Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

June 2, 2010
U7-C-STP-NRC-100122

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

South Texas Project
Units 3 and 4
Docket Nos. 52-012 and 52-013
Comments on Draft Environmental Impact Statement

References: Draft Environmental Impact Statement for Combined Licenses (COLs) for South Texas Project Electric Generating Station Units 3 and 4. NUREG-1937, Volume 1, March 31, 2010. ML100700327.

Draft Environmental Impact Statement for Combined Licenses (COLs) for South Texas Project Electric Generating Station Units 3 and 4. NUREG-1937, Volume 2, March 31, 2010. ML100700333.

The STP Nuclear Operating Company (STPNOC) has completed a review of the above referenced Draft Environmental Impact Statement (DEIS). STPNOC's comments on the DEIS are contained in the attachment to this letter.

There are no commitments in this letter.

If you have any questions regarding this correspondence, please contact me at (361) 972-7136, or Russell Kiesling at (361) 972-4716.

D091
NRO

STI 32684214

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 6/2/10

Scott Head
Manager, Regulatory Affairs
South Texas Project Units 3 & 4

rwk

Attachment: Draft Environmental Impact Statement Comments

cc: w/o attachment except*
(paper copy)

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DEIS Section 01.01. Background. Page 1-2, Line 33.

STPNOC Comment: The DEIS states "... two ABWR reactors each with thermal power ratings of 3853 MW(t)." The correct value for Units 3 & 4 is 3926 MW(t) (RAI Response 07.02-07).

DEIS Section 02.02. Land Use. Page 2-7, Lines 20-22.

STPNOC Comment: The DEIS states, "There are no mineral resources of known commercial value within the STP site boundary or in the 6-mi vicinity of the site (STPNOC 2009a)."

The Environmental Report (Rev. 3) Section 2.2.1.1 indicates the following: "The co-owners of STP also own or control all of the mineral interests within the site boundary and have the power to acquire such outstanding mineral interests in the subsurface estate as may be required for operation of the facility. The co-owners control the surface minerals and any drilling used to recover minerals. However, the co-owners of STP have agreed to not exercise their right to use any area within the EAB for explorations or recovery of minerals, or convey or lease mineral rights to any third party without proper approval of STP Nuclear Operating Company. There are mineral resources (e.g., sand and gravel, coal, oil, natural gas, and ores) adjacent to (within the 6-mile vicinity) and within the site boundary presently being exploited or of known commercial value. According to the Railroad Commission (RRC) of Texas, there are two petroleum wells within the site property that have been plugged and abandoned and there are seven petroleum wells within the 6-mile vicinity. There are 26 gas wells and nine oil/gas wells within the 6-mile vicinity (Reference 2.2-1). Reference: Railroad Commission of Texas, 2007. Wells.

DEIS Section 02.03.01. Water – Hydrology, Page 2-16, Lines 22-24.

STPNOC Comment: DEIS 02.03.01, Page 2-16, Lines 22-24: The DEIS indicates that Lake Buchanan has a storage capacity of 875,566 ac-ft and that Lake Travis has a storage capacity of 1,131,650 ac-ft. Since storage volumes vary with water depths, it is therefore suggested that the two statements be revised to "Lake Buchanan has a storage capacity of 875,566 ac-ft at normal operating level and ....", and "Lake Travis has a storage capacity of 1,131,650 ac-ft at normal operating level and ...."

DEIS Section 02.03.01. Water – Hydrology, Page 2-18, Lines 25-26.

STPNOC Comment: The DEIS states: "Water is pumped into the MCR from the Colorado River to maintain the water quality below 3000 µS/cm for specific conductivity (STPNOC 2009a)." The DEIS statement is not completely accurate based on Environmental Report Reference 5.2-4, the "Amended and Restated Contract by and between the Lower Colorado River Authority and STP Nuclear Operating Company," effective January 1, 2006. To eliminate any misunderstanding the statement should be simplified to read, "Water is pumped into the MCR from the Colorado River (STPNOC 2009a)."

DEIS Section 02.03.01. Water – Hydrology, Page 2-19, Lines 3-5.

STPNOC Comment: The DEIS states: "The powerblock area of the existing Units 1 and 2 is drained by gravity toward the northwest to a point west of the existing switchyard where the existing Main Drainage Channel (MDC) starts (Figure 2-12)." The power block for existing Units 1 and 2 drains by gravity to the east via the Plant Area Drainage Ditch or via drainage around the Essential Cooling Pond. Environmental Report (Rev. 3.0) Section 6.3.1.3 addresses storm water outfalls and Figure 6.3-3 shows these outfalls. The STP Units 1 and 2 powerblock area drains to Outfall A to the southeast.

DEIS Section 02.03.01. Water – Hydrology, Page 2-19, Line 32.

STPNOC Comment: The DEIS states: "The RMPF contains 18 traveling screens, each 13.5 ft in width (STPNOC 2009a)." Environmental Report (Rev. 3.0) Figure 3.4-5 shows 18 screens. The correct number of traveling screens is 24, with each 10 ft in width, as shown in the Unit 1 and 2 Operating License Environmental Report, Figures 3.4-2 and 3.4-4. A revised figure will be included in the next revision of the COLA.

DEIS Section 02.03.01. Water – Hydrology, Page 2-21, Figure 2-12.

STPNOC Comment: The Main Drainage Channel has been relocated as part of pre-construction activities. In DEIS Figure 2-12, "Current Location of MDC" should read "Previous Location of MDC" and "Main Drainage Channel (MDC)" should read "Relocated Main Drainage Channel (MDC)". The title of DEIS Figure 2-12 should be reworded to read, "Current and Previous Locations of the Main Drainage Channel (STPNOC 2009b)."

DEIS Section 02.03.01. Water – Hydrology, Page 2-26, Lines 24-26.

STPNOC Comment: The DEIS states: "The bottom of the MCR is unlined and acts as a local recharge source for the Upper Shallow Aquifer, and it appears to cause some mounding in the Upper Shallow Aquifer and possibly the Lower Shallow Aquifer (STPNOC 2008c, 2009c)." Although the cited reference STPNOC 2008c, dated December 18, 2008 (response to ER RAI 02.03-07), did indicate that "...postulated mounding in the aquifer is plausible due to the influence of the MCR," the results of subsequent analyses as discussed in the response to FSAR RAI 02.04.12-28 (STPNOC 2009c, dated September 21, 2009) determined that there are "...no obvious mounding impacts to the Lower Shallow aquifer from the MCR." Thus, the DEIS statement should be clarified to delete the following portion of the sentence "...and possibly the Lower Shallow Aquifer".

DEIS Section 02.03.01. Water – Hydrology, Page 2-27, Lines 10-12.

STPNOC Comment: The DEIS states: "In the vicinity of the proposed and existing STP units, where the confining unit has been removed, the hydraulic gradient between Upper and Lower Shallow aquifers is downward, and groundwater movement is known to occur between them (see ER Section 2.3.1.2.5.1)." The cited Environmental Report (Rev. 3.0) subsection, does not

make explicit statements that "groundwater movement is known to occur" between the two aquifers. Thus, without direct evidence, such as might be obtained from a tracer test, groundwater movement between the Upper and Lower Shallow aquifers can only be interpreted (or hypothesized) to occur. To eliminate any misunderstanding, the DEIS statement should be clarified to read, "In the vicinity of the proposed and existing STP units, where the confining unit has been removed, the hydraulic gradient between Upper and Lower Shallow aquifers is downward, and groundwater movement is interpreted to occur between them (see ER Section 2.3.1.2.5.1)."

DEIS Section 02.03.01. Water – Hydrology, Page 2-27, Lines 13-15.

STPNOC Comment: The DEIS states: "Potentiometric measurements completed in September 2008 in the vicinity of Kelly Lake indicate an upward groundwater gradient between Lower and Upper Shallow aquifers, and a hydraulic equilibrium between the Upper Shallow Aquifer and Kelly Lake (STPNOC 2008g)." The response to FSAR RAI 02.04.12-20 (STPNOC 2008g) states: "September 2008 groundwater levels measured in new observation wells near the lake indicate an upward flow potential from the Lower to Upper Shallow aquifer and a piezometric surface in the Upper Shallow Aquifer essentially equal to the water level in the lake. These findings suggest that groundwater from the nearby Shallow Aquifer discharges to Kelly Lake." The following text in the DEIS statement "...a hydraulic equilibrium...." suggests that neither discharge from nor recharge to the groundwater system from the lake is occurring, which is distinctly different from the statements provided in the RAI response.

DEIS Section 02.03.01. Water – Hydrology, Page 2-27, Lines 33-34.

STPNOC Comment: The DEIS states: "Groundwater production wells located along the northern perimeter of the MCR withdraw...." Environmental Report (Rev. 3.0) Figure 2.3.2-4, shows Production Well No. 8 located on the east side of the existing plant site, which is not directly located along the northern perimeter of the MCR. The DEIS statement could better state, "Groundwater production wells located north of the MCR withdraw...."

DEIS Section 02.03.01. Water – Hydrology, Page 2-28, Lines 7-8.

STPNOC Comment: The DEIS states: "Groundwater reversal is occurring locally to the STP production wells with groundwater being drawn to the wells from the northwest and southeast." Environmental Report (Rev. 3.0) Subsection 2.3.1.2.3.4 states: "The onsite Deep Aquifer potentiometric surface suggests a reversal of the regional flow direction in the southern portion of the map, where flow is north toward the site pumping wells, rather than toward the southeast." As indicated in the ER, groundwater is being drawn to the production wells in approximately a radial pattern, not just from the northwest and southeast. Thus, the DEIS statement should be clarified to eliminate any misunderstanding.

DEIS Section 02.03.02. Water – Water Use. Page 2-34, Lines 11-13.

STPNOC Comment: The DEIS states: "The STPNOC currently holds a water right for 102,000 ac-ft of water per year (determined as a 5-year rolling average) from the Colorado River and is authorized to divert water at a maximum rate of 1200 cfs." Although there is a provision in the existing STPNOC-LCRA water contract that the river permit can be amended to allow diversion of 102,000 ac-ft of water per year on average over any five consecutive years, this provision is not currently in effect. Therefore, the DEIS statement should be clarified to delete the text "(determined as a 5-year rolling average)", to be consistent with the Environmental Report (Rev. 3.0) Table 2.3.2-3, which identifies 102,000 ac-ft of water per year as the STPNOC-LCRA permit limit without any discussion on rolling averages.

DEIS Section 02.03.02. Water – Water Use. Page 2-34, Lines 15-17.

STPNOC Comment: The DEIS states that STPNOC also has access to a maximum of 20,000 acre-feet of water for operation of Units 1 and 2. Although the DEIS is not inconsistent with STPNOC's Lower Colorado River Authority (LCRA) Water Contract, which states that the LCRA will make available firm water totaling no more than 20,000 acre-feet/year (rolling five-year average) for 2-unit operation or 40,000 acre-feet/year (rolling five-year average) for any additional generation capacity, using the 40,000 acre-feet per year value provided in ER Rev. 3 (Section 2.3.1.1.2) would be more applicable to STP Units 3 and 4.

