively small?"
9.3.3 – 7	10 CFR 51.45 10 CFR 51 Appendix A ESRP 9.3	Provide clarifications regarding cooling water requirements.	In the proposed text for revision to ER Section 9.3.3, STPNOC stated that the maximum plant cooling design consumption for a two-unit plant would be 31,000 gpm (50,000 ac-ft/yr) at the proposed site and at the alternative sites. 1. In the proposed text for revision to ER Section 9.3, Table 9.3-1, ROI Regional Screening Criteria, STPNOC stated that the assumed makeup water requirement would be 31,000 gpm (50,000 ac-ft/yr). Clarify if the consumptive use is the same as makeup water requirement. If the makeup water requirement is larger than 31,000 gpm, provide updated estimates of the percentage of existing water rights that would need to be acquired at the alternative sites to support the operations of the potential plant. 2. Clarify if the makeup water requirement stated for the alternative sites includes evaporation losses from a cooling reservoir like the MCR if such a configuration were to be used at the alternative sites.

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9.3.3 – 8	10 CFR 51.71(d)	Provide supplemental information regarding wildlife and game species associated with the alternative sites and pipeline/transmission line corridors.	Provide additional information describing the common wildlife and game species that are likely to inhabit 1) forested habitat, 2) grassland habitat, or 3) agricultural habitats that are found at the Trinity 2, Allens Creek, and Red River 2 sites and in the proposed routes for pipelines and transmission corridors. Identify those species that may be considered ecologically, recreationally, or commercially important.
9.3.3 – 9	10 CFR 51.71(d)	Provide information regarding the presence of bird or bat migration corridors for each of the alternative sites.	Provide information to describe whether the three proposed alternative sites lie within a major migratory corridor for birds or bats. If these sites are located within the migratory corridor, describe whether important bird areas or songbird fallout areas are located within the proposed alternative sites or the vicinity.
9.3.3 – 10	10 CFR 51.71(d)	Reconcile land use impact acreage inconsistencies provided in the revised ER section 9.3.	The total acreages cited in 9.3.3.2.1 (land use) for impacts resulting from rail, cooling water supply pipeline, and road corridors are not equal to the sum of the individual acres attributed to each construction activity (page 9.3-29). This is also the case in section 9.3.3.4.1 (p. 9.3-80). Clarify the total acreage attributed to these activities for each of the proposed alternative sites, and describe whether this changes other summary information regarding the total estimated acreages reported in both the land use and terrestrial ecology sections.
9.3.3 – 11	10 CFR 51.71(d)	Describe the potential construction impacts to the Attwater's Prairie Chicken National Wildlife Refuge.	The proposed Allen's Creek site lies to the south of Sealy, Texas, and is located relatively close to the Attwater's Prairie Chicken National Wildlife Refuge, which harbors a population of Attwater's prairie-chicken, a Federally endangered species. Describe the approximate distance between the Attwater's Prairie Chicken National Wildlife Refuge and the proposed site, proposed reservoir, and approximate routes for associated construction activities. Describe whether proposed construction activities present the potential to affect available habitat or individuals of this species.