DEIS Section 02.03.02. Water – Water Use. Page 2-35, Lines 10-13.

STPNOC Comment: The DEIS states that STPNOC reported that the existing consumptive water use from the Colorado River is approximately 37,100 acre-feet per year. ER Rev. 3 Table 2.3.2-8 states that the consumptive water use is 34,821 acre-feet per year. The 37,100 acre-feet per year value is an average of the amount of water diverted from the Colorado River from 2001 to 2006.

DEIS Section 02.03.02. Water – Water Use. Page 2-37, Line 17, Table 2-4, "Annual Permitted" line.

STPNOC Comment: The DEIS Table 2-4 states in the last row of the References column "CBGCD 2009". Please change "CBGCD" to "CPGCD".

DEIS Section 02.03.03. Water – Water Quality. Page 2-45, Line 2.

STPNOC Comment: The DEIS states, "Stormwater runoff discharge from the STP site is monitored at eight outfalls...". This is incorrect. Only those outfalls associated with industrial activity require monitoring. Only 3 of the eight outfalls are associated with industrial activity and thus are the only ones monitored.

DEIS Section 02.04. Ecology. Page 2-76, Line 13-14.

STPNOC Comment: The DEIS states, "However, they also noted that the high numbers of cyanobacteria and crytomonads were probably due to the water quality changes associated with the heavy rainfall that year (STPNOC 2009a)."

Environmental Report (Rev. 3.0) indicates that the correct term is "cryptomonads" and does not mention rainfall (Section 2.4.2). The ER states the following: "The 1974 ER also observes that stressful conditions (i.e., high-water temperatures) appeared to produce increases in numbers of "opportunistic" groups such as Cryptomonads and blue-green algae (cyanobacteria). Blue-green algae, in particular, are often associated with degraded water quality, specifically with nutrient enrichment and eutrophication."

DEIS Section 02.04. Ecology. Page 2-91, Lines 4-6.

STPNOC Comment: The DEIS states "This species was collected in the Columbia River during the 1975-1976 nekton samples (NRC 1986), the 1983-1984 ichthyplankton samples (NRC 1986), and in the 2007-2008 bag seine and trawl samples (ENSR 2008c)."

The data refer to the Colorado River, not the Columbia River. Please note that ichthyoplankton is misspelled.

DEIS Section 02.04. Ecology. Page 2-91, Line 20.

STPNOC Comment: The DEIS states, "There are no bag or possession limits for harvesting black drum; however they must be from 14 to 30 in. in length (TPWD 2009o)."

Please revise as follows: "There are no bag or possession limits for the commercial harvest of black drum; however they must be from 14 to 30 in. in length. The recreational bag limit for black drum is 5 fish per day between 14 and 30 in. in length. However, one fish over 52 in. may be retained per day as part of the bag limit (TPWD 2009o)"

DEIS Section 02.04. Ecology. Page 2-95, Lines 20-21.

STPNOC Comment: The DEIS states "However, mating females and those brooding eggs are only common outside of the bay." The Environmental Report (Rev. 3.0) states that mating blue crabs are common in the tidal fresh portions of the bay (Table 2.4-3). Patillo et al. (1997) confirms this.

DEIS Section 02.05. Socioeconomics. Page 2-112, Line 27.

STPNOC Comment: The DEIS text references Figure 2-17. Instead, it should reference Table 2-18.

DEIS Section 02.05. Socioeconomics. Page 2-112, Line 28.

STPNOC Comment: The DEIS text references Figure 2-17. Instead, it should reference Table 2-18.

DEIS Section 02.05. Socioeconomics. Page 2-113, Lines 14-16.

STPNOC Comment: The DEIS provides a list of the types of people that are considered transients in this analysis, but does not identify three of them: those residing in schools, hospitals and nursing homes, and correctional facilities. Nor, does the DEIS provide an explanation for their omission. The Environmental Report (Rev. 3.0) provides a list of all of the types of transients and provides an explanation for the omission of some of them. This information should be included in the DEIS for completeness.

DEIS Section 02.05. Socioeconomics. Page 2-118, Line 13.

STPNOC Comment: The DEIS states "Table 2-23 shows where the STP site's employees lived". This should be "Table 2-16 shows...."

DEIS Section 02.05. Socioeconomics. Page 2-119, Table 2-22.

STPNOC Comment: The DEIS Table 2-22 data do not match the data in Table 2.5-7 of the Environmental Report (Rev. 3.0). The Table 2-22 data are not for 2005. The reference listed at the bottom of the table says "BEA 2008". The table title should be changed to that later year.

DEIS Section 02.05. Socioeconomics. Page 2-121, Table 2-24.

STPNOC Comment: DEIS Table 2-24 and ER (Rev. 3) Table 2.5-9 both purport to report the same data. However, there are some discrepancies between the two tables, even though they report the data for the same years. It is unclear whether 1) the years listed for the data are incorrect, or 2) the data have been revised. The ER table reference is BLS 2007 while the DEIS reference is BLS 2008. The data in Table 2-24 may need to be reconciled or the dates of the data may need to be changed.

DEIS Section 02.05. Socioeconomics. Page 2-127, Line 6.

STPNOC Comment: The DEIS contains an incomplete reference to a table. The correct reference should be Table 2-28.

DEIS Section 02.05. Socioeconomics. Page 2-131, Line 29.

STPNOC Comment: The DEIS contains an incomplete reference to a table. The correct reference should be Table 2-16.

DEIS Section 02.06. Environmental Justice. Page 2-148, Lines 5-6.

STPNOC Comment: The DEIS is missing a figure for the six block groups that have significant "some other race" populations.

DEIS Section 02.06. Environmental Justice. Page 2-151, Line 34.

STPNOC Comment: This sentence is missing "some other race" populations.

DEIS Section 02.06. Environmental Justice. Page 2-148, Figure 2-27.

STPNOC Comment: Figure 2-27 of the DEIS is incorrect. The correct figure is attached to this review document.

DEIS Section 02.08. Geology. Page 2-157, Lines 35-37 and Page 2-158, Lines 1-2.

STPNOC Comment: The DEIS states: "For the purposes of considering the hydrogeological setting in the vicinity of the STP intake structure on the Colorado River, an apparent feature is the incision in the sediments by the river to an elevation of approximately 14 ft below MSL (STPNOC 2009a). At the nearby STP site, this would imply direct communication between the Colorado River and the Upper Shallow Aquifer (STPNOC 2009a)." The DEIS statements should be clarified to reference Environmental Report (Rev. 3.0) Subsection 2.3.1.2.5.2 and Table 2.3.1-23, which presents the estimates of travel time to various receptors, including the Colorado River, to avoid any misunderstanding that a release at the site would immediately be observed in the river.

DEIS Section 02.13. References. Page 2-183, lines 26-28.

STPNOC Comment:: The DEIS states: "South Texas Project Nuclear Operating Company (STPNOC). 2009e. Letter from Scott Head, STPNOC, to NRC, dated November 23, 2009, "Response to Request for Additional Information" Accession No. ML093310296."

Accession No. ML093310296 is related to ER Section 5.4, instead of ER Section 2.3. The correct document for the STPNOC 2009e Reference should be another STPNOC letter to the NRC, also dated November 23, 2009 (Accession No. ML093310392), that provided COLA markups for ER Section 2.3.1.

DEIS Section 03.01. External Appearance and Plant Layout. Page 3-1, Line 5.

STPNOC Comment: The DEIS states, "In addition to the COL application, STPNOC will need to apply for a permit from the U.S. Army Corps of Engineers (Corps) to conduct activities that result in alteration of waters of the United States." STPNOC has applied for the required

permit; therefore, the sentence should read that "STPNOC **has applied** for a permit." (Ref. STPNOC Letter U7-C-STP-ACE-100001, dated March 9, 2010 from Scott Head, STPNOC, to U.S. Army Corps of Engineers – Galveston District, Subject: Application for Department of Army Permit.)

DEIS Section 03.02. Proposed Plant Structures. Page 3-6, Line 31.

STPNOC Comment: The DEIS states, "The RMPF consists of 18 traveling screens." The statement should be revised to state that the RMPF consists of "24" traveling screens. STPNOC plans to revise the Environmental Report Figure 3.4-5 to indicate the correct number of traveling screens.

DEIS Section 03.02. Proposed Plant Structures. Page 3-7, Lines 1-2.

STPNOC Comment: The DEIS states, the "surface area of the 18 traveling screens is 2430 ft^2." This statement should be revised to state indicate that the number of traveling screens is 24 (see comment on Page 3-6, Line 31, above) and the surface area should be shown as 2400 ft^2 (24 screens x 10 ft wide x 10 ft deep = 2400 ft^2).

DEIS Section 03.02. Proposed Plant Structures. Page 3-8, Lines 30-31.

STPNOC Comment: The DEIS indicates that the combustion turbine generators are safety related. Combustion turbine generators are used during off normal conditions as an Alternate AC power source for Station Blackout events and are non-safety-related. (Reference Part 2 Tier 1 Section 2.12.11, and Part 2 Tier 2 Sections 9.5.11.3 and 9.5.13.21).

DEIS Section 03.02. Proposed Plant Structures. Page 3-9, Line 26.

STPNOC Comment: The DEIS states, "the existing MDC would need to be relocated." This should read, "the existing MDC has been relocated."

DEIS Section 03.02. Proposed Plant Structures. Page 3-10, Line 9.

STPNOC Comment: The DEIS states, "Except for upgrading the transition lines from the STP site to Hillje Substation, STPNOC has determined that no additional offsite transmission line corridors or expansion of existing corridors would be required to support Units 3 and 4." The phrase "Except for" in this sentence may be read to imply the need for additional corridors or expansion of corridors. STPNOC recommends this statement be split into two sentences to clarify that upgrading will be within an existing corridor: "The existing transmission lines from the STP site to the Hillje Substation will be upgraded. STPNOC has determined that no additional offsite transmission line corridors or expansion of existing corridors will be required to support Units 3 and 4."

DEIS Section 03.02. Proposed Plant Structures. Page 3-11, Line 3.

STPNOC Comment: The DEIS states, "Groundwater wells are planned to dewater deep excavations in the power block region." For clarity, STPNOC recommends the phrase "Groundwater wells" be replaced with "Dewatering wells."

DEIS Section 03.03. Construction and Preconstruction Activities. Page 3-15, Line 2.

STPNOC Comment: The DEIS states, "The slurry wall would be installed into the Upper Aquifer in the power block area." To be consistent with terminology in Environmental Report (Rev. 3.0) Subsection 2.3.1.2.3.1, STPNOC recommends this statement be revised to state: "The slurry wall would be installed into the **Shallow** Aquifer in the power block area."

DEIS Section 03.03. Construction and Preconstruction Activities. Page 3-15, Line 10.

STPNOC Comment: The DEIS states, "The MDC from the site would be relocated via shallow excavation of the new course." The phrase "would be" in the sentence should be changed to "has been."

DEIS Section 03.03. Construction and Preconstruction Activities. Page 3-15, Line 17.

STPNOC Comment: The DEIS states, "Wells would be drilled using standard drilling practices into the Upper Aquifer." To be consistent with terminology in Environmental Report (Rev. 3.0) Subsection 2.3.1.2.3.1, the statement should be clarified to state: "Wells would be drilled using standard drilling practices into the **Shallow** Aquifer."

DEIS Section 03.03. Construction and Preconstruction Activities. Page 3-17, Table 3-2.

STPNOC Comment: The DEIS states, the "Value" of the "Hydrology-Groundwater" is "95 ft below grade." This value should be changed to **100 ft**, for consistency with the STP Units 3 and 4 Final Safety Analysis Report.

DEIS Section 03.04. Operational Activities. Page 3-18, Lines 29-30.

STPNOC Comment: The DEIS states, "During normal plant operation, the CWS would dissipate approximately 8.656×10^9 Btu/hr for each unit, or 1.732×10^9 Btu/hr for both units, of waste heat". The correct value is 1.732×10^{10} Btu/hr for both units consistent with DEIS Table 3-4.

DEIS Section 03.04. Operational Activities. Page 3-19, Line 3-4.

STPNOC Comment: The DEIS states, "STP estimates that the two proposed units would require approximately 1242 gpm of groundwater during normal operation and 4108 gpm during shorter-term peak demand periods." STPNOC's response to NRC Request for Additional Information (RAI) 05.10-4, identifies the correct number during normal operation of 975 gpm, and the correct number during shorter-term peak demand periods of 3434 gpm.

STPNOC recommends that the DEIS be revised to reflect the current estimates provided in STPNOC's response to RAI 05.10-4 (STPNOC Letter U7-C-STP-NRC-090164 dated September 28, 2009)

DEIS Section 03.04. Operational Activities. Page 3-23, Line 2.

STPNOC Comment: The DEIS states, "activated sludge from existing Units 1 and 2 is currently disposed by land application at a rate of 30,000 to 40,000 gallons per year." The phrase "is currently" in the sentence should be changed to "has previously been."

DEIS Section 03.04. Operational Activities. Page 3-23, Line 5.

STPNOC Comment: The DEIS states, "The sludge from the new West Sanitary Waste Treatment System (WSWTS) and Nuclear Training Facility (NTF) systems for the existing Units 1 and 2 and proposed Units 3 and 4 would be disposed of by land application." The phrase "by land application" at the end of the sentence should be changed to "off-site."

DEIS Section 03.04. Operational Activities. Page 3-23, Line 31.

STPNOC Comment: The DEIS states, "Water from the MCR may be discharged to the Colorado River subject to the limitations of the STP site's existing National Pollutant Discharge Elimination System (NPDES) permit (STPNOC 2009a)." The phrase "National Pollutant Discharge Elimination System (NPDES)" should be changed to "Texas Pollutant Discharge Elimination System (TPDES)."

DEIS Section 03.04. Operational Activities. Page 3-24, Table 3-3.

STPNOC Comment: The DEIS states, two of the chemicals in Table 3-3, Representative Water Treatment Chemicals Used for STP Units 1 and 2, as "Sodium hyperchlorite and Sodium bisulfate." This should be corrected to read "Sodium hypochlorite and Sodium bisulfite."

DEIS Section 03.04. Operational Activities. Page 3-24, Line 5.

STPNOC Comment: The DEIS states, "Both systems would be replaced by newer systems to accommodate the expansion of the facilities by the addition of Units 3 and 4." The phrase "replaced by newer systems" should read "replaced, or upgraded".

DEIS Section 03.04. Operational Activities. Page 3-24, Lines 6-8.

STPNOC Comment: The DEIS states: "The new WSWTS will be designed to treat sanitary waste at a rate of 300,000 gallons per day, and the new NTF system will be designed to treat sanitary waste at a rate of 100,000 gallons per day." STPNOC recommends deleting the word

"new" preceding "WSWTS" and preceding "NTF" in this sentence consistent with the comment noted on Line 5 of this page.

DEIS Section 03.04. Operational Activities. Page 3-25, Line 6.

STPNOC Comment: The DEIS contains an incomplete reference to a table. The correct reference should be Table 3-2.

DEIS Section 03.04. Operational Activities. Page 3-26, Table 3-4.

STPNOC Comment: The DEIS states, in Table 3-4 that 23,190 gpm is the "full heat load." "Full heat load" should be revised to read "for 100% load factor."

STPNOC Comment: The DEIS states, in Table 3-4, "21,600 gpm long-term average basis for 93% heat load." This should read, "21,600 gpm long term average basis for 93% load factor."

STPNOC Comment: The DEIS cites a value of "1.732 x 1010" under both the Normal Operating Condition and Maximum Condition columns for the Meteorology/Air Quality Resource Area." The value should be corrected to show the proper exponential notation as "1.732×10^{10}."

DEIS Section 04.01. Land Use Impacts – Construction. Page 4-4, lines 11-15.

STPNOC Comment: The DEIS states, "An additional approximately 240 ac would be disturbed for temporary facilities including a concrete batch plant, materials storage areas, laydown areas, heavy haul road, parking areas, borrow areas, and spoils storage (STPNOC 2009a). These activities would result in a temporary land-use change; as STPNOC is committed to restore temporarily disturbed areas after construction completion." However, as stated in DEIS 4.1.1, Page 4-4, Lines 20, 21 and 22, consistent with Rev 3 of the ER, "The heavy haul road would be approximately 2.5 mi long and 50 ft wide (STPNOC 2009a) and would result in a permanent land use change from open space." Lines 11-15 should be revised to indicate that the heavy haul road would be a permanent disturbance.

DEIS Section 04.01. Land Use Impacts – Construction. Page 4-4, Line 15.

STPNOC Comment: The DEIS states, "STPNOC is committed to restore temporarily disturbed areas after construction completion." STPNOC believes that "is committed" is not appropriate and that the words should be changed to "plans." This change is important given that parking and other areas could be used after construction.

DEIS Section 04.01. Land Use Impacts – Construction. Page 4-4, Line 24.

STPNOC Comment: Replace "committed" with "plans".

DEIS Section 04.01. Land Use Impacts – Construction. Page 4-5, Line 10.

STPNOC Comment: Replace "committed" with "plans".

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-8, Line 21.

STPNOC Comment: The DEIS states that there is no "permit limit" on short-term groundwater demands. The term "permit limit" should be replaced with "available groundwater withdrawal capacity."

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-8, Line 30.

STPNOC Comment: The DEIS states that "... the distance allowed by CPGCD between groundwater production wells."
Please insert the text "unless the wells are owned by the same person(s)" at the end of the sentence above.

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-8, Lines 35-36.

STPNOC Comment: The DEIS states that existing STPNOC production wells are pumped at 500 gpm and extend down to approximately 700 ft bgs. ER Rev. 3 Section 2.3.2.2.1 and Table 2.3.2-17 indicates that the production wells range in depth from 600 to 700 ft bgs with design pumping capacities ranging from 200 to 500 gpm.

However, the wells are pumped at much less than their design capacity: As summarized in ER Rev. 3 Section 2.3.2.2.1 and Table 2.3.2-18, the average pumping rate of the wells collectively between 2001 and 2006 ranged from 745 to 863 gpm (note: only several of the five wells are pumped simultaneously).

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-9, Line 11.

STPNOC Comment: The DEIS states that "At a distance of 2500 ft from the production well, the nearest allowed well location per CPGCD rules...".

STPNOC recommends that the sentence be modified accordingly: "At a distance of 2500 ft from the production well, the nearest allowed well location per CPGCD rules for wells that are not owned by the same person(s)...."

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-10, Lines 3-4.

STPNOC Comment: The DEIS states that "... and 2 operations, and may install and operate one or more additional well to decrease pumping rates..."

STPNOC recommends that the sentence be modified as follows: "... and 2 operations, and may install and operate one or more additional wells to decrease pumping rates to ensure sufficient withdrawal capacity to serve the total site water use under the existing groundwater permit (STPNOC 2009c)."

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-10, Line 7.

STPNOC Comment: The DEIS states that "... CPGCD requires that wells be no closer than 2500 ft apart."

STPNOC recommends that the sentence be modified as follows: "... CPGCD requires that wells be no closer than 2500 ft apart, unless the wells are owned by the same owner(s)."

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-10, Line 12

STPNOC Comment: The DEIS states that "Since building the proposed new units would use an estimated 1062 gpm...."

STPNOC recommends that the sentence be modified as follows: "Since building and operating the proposed new units would use an estimated maximum of 1062 gpm...."

DEIS Section 04.02. Water-Related Impacts – Construction. Page 4-10, Line 15.

STPNOC Comment: The DEIS states that "... one impact of developing the proposed units is a reduction of 1062 gpm...."

STPNOC recommends that the sentence be modified as follows: "... one impact of developing the proposed units is a reduction of up to 1062 gpm...."

DEIS Section 04.03. Ecological Impacts. Page 4-17, Line 10.

STPNOC Comment: To make this statement more precise, replace "the new roadway" with "construction of the new sections of the heavy haul road and for upgrade of existing site roadways."

DEIS Section 04.03. Ecological Impacts. Page 4-27, Line 9.

STPNOC Comment: To make this statement more precise, replace "roadway" with "portions of the heavy haul road and upgrades to existing site roadways."

DEIS Section 04.03. Ecological Impacts. Page 4-31, Line 31.

STPNOC Comment: The DEIS states, "Taxa such as Corbicula, giant salvinia (*Salvinia moesta*), and Hydrilla were not reported in the onsite water bodies and have not been found in high densities in the Colorado River in the vicinity of STP (STPNOC 2009a)."

The Environmental Report (Rev. 3.0) states, "As of 2003, no rooted Hydrilla had been found in the Colorado River downstream of the Austin-area impoundments." (ER Section 2.4.2.3.1.2)

The Environmental Report (Rev. 3.0) states, "It (the Asiatic clam) was first documented in the Colorado River in the 1970s. A number of specimens were discovered in the MCR in 1981 (Reference 2.4-26). Routine biofouling inspections conducted since initial operation have not identified any corbicula in STP 1 & 2 plant systems. Additional specimens were collected in the Colorado River drainage between the STP site and Bay City in the mid-1980s (Reference 2.4-57). By 2005, Corbicula had been reported from 162 lotic and 174 lentic water bodies in Texas." (ER Section 2.4.2.3.1.2)

The DEIS should be revised as follows:
"Taxa such as *Corbicula*, giant salvinia (*Salvinia molesta*), and *Hydrilla* were not reported in the onsite water bodies. *Corbicula* was collected from the MCR in 1981, and is known to occur in the Colorado River (STPNOC 2009a)."

DEIS Section 04.04. Socioeconomic Impacts – Construction. Page 4-50, Line 7.

STPNOC Comment: The DEIS states "STPNOC estimated the total daily groundwater usage at the STP site during building...." This sentence should be revised to state "STPNOC estimated the total maximum groundwater usage at the STP site during construction, initial testing, and operation of Units 3 and 4...."

DEIS Section 04.04. Socioeconomic Impacts – Construction. Page 4-50, Line 7.

STPNOC Comment: The DEIS references 1.7 MGD for groundwater use. This value was deleted in response to RAI 05.10-04. Language should be inserted that states groundwater use will remain below the existing site groundwater permit limit.

DEIS Section 04.04. Socioeconomic Impacts – Construction. Page 4-50, Lines 8-9.

STPNOC Comment: The DEIS states "During peak development, water usage by STPNOC could exceed its annual permitted amount." STPNOC will operate within established groundwater-use permit limits. The current groundwater permit does not have an annual permitted amount; instead it establishes maximum usage for the permit term which is approximately three years.

DEIS Section 04.04. Socioeconomic Impacts – Construction. Page 4-50, Lines 29-31.

STPNOC Comment: The building-related population increase, 10,445, and the estimated water treatment increase, 940,050, are inconsistent with DEIS Section 4.4.2 Section 4.4.2, lines 24

and 25. In order to be consistent with DEIS Section 4.4.2, lines 24 and 25, the building-related population increase should be 10,338. The estimated water treatment increase should be 930,458.

DEIS Section 04.07. Meteorological and Air-Quality Impacts. Page 4-64, Line 10.

STPNOC Comment: The DEIS states, "STPNOC (2009a) has stated that a construction management traffic plan would be developed before building activities begin." STPNOC suggests that the phrase "building activities" be changed to "construction activities."

DEIS Section 04.08. Nonradiological Health Impacts – Construction. Page 4-65, Line 13.

STPNOC Comment: The DEIS states that the population within a 10-mile radius is approximately 6400, citing the ER as a source. Table 2.5-2 of Rev 3 of the ER states the 2000 population to be 6314 (including transients) and the 2010 population to be 6692. Although the DEIS is not inconsistent with the table, using a value from the ER (e.g., the 2010 value) would improve traceability.

DEIS Section 04.08. Nonradiological Health Impacts – Construction. Page 4-66, Lines 17-18.

STPNOC Comment: The DEIS states that the average construction workforce for Units 3 and 4 would be approximately 3300 during a 67-month period. The data in Table 3.10S-2 indicate that the 67-month average is 4038. If one averages from month minus 24 through plus 67, the average is 3281 – in agreement with the DEIS. The DEIS should be changed to either 1) indicate that the average is over the 91-month period or 2) change the 67-month average to 4038.

DEIS Section 04.10. Nonradiological Waste Impacts – Construction. Page 4-76, Line 18.

STPNOC Comment: The DEIS states that cumulative impacts to water are discussed in Section 7.2.2.1 and cumulative air impacts from nonradioactive emissions are discussed in Section 7.5. Cumulative water impacts are discussed in both 7.2.2.1 and 7.2.2.2 while air impacts are discussed in Section 7.6 of the DEIS.

DEIS Section 04.10. Nonradiological Waste Impacts – Construction. Page 4-75, Lines 3-4.

STPNOC Comment: The DEIS states that two wastewater treatment facilities would be replaced to accommodate increased waste generation during project activities. However, the West Sanitary Waste Treatment System will be replaced; the Nuclear Training Facility Sanitary Waste Treatment System will be upgraded to increase its capacity. STPNOC suggests modifying the wording to "... facilities would be replaced <u>or upgraded</u> to...."

DEIS Section 04.10. Nonradiological Waste Impacts – Construction. Page 4-75, Lines 32-33.

STPNOC Comment: The DEIS states a conclusion that "no further mitigation would not be warranted." STPNOC recommends correcting this double negative statement to "further mitigation would not be warranted".

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-3, Line 32.

STPNOC Comment: The DEIS states that "... make-up to the Main Cooling Reactor...." Main Cooling Reactor should be changed to Main Cooling Reservoir.

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-4, Lines 26-27.

STPNOC Comment: The DEIS states that "... the MCR normal maximum water surface elevation would be raised from 47 to 49 ft mean sea...." The DEIS should also state that the 49 MSL is the original design maximum operating level (STPNOC is not changing the design).

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-6, Lines 2-3.

STPNOC Comment: The DEIS states that "STPNOC would have access to 20,000 acre-feet of firm water for operation of Units 3 and 4". Although the DEIS is not inconsistent with STPNOC's Lower Colorado River Authority (LCRA) Water Contract, which states that STPNOC also has rights to an additional 20,000 acre-feet per year of rolling water rights for a two unit operation, and 40,000 acre-feet per year for a four-unit operation any additional generation capacity. STPNOC recommends using the 40,000 acre-feet per year value provided in ER Rev. 3 (Section 2.3.1.1.2).

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-6, Lines 8-9.

STPNOC Comment: The DEIS states that, "The normal and maximum conditions refer to 93 and 100 percent load factors, respectively (STPNOC 2008a)." The correct reference is STPNOC 2009a (STPNOC Letter U7-C-STP-NRC-090130, dated September 16, 2009), which includes this information in Environmental Report (Rev. 3.0), Section 3.3.1.

DEIS Section 05.02 Water-Related Impacts – Operation. Page 5-6, Lines 21-23.

STPNOC Comment: The DEIS states that, "... the current STP water use for Units 1 and 2 during normal operations is 2 percent (37,100 ac-ft/yr of use with 1,903,000 ac-ft/yr)...." According to the Table 2.9S-1 of Environmental Report (Rev. 3.0), the value of 37,100 ac-ft/yr is the average withdrawal from the Colorado River for the calendar years 2004 to 2006. Lines 23-25 of the DEIS states that, "... the proposed STP water use for the existing and proposed units during normal operations would be 4 percent (37,100 plus 34,405 ac-ft/yr of use with 1,903,000 ac-ft/yr)...." The 34,405 ac-ft water use for Units 3 & 4 should be corrected as

37,405 ac-ft, which is consistent with value shown on Line 7 of the DEIS. The 37,405 ac-ft is the projected long-term average MCR evaporation loss from Units 3 & 4 at full load condition (STPNOC 2009f). Because the water use values provided in the DEIS for the existing units and the proposed units were derived on different basis, it is suggested that the DEIS statement in Lines 23-25 be revised as follows to include the definitions of the two values: "... (37,100 ac-ft/yr, based on a 3-year average (STPNOC 2009a), plus 37,405 ac-ft/yr, based on the projected long-term average MCR evaporation at full load operating condition (STPNOC 2009f) of use with 1,903,000 ac-ft/yr) of available surface water resource."

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-6, Line 37.

STPNOC Comment: The DEIS states that "The RMPF contains 18 traveling screens, each of 13.5-ft width." The sentence should be corrected to state that "The RMPF contains 24 traveling screens, each of 10.0-ft width."

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-7, Line 12.

STPNOC Comment: The DEIS states that "... the area of 18 screens would be 2430 ft^2 ...." The sentence should be corrected to state that "... the area of 24 screens would be 2400 ft^2 ...."

DEIS Section 05.02 Water-Related Impacts – Operation. Page 5-7, Lines 27-28.

STPNOC Comment: The DEIS states that, "As described in Section 2.3.1.1, STPNOC currently diverts water from the Colorado River following a set of rules specified by the STPNOC-LCRA water contract (STPNOC 2009c). This reference should be corrected to STPNOC 2009d (STPNOC Letter U7-C-STP-NRC-090006, dated January 22, 2009) which includes RAI 02.03-06 stating these rules.

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-7, Lines 30-31.

STPNOC Comment: The DEIS states that "... maintain the MCR water level at or above 25 ft above MSL". Based on Supplemental Response to RAI 02.03-06 (STPNOC 2009d Reference - STPNOC Letter U7-C-STP-NRC-090006, dated January 22, 2009) and the 'Amended and Restated Contract by and between the Lower Colorado River Authority and STP Nuclear Operating Company', page 26, Note 4, effective January 1, 2006, the MCR water level is maintained at or above 27 ft MSL. The MCR water level of 27 ft MSL is correctly stated in DEIS Section 2.3.2, Page 2-34, Line 17.

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-12, Lines 7-8.

STPNOC Comment: The DEIS states that "Drawdown is evaluated at the property line and at a point 2500 ft from the well because that is the minimum distance allowed by the CPGCD between groundwater production wells (CPGCD 2009)."

The statement is not true for wells owned by the same owners. STPNOC suggests that the sentence be changed accordingly: "Drawdown is evaluated at the property line and at a point 2500 ft from the well because that is the minimum distance allowed by the CPGCD between groundwater production wells not owned by the same owner. (CPGCD 2009)."

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-12, Line 25.

STPNOC Comment: The DEIS states that "At a distance 2500 ft from the production well, the nearest allowed well location per CPGCD rule....."

The statement is not true for wells owned by the same owners. STPNOC suggests that the sentence be changed accordingly: "At a distance 2500 ft from the production well, the nearest allowed well location per CPGCD rule for groundwater production wells that are not owned by the same person(s) ....."

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-12, Line 28.

STPNOC Comment: The DEIS states that "...the location 2500 ft from an STP production well is the ...."

STPNOC suggests that the sentence be modified accordingly: "...the location 2500 ft from an STP production well is assumed to be the ..."

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-15, Lines 22-23.

STPNOC Comment: The DEIS states that "STPNOC would discharge when the specific conductivity of the water in the MCR exceeds 3000 μS/cm". Based on response to RAI 02.03-06 (Reference STPNOC 2009d - STPNOC Letter U7-C-STP-NRC-090006, dated January 22, 2009), there are other concurrent requirements identified in RAI 02.03-06 as stipulated in the STPNOC-LCRA water contract for blowdown to be performed. This is MCR Blowdown Rule # 4 from RAI 02.03-06.

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-15, Lines 24-27.

STPNOC Comment: The DEIS states that "The MCR discharge would cease when the conductivity of the water in the MCR falls to 2100 μS/cm. Discharge from the MCR could also occur during large rainfall events when the MCR water surface elevation exceeds the spillway crest elevation". Based on response to RAI 02.03-06 (Reference STPNOC 2009d - STPNOC Letter U7-C-STP-NRC-090006, dated January 22, 2009), there are also other rules as

specified in the STPNOC-LCRA water contract for blowdown to cease. The DEIS should be clarified to include these other blowdown rules.

DEIS Section 05.02. Water-Related Impacts – Operation. Page 5-18, Lines 36-38.

STPNOC Comment: The DEIS states that the bottom of the existing STPNOC production wells are at 700 ft bgs with pumping capacities of 500 gpm. ER Rev. 3 Section 2.3.2.2.1 and Table 2.3.2-17 indicates that the production wells range in depth from 600 to 700 ft bgs with design pumping capacities ranging from 200 to 500 gpm.

DEIS Section 05.03. Ecological Impacts – Operation. Page 5-22, Line 29.

STPNOC Comment: The DEIS states that the maximum drift rate reported by STPNOC is 45 gpm. However, per response to RAI 05.10-4, US Tower Drift is a maximum of 10 gpm, not 45 gpm.

DEIS Section 05.03. Ecological Impacts – Operation. Page 5-32, Line 18-20.

STPNOC Comment: The DEIS states, "Water quality monitoring during the 2007-2008 aquatic ecology studies in the MCR showed that the salinity (a surrogate for dissolved solids) was on average 1.6 parts per trillion (ppt) (ENSR 2008a)." The Environmental Report (Rev. 3) defines ppt as follows: "Salinities less than 0.5 parts per thousand (ppt) are generally regarded as limnetic or "fresh," while salinities greater than 0.5 ppt are generally regarded as indicative of brackish water." (Section 2.4.2.1.2 in the ER). "Parts per trillion" should be changed to "parts per thousand".

DEIS Section 05.03. Ecological Impacts – Operation. Page 5-41, Lines 31-38 and Page 5-42, Lines 1-2.

STPNOC Comment: The DEIS states "Taxa such as *Corbicula*, giant salvinia (*Savinia moesta*), and *Hydrilla* have not been found in high densities in the Colorado River in the vicinity of STP (STPNOC 2009a). In 2008, the review team observed *Corbicula* shells on the shoreline of the river above the site but did not see any nuisance organisms at the RMPF in the screen racks or in the fish bypass system. The 2007-2008 survey of the MCR did not report any nuisance organisms in the reservoir or during impingement and entrainment studies at the CWS for existing Units 1 and 2 (ENSR 2008a). It is unlikely that the MCR discharge would become a contributor of nuisance organisms in the Colorado River because these species have not been reported in surveys of the MCR (ENSR 2008a), and the MCR discharge is likely to be infrequent."

The Environmental Report (Rev. 3.0) states, "As of 2003, no rooted *Hydrilla* had been found in the Colorado River downstream of the Austin-area impoundments." (ER Section 2.4.2.3.1.2)

"The Asiatic clam, *Corbicula fluminea*, is a problematic invasive mollusk from southeastern Asia. It is a small bivalve that is typically found at high densities and has a relatively high

growth rate (Reference 2.4-55). Because of its tolerance of a wide variety of aquatic conditions and its high reproductive rate, it has developed into a pest that clogs ditches and interferes with pipes and heat exchangers of power plants. The first reported collection of *Corbicula* in Texas occurred in the Neches River in 1958 (Reference 2.4-56). *Corbicula* were next discovered near El Paso, in 1964, suggesting that the species was invading Texas from both east and west. It was first documented in the Colorado River in the 1970s. A number of specimens were discovered in the MCR in 1981 (Reference 2.4-26). Routine biofouling inspections conducted since initial operation have not identified any *Corbicula* in STP 1 & 2 plant systems. Additional specimens were collected in the Colorado River drainage between the STP site and Bay City in the mid-1980s (Reference 2.4-57). By 2005, *Corbicula* had been reported from 162 lotic and 174 lentic water bodies in Texas." (ER Section 2.4.2.3.1.2)

The ER did not mention giant salvinia. Please note that the correct scientific name of this plant is *Salvinia molesta.*

The DEIS should be revised as follows:
"Taxa such as *Corbicula*, giant salvinia (*Salvinia molesta*), and *Hydrilla* have not been found in high densities in the Colorado River in the vicinity of STP (STPNOC 2009a). In 2008, the review team observed *Corbicula* shells on the shoreline of the river above the site but did not see any nuisance organisms at the RMPF in the screen racks or in the fish bypass system. The 2007-2008 survey of the MCR did not report any nuisance organisms in the reservoir or during impingement and entrainment studies at the CWS for existing Units 1 and 2 (ENSR 2008a), although *Corbicula* were collected from the MCR in 1981. It is unlikely that the MCR discharge would become a contributor of nuisance organisms in the Colorado River because these species have not been reported in surveys of the MCR (ENSR 2008a)."

DEIS Section 05.03. Ecological Impacts – Operation. Page 5-45, Lines 6-22.

STPNOC Comment: The DEIS states "As described in the EFH assessment in Appendix F, operation of the proposed Units 3 and 4 could affect EFH for juvenile king mackerel; all life stages of Spanish mackerel, gray snapper, red drum, and Gulf stone crab; and larvae and juveniles of brown, pink, and white shrimp.... Operation of Units 3 and 4 would likely affect Spanish mackerel, gray snapper, and red drum similarly. The eggs and larvae of Spanish mackerel, gray snapper, and red drum could be entrained during pumping at the RMPF, and the organisms would be lost from the river environment. Discharge of MCR water could create thermal and chemical characteristics of the river water and affect the viability of the eggs and larvae of these species.... The juvenile and adult Spanish mackerel, gray snapper, and red drum and their prey could avoid the affected areas of the Colorado River during operation of the RMPF and discharge structure as well as during maintenance dredging."

The Environmental Report (Rev. 3.0) states that the red drum spawns offshore. No red drum eggs occur near the STP RMPF (ER Table 2.4.3). The ER did not include Spanish mackerel or gray snapper as important species because they rarely occur in the area. The only life stage of the Spanish mackerel that occurs in the Matagorda Bay is the juvenile, and it is listed as rarely occurring (Patillo et al. 1997). It is highly unlikely that juvenile Spanish mackerel would occur

at the RMPF. Likewise, only adult and juvenile gray snapper occur in Matagorda Bay, and only rarely. Eggs and larvae of the gray snapper do not occur near the STP site (Patillo et al. 1997).

The DEIS should be revised as follows:
"As described in the EFH assessment in Appendix F, operation of the proposed Units 3 and 4 could affect EFH for juvenile king mackerel; all life stages of red drum, and Gulf stone crab; and larvae and juveniles of brown, pink, and white shrimp.... Operation of Units 3 and 4 would likely affect red drum similarly. The eggs and larvae of red drum could be entrained during pumping at the RMPF, and the organisms would be lost from the river environment. Discharge of MCR water could create thermal and chemical characteristics of the river water and affect the viability of the eggs and larvae of the red drum .... The Spanish mackerel, gray snapper, and red drum and their prey could avoid the affected areas of the Colorado River during operation of the RMPF and discharge structure as well as during maintenance dredging."

DEIS Section 05.04. Socioeconomic Impacts – Operation. Page 5-49, Line 23.

STPNOC Comment: The DEIS references Section 2.5.1. The appropriate reference should be Section 4.4.1.1.

DEIS Section 05.04. Socioeconomic Impacts – Operation. Page 5-58, Line 27-29.

STPNOC Comment: This paragraph should be replaced with the following text: "The STP site has two private wastewater treatment facilities for the existing units. As part of the new units' development project, these would be replaced or expanded to support the additional units. Therefore, operations would not impact the existing wastewater treatment facility." STPNOC will provide this clarification in the ER in Revision 4.0 of the COLA

DEIS Section 5.07. Meteorological and Air Quality Impacts – Operation. Page 5-66, Line 19.

STPNOC Comment: The DEIS states in "Table 5-6 (Anticipated Atmospheric Emissions Associated With Operation of Proposed Units 3 and 4)...:

Particulates	2500	44	44,700
Sulfur Oxides	5200	3800	----
Carbon Monoxide	5200	1800	----
Hydrocarbons	6100	120	----
Nitrogen Oxides	57,900	2000	----"

emissions (lb/yr) from diesel generators, combustion turbine, and UHS cooling towers, respectively. Environmental Report Rev. 3.0 and supporting documents indicate that these emissions should be:

Particulates	2500	44	22,700

[cooling tower particulate release based on RAI Response 5.3.3.1 (9/14/09), Attachment 7, p. 3 of 32 which gives effluent for two towers = 43101 gal/min * 3.79 l/gal * 525600 min/yr * .005/100 drift rate * 3 cycles of concentration * 800 mg-salt/l * 1/1000 g/mg * 1/454 lb/g = 22,700 lb/yr]

Sulfur Oxides	9200	3800	----
Carbon Monoxide	9200	1800	----
Hydrocarbons	6100	120	----
Nitrogen Oxides	57,900	4000	----

[sulfur oxide, carbon monoxide and nitrogen oxide corrections based on ER Rev 3.0, Section 3.6, Table 3.6-3, Page 3.6-8, which gives diesel generator and combustion turbine emissions (lb/yr) per unit].

DEIS Section 05.09. Radiological Impacts of Normal Operations. Page 5-82, Line 13.

STPNOC Comment: The DEIS states, "STPNOC calculated liquid pathway doses to the MEI as shown in ER Table 5.4-4" STPNOC's liquid pathway doses to the MEI are shown in Table 5.4-**5** of Environmental Report Rev. 3.0 (Section 5.4, p. 5.4-11).

DEIS Section 05.09. Radiological Impacts of Normal Operations. Page 5-89 Line 3 (Table 5-13).

STPNOC Comment: The DEIS states, "STPNOC's dose estimates to the surrogate species from the liquid and gaseous pathways are shown in Table 5-13…

Invertebrate	5.30	0	5.85
Algae	0.54	0	0.68…."

Liquid, gaseous and total dose, respectively, from Units 3 & 4. Environmental Report RAI 05.09.05-01(Letter U7-C-STP-NRC-090137, Attachment 8, page 2 of 3, 9/14/09) indicate that these doses are:

Invertebrate	5.30	0	5.30
Algae	0.54	0	0.54….

The doses given in the DEIS for these two species are the sum of the doses from the MCR (RAI 05.09.05-01) and Little Robbins Slough (Environmental Report Rev. 3.0, Section 5.4, Table 5.4-10, page 5.4-15). The DEIS correctly reports these doses in DEIS Appendix G, Table G-7, p. G-22.

DEIS Section 05.09. Radiological Impacts of Normal Operations. Page 5-90 Line 2 (Table 5-14).

STPNOC Comment: The DEIS states, "Table 5-14 compares STPNOC's estimated total body dose to the biota from the proposed Units 3 and 4 to the IAEA chronic dose rate values for aquatic and terrestrial biota ...

Fish	6.8 × 10-4	1000
Invertebrate	1.6 × 10-2	1000
Algae	1.9 × 10-4	1000
Muskrat	3.0 × 10-2	100
Raccoon	3.1 × 10-2	100
Heron	3.0 × 10-2	100
Duck	3.1 × 10-2	100",

total dose in mrad per day from Units 3 & 4. These values should be (DEIS Table 5-13, as corrected in the previous comment, total dose in mrad per year divided by 365 to get mrad per day):

Fish	6.8 × 10-3	1000
Invertebrate	1.5 × 10-2	1000
Algae	1.5 × 10-3	1000
Muskrat	3.0 × 10-2	100
Raccoon	3.1 × 10-2	100
Heron	3.0 × 10-2	100
Duck	3.6 × 10-2	100

DEIS Section 05.09. Radiological Impacts of Normal Operations. Page 5-91, Lines 15-20.

STPNOC Comment: The DEIS states, "and lower values before and since (STPEGS 2008). During 2005, the REMP sampled six onsite wells and found one above tritium detection limits (260 pCi/L). A tritium concentration of 1200 pCi/L was observed (STPNOC 2009a). During 2006, 16 shallow aquifer, STPNOC-controlled wells surrounding the MCR (and located outside the Protected Area of existing STP Units 1 and 2) were sampled (STPNOC 2009a; STPEGS 2007)."

This should be edited to, "and lower values before and since (STPEGS 2008). During 2005, the REMP collected six samples from an onsite well all of which exceeded the tritium detection limit (260 pCi/L). A tritium concentration of 1200 pCi/L was observed (STPNOC 2009a). During 2006, a special study of 16 shallow aquifer STPNOC-controlled wells surrounding the MCR and located outside the Protected Area of existing STP Units 1 and 2 was conducted (STPNOC 2009a; STPEGS 2007). Review of the Annual Radiological Environmental Operating Report showed the tritium concentrations ranged from less than 260 pCi/L to a little over 5000 pCi/L (STPEGS 2007)."

DEIS Section 05.09. Radiological Impacts of Normal Operations. Page 5-91, Line 29.

STPNOC Comment: The units "Ci/L" should be changed to "Ci/yr".

DEIS Section 05.10. Nonradiological Waste Impacts – Operation. Page 5-92, Lines 34-35.

STPNOC Comment: The DEIS states that activated sludge from onsite wastewater treatment facilities is currently disposed of at both onsite and offsite locations. The onsite land disposal permit was allowed to expire. There are no plans to reactivate it. The statement should be revised to state that the activated sludge from the onsite sanitary waste treatment facilities is disposed of at an offsite location.

DEIS Section 05.10. Nonradiological Waste Impacts – Operation. Page 5-93, Lines 1-2.

STPNOC Comment: The DEIS states that the increased activated sludge from the operation of two additional units would require a new or revised permit from the TCEQ. The onsite land disposal permit was allowed to expire and there are no plans to reactivate it. This statement should be revised to exclude any reference to such a permit.

DEIS Section 05.10. Nonradiological Waste Impacts – Operation. Page 5-93, Lines 9-10.

STPNOC Comment: The DEIS states that effluents containing chemicals or biocides would be discharged to the MCR and the Colorado River. No biocides are discharged to the Colorado River. Total Residual Chlorine per the TPDES permit must be <0.05 mg/l to discharge to the Colorado River. STPNOC recommends deleting "and the Colorado River" from this sentence.

DEIS Section 05.10. Nonradiological Waste Impacts – Operation. Page 5-93, Line 14.

STPNOC Comment: The DEIS states that the existing facilities would be replaced with two new wastewater treatment facilities. However, the West Sanitary Waste Treatment System will be replaced; the Nuclear Training Facility Sanitary Waste Treatment System will be upgraded to increase its capacity. This sentence should be revised to state that existing wastewater treatment facilities would be replaced or upgraded to serve all four units.

DEIS Section 05.10. Nonradiological Waste Impacts – Operation. Page 5-95, Line 3.

STPNOC Comment: The DEIS states that cumulative impacts to air from nonradioactive emissions are discussed in Section 7.5. Cumulative air impacts are discussed in Section 7.6 of the DEIS.

DEIS Section 05.11. Environmental Impacts of Postulated Accidents, Page 5-97, Line 32-34.

STPNOC Comment: The DEIS states: "The doses in Table 5-16 were calculated by the NRC staff from the DBA doses in the design control document using the ratio of the staff's site-specific atmospheric dispersion factors in Table 5-16 to the atmospheric dispersion factors assumed for the design certification." The staff's site-specific atmospheric dispersion factors are provided in Table 5-15 on DEIS Page 5-98, Line 1, not Table 5-16.

DEIS Section 05.11. Environmental Impacts of Postulated Accidents, Page 5-98, Line 2.

STPNOC Comment: The DEIS Table 5-16 states that the EAB thyroid dose for a Loss-of-Coolant Accident is 51 rem. This dose appears to be a typographical error with a factor of 10 too high. DEIS Section 05.11, Page 5-97, Lines 32-34 states, "The doses in Table 5-16 were calculated by the NRC staff from the DBA doses in the design control document using the ratio of the staff's site-specific atmospheric dispersion factors in Table 5-16 to the atmospheric dispersion factors assumed for the design certification." Use of this approach results in an EAB thyroid dose for the Loss-of-Coolant Accident of 5.1 rem, instead of 51 rem.

DEIS Section 06.01. Fuel Cycle Impacts and Solid Waste Management. Page 6-2, Table 6-1.

STPNOC Comment: The DEIS includes format differences in Table 6-1 that make it inconsistent with Table S-3 of 10 CFR 51.51(b). Under the "Natural Resource Use" heading, "Disturbed area" should be a subcategory under "Temporarily committed" land similar to "Undisturbed area." "Natural gas" should be a subcategory under "Fossil fuel."

DEIS Section 06.01. Fuel Cycle Impacts and Solid Waste Management. Page 6-5, Line 14.

STPNOC Comment: The DEIS states that UO_2 is converted to uranium hexafluoride at a conversion facility. The type of uranium oxide that is converted to uranium hexafluoride is U_3O_8, commonly known as yellowcake, not UO_2. (Reference DEIS Table 6-1).

DEIS Section 06.01. Fuel Cycle Impacts and Solid Waste Management. Page 6-12, Line 3.

STPNOC Comment: The DEIS states that the estimated whole body population doses from gaseous effluents, liquid effluents, radon-222, and technetium-99 total approximately 4300 person-rem per year. Values for gaseous releases (1280 person-rem per year), liquid releases (640 person-rem per year) radon-222 (1900 + 36 = 1936 person rem per year) and technetium-99 (320 person-rem per year) presented in Section 6.1.5 of the DEIS total to 4176 or approximately 4200 person-rem per year. The calculation of total detrimental health effects (TDHEs) is also affected by this difference. On line 4 of this page, the DEIS reports a value of 2.5 TDHEs annually. The calculation results in 2.4 TDHEs annually (4200 person-rem per year × 570 TDHEs per million person-rem = 2.4 TDHEs per year).

DEIS Section 06.02. Transportation Impacts. Page 6-24, Line 2.

STPNOC Comment: The DEIS states that the dose to a person at a truck service station exposed for 49 minutes at a distance of 52 feet from the loaded shipping container would be 0.34 mrem per shipment. Previous NRC analyses (NUREGs 1881, 1815, 1817, 1872) indicated a dose of 0.07 mrem per shipment for this exposure scenario.

DEIS Section 06.02. Transportation Impacts. Page 6-23, Line 5.

STPNOC Comment: Text was omitted from the DEIS. The sentence should be revised to add "they" after "Air passengers are less of a concern because..."

DEIS Section 06.02. Transportation Impacts. Page 6-34, Table 6-10.

STPNOC Comment: The DEIS states that spent fuel inventory is obtained from Table 7.4-3 of the STPNOC ER. There is no Table 7.4-3 in the ER. Spent fuel inventory data is obtained from Table 7.4-1 of the ER with the exception noted in footnote (b). The DEIS table also presents the inventory for gaseous Kr-85. That radionuclide is not included in Table 7.4-1 of the ER. Table notes should be revised to identify the source of the information presented in Table 6-10.

DEIS Section 06.02. Transportation Impacts. Page 6-35, Line 23.

STPNOC Comment: The DEIS omits a phrase following line 23. The phrase "likely result in no excess health effects" should appear there as it does in a similar discussion on page 6-32, line 23 of the DEIS.

DEIS Section 06.03. Decommissioning Impacts. Page 6-39, Lines 29-30.

STPNOC Comment: The DEIS states: "The regulations governing decommissioning of power reactors are found in 10 CFR 50.75." The decommissioning regulations in 10 CFR 50.75 are for "decommissioning funding" not "decommissioning" power reactors. The sentence should be clarified to also reference 10 CFR 50.82, which provides the regulations on license termination for decommissioning power reactors.

DEIS Section 07.01. Land Use – Cumulative. Page 7-6, Line 15.

STPNOC Comment: The DEIS states, "The review team determined that a 15-mi radius would represent the smallest area that would be directly affected because it includes the primary communities (the largest being Bay City) that would be affected by the proposed project." Based on the context of the statement, "smallest area" should be revised to "largest area".

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Lines 13-15.

STPNOC Comment: The DEIS states that: "The expected consumptive surface-water use of proposed Units 3 and 4 would be 37,373 ac-ft per year (23,170 gallons per minute [gpm] during normal operations and 37,788 ac-ft per year (23,427 gpm) during maximum demand conditions".

Per response to RAI 05.02-08, please revise the statement accordingly: "The expected consumptive surface-water use of proposed Units 3 and 4 would be 37,430 ac-ft per year (23,190 gallons per minute [gpm] during normal operations and 38,050 ac-ft per year (23,570 gpm) during maximum demand conditions".

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Lines 16-17.

STPNOC Comment: The DEIS states that: "... from the Colorado River from 2001 through 2006 (STPNOC 2009a)."

Please revise the statement accordingly: "... from the Colorado River from 2001 through 2004 (STPNOC 2009**c**)." As corrected in the response to RAI 05.02-07 with markups in response to RAI 05.10-4, the Units 1 & 2 average consumptive use value used here is not a 6-year average, but rather is a computed 3-year (2004, 2005, and 2006) average value cited in COL 3 & 4 ER Table 2.9S-1. An average long term consumptive use was calculated to be 33,200 acre-ft per year for Units 1 and 2 per the response to RAI 05.02-07.

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Lines 17-18.

STPNOC Comment: The DEIS states that: "Together, all four STP units would consume approximately 68,714 ac-ft per year...". The 3-yr average for all four units would be 74,513 ac-ft/yr.

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Line 18.

STPNOC Comment: The DEIS states that: "...per year (42,600 gpm)...". The 3-yr average for all four units would be 46,180 gpm.

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Line 18.

STPNOC Comment: The DEIS states that: "...under normal operations and 69,004 act-ft per year...."

Although not stated in this paragraph, the maximum annual value for Units 1 & 2 is stated in the response to RAI 05.02-07 as 37,200 ac-ft per year. Thus, this would be 38,050 + 37,200 = 75,250 ac-ft per year.

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-10, Lines 18-19.

STPNOC Comment: The DEIS states that: "... per year (42,780 pgm)...."

Although not stated in this paragraph, the maximum annual value for Units 1 & 2 is stated in the response to RAI 05.02-07 as 37,200 ac-ft per year, which equates to 23,063 gpm. Thus, this would be 23,570 + 23,063 = 46,633 gpm.)

DEIS Section 07.02. Water Use and Quality – Cumulative. Page 7-15, Lines 5-6.

STPNOC Comment: The DEIS states that: "... annual average normal operation of groundwater requirement of 1860 gpm (3000 ac-ft/yr), which is the maximum usage allowed under the groundwater use...."

Please modify the statement accordingly: "... normal operation of groundwater requirement of 9000 ac-ft over the approximately 3-year term of the groundwater use permit, which is the maximum usage allowed under the groundwater use...."

DEIS Section 07.03. Ecology – Cumulative. Page 7-31, Lines 1-3 and Page 7-33, Lines 28-32.

STPNOC Comment: The DEIS states on page 7-31 "STPNOC plans on moving and constructing additional drainages and culverts to manage the flows after precipitation events, which could increase due to GCC." DEIS states on page 7-33 "GCC could lead to decreased precipitation, increased sea levels, varying freshwater inflow, increased temperatures, increased storm surges, greater intensity of coastal storms, and increased nonpoint source pollution from runoff during these storms, in the water bodies in the geographic area of interest (Nielsen-Gammon 32 1995; Montagna et al. 1995; Karl et al. 2009)."

These two statements make contradictory predictions about the effect of global climate change (GCC) on precipitation at the site.

DEIS Section 07.04. Socioeconomic and Environmental Justice– Cumulative. Page 7-37, Lines 3-4.

STPNOC Comment: The DEIS states, "Exelon has since stated its intent to submit an Early Site Permit (ESP) application". It should be noted that Exelon submitted an ESP application to the Nuclear Regulatory Commission in March 2010.

DEIS Section 07.04. Socioeconomic and Environmental Justice– Cumulative. Page 7-37, Lines 4-7.

STPNOC Comment: This section should be redrafted in light of Exelon's withdrawal of the Combined License Application (COLA) and submission of an ESP application. The anticipated schedule associated with an ESP renders the construction impacts immaterial since they may be deferred up to 20 years.

DEIS Section 07.10. Fuel Cycle, Transportation, and Decommissioning – Cumulative. Page 7-50, Lines 20-24.

STPNOC Comment: The DEIS states that the combination of Units 3 and 4 and Units 1 and 2 would result in a scaling factor of not more than five. The two ABWR units would have an electrical output of 1350 MWe and capacity factor of 95%, result in a scaling factor of 3.2 $((1350 \times 95\%) \times 2) \div 800) = 3.2)$. Units 1 and 2 have an electrical output of 1265 MWe (Table 7-1). Using a capacity factor of 80%, Units 1 and 2 would result in a scaling factor of 2.5 $((1265 \times 80\%) \times 2) \div 800) = 2.5)$. The capacity factor for Units 1 and 2 is likely to be greater than 80%, yielding a higher scaling factor. The combination of all four units would result in a scaling factor of 5.7 (3.2 + 2.5) or greater. The DEIS should be revised to indicate that the combination of the four units results in a scaling factor of not more than six.

DEIS Section 09.01. No-Action Alternative. Page 9-2, Lines 17-18.

STPNOC Comment: The DEIS states that if the NRC denies the COL, the predicted environmental impacts would not occur. However, not all impacts from the construction and operation of STP 3 & 4 are negative and this also means that the positive impacts would not occur. Aside from the lost opportunity for additional electrical capacity, positive impacts that would be lost in the no-action alternative are not addressed in the DEIS. The Environmental Report (Rev. 3.0) describes the benefits such as additional jobs, additional revenue injected into the regional economy, and the increased electrical capacity generated which supports national and international goals to reduce the generation of greenhouse gases as outlined in the Energy Policy Act of 2005.

DEIS Section 09.01. No-Action Alternative. Page 9-2, Line 26.

STPNOC Comment: The DEIS does not address that the no-action alternative would cause ERCOT to be unable to maintain the minimum 12.5% target level of reserve margin necessary to mitigate uncertainties in load requirements.

DEIS Section 09.01. No-Action Alternative. Page 9-2, Lines 29-35.

STPNOC Comment: The DEIS states that other generation sources would be pursued which would have environmental impacts as well and would meet the need for power. Although it is stated that this is discussed in later sections, this is not part of the No-Action Alternative and could be misleading.

DEIS Section 09.02. Energy Alternatives. Page 9-3, Lines 30-33.

STPNOC Comment: Consistent with the ER, NRC identified the Region of Interest (ROI) for the alternatives analysis as the ERCOT region (See page 9-3, lines 11-12), which represents about 85 percent of the electric load and 75 percent of the land area in Texas. However, this paragraph implicitly considers the entire State of Texas as the ROI. The discussion in the ER is limited to the ERCOT region. Other locations that may need additional clarity on the Texas/ERCOT distinction are Page 9-6, Lines 19-24, Page 9-20, Lines 32-34, Page 9-22, Lines 18-20, Page 9-23, Lines 12-14, Page 9-24, Lines 6-11.

DEIS Section 09.02. Energy Alternatives. Page 9-6, Lines 15-18.

STPNOC Comment: The DEIS states "Consistent with NRC's evaluation of alternatives to operating license renewal for nuclear power plants, a reasonable set of energy alternatives ... should be limited to analysis of discrete power generation sources, a combination of sources, and those power generation technologies that are technically reasonable and commercially viable (NRC 1996)."

This statement is incorrect. Combinations of power generation technologies were specifically excluded from NRC's evaluation of alternatives to operating license renewal for nuclear power plants (NRC 1996). Section 8.1 of NRC 1996 states "While many methods are available for

generating electricity, and a huge number of combinations or mixes can be assimilated to meet a defined generating requirement, such expansive consideration would be too unwieldy to perform given the purposes of this analysis. Therefore, NRC has determined that a reasonable set of alternatives should be limited to analysis of single, discrete electric generation sources and only electric generation sources that are technically feasible and commercially viable."

DEIS Section 09.02. Energy Alternatives. Page 9-12, Lines 4-8.

STPNOC Comment: The DEIS states "STPNOC would pay significant property taxes for the plant to Matagorda County, the Matagorda County Hospital District, Navigation District #1, Drainage District #3, the Palacios Seawall District, and the Palacios Independent School District (STPNOC 2009a). The review team estimates that the taxes would have a LARGE beneficial impact to the tax recipients."

The reference to the ER is incorrect. While the beneficial impacts from taxes on STP Units 3 & 4 are addressed in the ER, the ER does not address the potential impacts from taxes for the coal-fired alternative. Also, STPNOC is the operator of the nuclear facilities at the STP site and would not own any plant that is constructed at the site. The owners of the coal-fired plant would pay the property taxes.

DEIS Section 09.02. Energy Alternatives. Page 9-17, Lines 28-38 and Page 9-18, Lines 1-4.

STPNOC Comment: The DEIS states "The plant owner would pay significant property taxes for the plant to Matagorda County, the Matagorda County Hospital District, Navigation District #1, Drainage District #3, the Palacios Seawall District, and the Palacios Independent School District (STPNOC 2009a) and would employ a noticeable but not significant number of workers, especially during the building period. Based on the expected valuation of a natural gas plant, which would be significantly less than for nuclear or coal, the property taxes would be lower for the natural gas option. Considering the population and economic condition of the County, the review team concludes that the taxes and employment would have a MODERATE beneficial impact on the County."

The reference to the ER is incorrect. While the beneficial impacts from taxes on STP Units 3 & 4 are addressed in the ER, the ER does not provide an assessment of the potential impacts from taxes for the gas-fired alternative. Also, the ER (Section 9.2.3.2.3) concluded that impacts from employment would be SMALL due to the influence of the nearby metropolitan area.

DEIS Section 09.02. Energy Alternatives. Page 9-24, Lines 15-16.

STPNOC Comment: The DEIS states "Geothermal systems have a relatively small footprint." The ER (Section 9.2.2.3.4) indicates that a geothermal power plant requires between 1 and 8 acres per MWe, and estimates that a 2700 MWe geothermal plant with a 93% capacity factor would require between 2900 acres and 23,200 acres.

DEIS Section 09.02. Energy Alternatives. Page 9-27, Lines 27-28.

STPNOC Comment: The DEIS states "The demand-side management programs would be implemented by CPS Energy and/or Reliant Energy, a subsidiary of NRG Energy." This statement contradicts the information provided on DEIS page 9-5, lines 9-12 which states "NRG Energy ... is a wholesale power generation company ... it does not directly offer demand-side management or conservation programs."

DEIS Section 09.03. Alternative Sites, Page 9-63, lines 13-15.

STPNOC Comment: The DEIS states: "Building impacts would affect up to 2500 ac of land resulting in the permanent loss of terrestrial habitat. Three-hundred ac would be required for permanent structures and facilities, and up to 1700 ac would be required for a new reservoir."

STPNOC believes that the value of 2500 ac of permanent loss of habitat is in error, and the correct value should be 2000 ac of permanent loss of habitat consistent with the breakout of impacts between permanent structures and a reservoir in the second sentence.

DEIS Section 09.03. Alternative Sites, Page 9-92, lines 5-7.

STPNOC Comment: The DEIS states: "Allens Creek is a greenfield site that was set aside for a nuclear power plant and cooling reservoir in the early 1970s in a proposal by the Houston Power and Lighting Company." The correct company name is "Houston Lighting & Power Company."

DEIS Section 09.03. Alternative Sites, Page 9-150, lines 1-2.

STPNOC Comment: The DEIS names Figure 9-13 as "Trinity 2 Alternative Site and 10-mi Radius." STPNOC believes Figure 9-13 is the incorrect figure as the figure content does not conform to the figure title. This figure is the same as Figure 9-15 and appears to depict a 50-mile radius rather than the 10-mile radius identified in the figure title. Additionally, the figure is not similar to Figures 9-5 and 9-9 which also depict a 10-mile radius around an alternative site.

DEIS Section 09.03. Alternative Sites, Page 9-163, lines 15-22.

STPNOC Comment: The DEIS states: "Up to seven bat species living in eastern Texas, can occur in Freestone County (Davis and Schmidly 1994; STPNOC 2009b). Some are mostly year-round residents (i.e., non-migratory), such as the big brown bat (*Eptesicus fuscus*), the eastern pipistrelle (*Pipistrellus subflavus*), and evening bat (*Nycticeius humeralis*). Migratory bats that could occur at the site include the hoary bat (*Lasiurus cinereus*), the silver-haired bat (*Lasionycteris noctivagans*), the eastern red bat (*Lasiurus borealis*), and the Mexican free-tailed bat (*Tadarida brasiliensis*). The Mexican free tailed bat is either migratory or non-migratory depending on where it resides; the migratory status of bats occurring in Freestone County is currently unknown (STPNOC 2009b)."

The DEIS does not mention the southeastern myotis bat, which also may be found in the vicinity of the Trinity 2 site (ER Section 9.3.3.4.4).

DEIS Section 09.04. System Design Alternatives. Page 9-208, Line 23.

STPNOC Comment: The DEIS states that UHS system discharges account for approximately 500 gpm of groundwater discharged to the MCR. The UHS discharge is estimated at 283 gpm (see stream 5 in ER Table 3.3-1, Figure 3.3-1) under normal operations. The total discharge to the MCR (stream 10) is 530 gpm, or approximately 500 gpm as stated in the DEIS, but that estimate includes sanitary waste, liquid radwaste, and wastewater retention basin effluents in addition to the UHS system discharges. Clarify that the discharge of 500 gpm to the MCR is not solely a result of UHS system discharges.

DEIS Section 09.04. System Design Alternatives. Page 9-208, Line 28.

STPNOC Comment: The DEIS states that groundwater wells at the STP site must be separated by 2500 ft from neighboring Deep Aquifer wells. The Coastal Plains Groundwater Conservation District rules do not specify a minimum well spacing for wells owned by the same owner. Add text "owned by different owners" after "...neighboring Deep Aquifer wells."

DEIS Section 09.04. System Design Alternatives. Page 9-208, Lines 31-33.

STPNOC Comment: The DEIS concludes it would not be possible to locate the required number of wells on the STP site. This conclusion is not supported since the analysis in the DEIS is based on a minimum well spacing of 2500 ft. The Coastal Plains Groundwater Conservation District rules do not impose minimum well spacing requirements for wells owned by the same owner.

DEIS Section 10.02. Unavoidable Adverse Environmental Impacts. Page 10-4, Table 10-1.

STPNOC Comment: The DEIS states that an Unavoidable Adverse Impact to Water Quality would be "inadvertent spills that seep into aquifers and saltwater intrusion". The Environmental Report (Rev. 3.0) indicates that only shallow aquifers would be affected (Section 4.2.3.2). Additionally, the wording could be misunderstood as if the spills would be caused by carelessness with no attempt to prevent or remediate. It should be re-worded to say "Seepage into aquifers from spills that are unable to be contained or remediated ...." Saltwater intrusion is not listed as a water quality impact in the ER.

DEIS Section 10.02. Unavoidable Adverse Environmental Impacts. Page 10-8, Lines 7-8 and Table 10-2.

STPNOC Comment: The DEIS states that water use and quality would be affected during operations due to potential increases in sedimentation to surface waters and potential surface and groundwater contamination from spills. The Environmental Report (Rev. 3.0) makes no

mention of sedimentation issues to surface water during operation. The Environmental Report (Rev. 3.0) indicates that groundwater quality could be affected by radioactive spills during a severe accident (Section 7.2.2.3). The consequences of a radioactive spill were evaluated in COLA Part 2, FSAR Subsection 2.4S.13 and the results show that if radioactive liquids were released directly to groundwater, the isotopic concentrations would be below 10 CFR 20 effluent limits before they reached a drinking water receptor. This does not seem to be the issue being addressed in Chapter 10 of the DEIS; therefore, it is unknown what drives this statement. Inadvertent spills are not listed as a water use or quality impact from operations in the ER.

DEIS Section 10.03. Relationship Between Short Term Uses and Long Term Productivity of the Human Environment. Page 10-13, Line 1.

STPNOC Comment: The DEIS only lists the consumption of depletable resources as a result of plant construction and operation as a long-term use. The Environmental Report (Rev. 3.0) also lists the land committed for waste burial as a long-term use (Section 10.3.2).

DEIS Section 10.04. Irreversible and Irretrievable Commitments of Resources. Page 10-14; Lines 2-3.

STPNOC Comment: The DEIS states that once land is committed to the disposal of radioactive and non-radioactive waste, it cannot be used for other purposes. The Environmental Report (Rev. 3.0) indicates that land used for the disposal of radioactive and non-radioactive waste, while not available for other uses while in use, is not considered irreversible since it could be remediated for future use (Section 10.2.1.1).

DEIS Section 10.04. Irreversible and Irretrievable Commitments of Resources. Page 10-14, Line 25.

STPNOC Comment: The DEIS states that designated essential fish habitat (EFH) in the Colorado River would be adversely affected. The Environmental Report (Rev. 3.0) only lists categories of essential fish habitat in the lower Colorado River and Matagorda Bay that *could* be impacted. The ER further states that the lower Colorado River is not a unique nursery area for estuarine-marine organisms and species most affected by operations at STP were ubiquitous and abundant along the Texas and Gulf coasts (Section 2.4.2.4).

DEIS Section 10.04. Irreversible and Irretrievable Commitments of Resources. Page 10-15, Line 17.

STPNOC Comment: The DEIS gives specific quantities of building materials required for the construction of a single reactor based on the following reference:

"U.S. Department of Energy-Energy Information Administration (DOE/EIA). 2006. Energy Power Annual. Energy Information Administration, Washington, D.C. Accessed February 4,

2008 at http://www.eia.doe.gov/cneaf/electricity/epa/epa_sum.html. Accession No. ML100600709."

This reference is a review of electric industry activities that occur annually and does not provide information on construction materials. Additionally, the citation is incorrect for this information. The call-out is dated 2006, the document is dated 2008, and the ADAMS accession number is for a 2007 document.

DEIS Section 10.06. Benefit-Cost Balance. Page 10-19, Line 19-31.

STPNOC Comment: The DEIS gives an estimated ERCOT fuel mix from a 2008 source. The citation is incorrect for this information. The call-out is dated 2006, the document is dated 2008, and the ADAMS accession number is for a 2007 document. Additionally, this does not agree with Chapter 9 of the DEIS, which addresses the fuel mix for the entire State of Texas instead of the ERCOT region of interest. The Environmental Report (Rev. 3.0) cites a fuel mix from actual ERCOT energy production values from June 2005 to May 2006 (Section 10.4.1.2).

DEIS Section 10.06. Benefit-Cost Balance. Page 10-20, Lines 23-26.

STPNOC Comment: The DEIS states that operations would yield 656 additional operations workforce and 964 additional indirect jobs within 50-mile radius. The Environmental Report (Rev. 3.0) states that operations would yield 444 additional operations workforce and 653 additional indirect jobs within 50 mile radius (Section 5.8.2.1 and 10.4.1.7).

DEIS Section 10.06. Benefit-Cost Balance. Page 10-21, Table 10-4.

STPNOC Comment: The DEIS states that 300 acres will be occupied on a long term basis for the 2 new reactors and associated infrastructure (which is the acreage for the existing STP Units 1 & 2). The Environmental Report (Rev. 3.0) states that 90 acres will be occupied on long term basis for the 2 new reactors and infrastructure (Sections 4.3, 5.10, and 10.1).

STPNOC Comment: The DEIS does not list land use for fuel cycle support. The Environmental Report (Rev. 3.0) states that the total annual land requirements for fuel cycle support committed would be 21 permanently committed acres and 160 temporarily committed acres per unit (Table 10.4-2).

STPNOC Comment: The DEIS does not list hydrology as a cost category. The Environmental Report (Rev. 3.0) includes both groundwater and surface water in the benefit-cost summary table (Table 10.4-2).

STPNOC Comment: The DEIS states in the table under "Land Use" that the already utilized plant site is approximately 12,200 acres. The Environmental Report (Rev. 3.0), as does other sections of the DEIS, states that the STP site is approximately 12,220 acres. Additionally, the wording "already utilized plant site" could be misleading that all 12,220 acres is being used for

plant operations. Section 2.2.1.1 of the ER states that "The 12,220-acre STP site includes land developed for industrial use, farmland, and undeveloped natural and man-made wetlands. The existing plant and plant facilities, including the NTF, operations area, support facilities, and transmission right-of-ways occupy approximately 65 acres, while the MCR makes up an additional 7000 acres. Another approximate 1700 acres remain as natural lowland habitat. The remaining portion of the STP site is undeveloped land, some of which, located to the east of the MCR, is leased for cattle grazing".

DEIS Section 10.06. Benefit-Cost Balance. Page 10-26, Line 16.

STPNOC Comment: The DEIS states that "normal operation of a nuclear power plant does not result in any emissions of criteria (e.g., oxides of nitrogen or sulfur dioxide)". The word "pollutants" should be added after "criteria" for clarification.

DEIS Section 10.06. Benefit-Cost Balance. Page 10-27, Lines 5-6.

STPNOC Comment: The DEIS states that "Table 10-3 includes a summary of both internal and external costs of the proposed activities at the STP site for Units 3 and 4, as well as the identified benefits". This sentence is incorrect. Table 10-3 only includes a summary of the benefits of the project. Table 10-4 includes a summary of the costs.

DEIS Appendix F. Key Consultation Correspondence. Page F-47, Line 16.

STPNOC Comment: The DEIS states: "The area of the 18 screens would be 2430 ft^2." As previously discussed, the Reservoir Makeup Pumping Facility is currently configured for 24 rotating screens. The surface area should be 2400 ft^2.

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-5, Table G-1 (contd).

STPNOC Comment: In the Sectors column change "SSW SW" to "SSW".

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-7, Table G-1 (contd).

STPNOC Comment: In the Sectors column change the first and topmost "NNW" to "NW".

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-16, Line 8.

STPNOC Comment: The DEIS states, "The NRC staff and STPNOC calculated the MEI dose at 2.19 mi west-southwest of the new units." Rev. 3.0 of the Environmental Report (Section 5.4, Table 5.4-4, p. 5.4-11) indicates that the distance was revised to 2.18 miles.

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-18, next to last line of Table G-4.

STPNOC Comment: The DEIS states, "Doses from the milk pathway were not calculated because there are no dairies within 50 mi of the STP site." Rev. 3.0 of the Environmental Report (Section 5.4, Table 5.4-2, page 5.4-10) indicates that STP includes doses from the milk pathway, based on the presence of milk cows in four counties at least partially within 50-miles of STP (including Matagorda County which is wholly within 50-miles of STP). The milk pathway makes up < 2% of the total body dose calculated for the ER.

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-20 Line 4 (Table G-5).

STPNOC Comment: The DEIS states

"Total Body	0.0042	0.0072	0.011 ...
Thyroid	0.0041	0.0099	0.14 ...
Bone	0.00077	0.00079	0.0016 ..."

for STP Units 1 and 2, liquid, gaseous and total dose, respectively. Rev. 3.0 of the Environmental Report (Section 5.4, Table 5.4-8, p. 5.4-14) indicates that these doses are:

Total Body	0.0042	0.0080	0.012 ...
Thyroid	0.0041	0.0097	0.014 ...
Bone	0.00077	0.0011	0.0019 ..."

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-20, Line 9.

STPNOC Comment: The DEIS states, "Table G-5 is the same table as ER Table 5-12." Table G-5 is the same table as DEIS Table 5-12. The analogous table in Rev. 3.0 of the Environmental Report (Section 5.4, Table 5.4-8, page 5.4-14) indicates differences as noted in the previous comment (re Page G-20, Line 4).

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-20, Lines 15-16.

STPNOC Comment: The DEIS states, "Doses from the milk pathway were not calculated because there are no dairies within 50 mi of the STP site." However, Table G-4 on page G-18 has an entry, "Milk Production within 50 mi of STP site," which states that milk production is 2,130,000 liters per year. STPNOC calculated milk doses and reported them in Table 5.4-6 of Rev 3 of the ER. Also, DEIS page G-16, lines 10-11 state, "Milk consumption was not considered because there are no milk animals within 5 mi of the site." While, the ER Section

5.4.2.2 states that there are no dairies within 5 miles of the STP site, we believe that NRC may have intended 50 miles instead of 5 miles.

DEIS Appendix G. Supporting Documentation for Socioeconomic and Radiological Dose Assessment. Page G-21, Lines 25-26.

STPNOC Comment: The DEIS states, "staff's dose analysis confirmed the liquid pathway doses to biota shown in Table 5-13 and Table G-7." Note that Table 5-13 (DEIS p.5-89) contains two table entry errors (invertebrate total dose and algae total dose); those entries are correct in Table G-7 (DEIS p.G-22). STPNOC also comments on this in DEIS Section 5.09.

DEIS Appendix H. Authorizations, Permits, and Certifications. Page H-4.

STPNOC Comment: Table H-1 lists the status of the USACE Section 404 (first permit on the page) as "Permit Determination Request submitted 06/04/2009, Second Permit Determination Request Submitted 10/28/2009" The following should be added at the end of these status items "Individual Permit Application Submitted 03/09/2010".