

PMComanchePeakPEm Resource

From: Willingham, Michael
Sent: Monday, February 09, 2009 4:11 PM
To: 'Donald.Woodlan@luminant.com'
Cc: 'John.Only@luminant.com'; 'joseph_tapia@mnes-us.com'; 'russell_bywater@mnes-us.com'; 'Eric.Evans@luminant.com'; 'zimmermangp@ornl.gov'; 'Terry Gitnick (tgitnick@islinc.com)'
Subject: RE: 2009-02-09 Needs for upcoming Environmental Site Visit 2-24, 2-25, 2-26
Attachments: Information Needs.docx

Don,

Attached is the information needs for the Site Audit coming up on February 24-26. The ecological portions, as well as the alternatives, have been discussed in detail on our earlier trip. We will have a few follow-up questions with regards to these sections, but I do not expect it to take very long. I will be sending out a detailed agenda either Tuesday or Wednesday of this week. Expect to do the general tour and program specific tours of the site on Tuesday. We may need to have limited additional tours on Wednesday. Also, government to government interactions at the site will be conducted on Tuesday as well. The NRC staff and contractors plan to arrive on Monday the 23rd and leave on Friday the 27th. We will be staying at the Holiday Inn Express in Glen Rose, Texas. I will stay longer if there is a need.

Thanks for the visit last week. We found it very helpful and well organized.

MICHAEL H. WILLINGHAM, ENV PROJECT MANAGER

Environmental Projects Branch 1
Division of Site and Environmental Reviews
Office of New Reactors
301-415-3924

From: Donald.Woodlan@luminant.com [mailto:Donald.Woodlan@luminant.com]
Sent: Monday, February 09, 2009 1:04 PM
To: Michael Willingham
Cc: John.Only@luminant.com; joseph_tapia@mnes-us.com; russell_bywater@mnes-us.com; Eric.Evans@luminant.com
Subject: 2009-02-09 Needs for upcoming Environmental Site Visit 2-24, 2-25, 2-26

Michael,

We are very anxious to get your list of needs. We are trying to line up our resources and make sure we are prepared.

D. R. Woodlan

Donald R. Woodlan

Luminant

bus 254-897-6887, cell 214-542-7761, fax 254-897-6890
Donald.Woodlan@luminant.com

Confidentiality Notice: This email message, including any attachments, contains or may contain confidential information intended only for the addressee. If you are not an intended recipient of this message, be advised that any reading, dissemination, forwarding, printing, copying or other use of this message or its attachments is strictly prohibited. If you have received this message in error, please notify the sender immediately by reply message and delete this email message and any attachments from your system.

Hearing Identifier: ComanchePeak_COL_Public
Email Number: 517

Mail Envelope Properties (419623E8C7444444BF132DA3AE69EDA2195A6BBB04)

Subject: RE: 2009-02-09 Needs for upcoming Environmental Site Visit 2-24, 2-25, 2-26
Sent Date: 2/9/2009 4:11:28 PM
Received Date: 2/9/2009 4:11:00 PM
From: Willingham, Michael

Created By: Michael.Willingham@nrc.gov

Recipients:

"John.Only@luminant.com" <John.Only@luminant.com>
Tracking Status: None
"joseph_tapia@mnes-us.com" <joseph_tapia@mnes-us.com>
Tracking Status: None
"russell_bywater@mnes-us.com" <russell_bywater@mnes-us.com>
Tracking Status: None
"Eric.Evans@luminant.com" <Eric.Evans@luminant.com>
Tracking Status: None
"zimmermangp@ornl.gov" <zimmermangp@ornl.gov>
Tracking Status: None
"Terry Gitnick (tgitnick@islinc.com)" <tgitnick@islinc.com>
Tracking Status: None
"Donald.Woodlan@luminant.com" <Donald.Woodlan@luminant.com>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	Size	Date & Time
MESSAGE	2300	2/9/2009 4:11:00 PM
Information Needs.docx	57730	

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

**Information Needs
Comanche Peak Nuclear Power Plant (CPNPP), Units 3 and 4 COL
Environmental Site Audit**

February 9, 2009

Contents

General (GEN) Information Needs	1
Land Use (LU)	2
Transmission Lines (TL)	3
Water Quality & Use/Hydrology/Geohydrology (HYD).....	3
Terrestrial Ecology (TE)	6
Aquatic Ecology (AE)	7
Socioeconomics & Environmental Justice (SOC).....	8
Historic & Cultural Resources (CR).....	9
Meteorology & Air Quality (MET)	10
Health Physics/Non-Accident Radiological Dose/Public Health/Noise (HP).....	11
Accidents (ACC)	13
Fuel Cycle/Rad Waste/Decommissioning (FC).....	13
Transportation (TR)	13
Need for Power and Benefit Cost (NP)	14

Alternatives (ALT).....	15
Environmental Audit Information Needs – Summarized Version.....	17

ID No.	Statement of Information Needed
General (GEN) Information Needs	
GEN-01	Please make available one printed copy of the ER for reference and demonstration during the discussions <u>for each of the topical areas</u> to be covered at the Site Audit.
GEN-02	For each section of the ER, please identify which references will be submitted on the docket.
GEN-03	Please make available experts, who can provide the necessary background information and rationale, to support statements and conclusion in each subject area in the ER.
GEN-04	Please make available background information and rationale for each of the alternative sites.
GEN-05	Please make available a description of the “pre-construction” and “site-preparation” activities that are separate and distinct from the safety-related construction which is part of this licensing action.
GEN-06	Please provide knowledgeable experts to discuss the impacts from all pre-construction and site-preparation activities.
GEN-07	Please provide a knowledgeable expert who can discuss the Environmental Protection Plan (EPP) and related reference information.
GEN-08	Please make available for reference and demonstration originals of all ER figures.
GEN-09	Please make available for reference and demonstration files, layers, and spatial data used to create figures based on Geographic Information Systems (GIS).
GEN-10	Please make available for reference and demonstration copies of the calculation packages (i.e., inputs and outputs) for the following computer runs: PAVAN, XOQDOQ, LADTAP, GASPAR, SACTI, CORMIX, and RADTRAN.
GEN-11	Please make available for reference and demonstration information regarding the evaporation and “three-month storage” ponds and associated physical and chemical characteristics.
GEN-12	Please provide a knowledgeable expert to explain the CPNPP Units 1 and 2 wastewater treatment and disposal system, and waste generated by the proposed Units 3 and 4 in comparison to the amounts already being generated by Units 1 and 2 and already being disposed of.
GEN-13	Please make available for reference and demonstration data on the quantities of tritium discharged and tritium levels produced annually in Squaw Creek Reservoir (SCR) by Units 1 and 2, and the additional quantities that are anticipated to be discharged with the addition of Units 3 and 4. Please make available for reference and demonstration a description of the radioactive evaporation ponds, including the ponds’ function, operations, and anticipated emissions.
GEN-14	Provide a knowledgeable expert to discuss water quality and associated water treatment facilities.

Land Use (LU)	
LU-01	Please provide a knowledgeable subject matter expert to describe and discuss current land-use and any land-use plans or zoning for the Town of Pecan Plantation.
LU-02	Please provide a knowledgeable subject matter expert to discuss existing and proposed transmission lines and expansions. Please make available documentation for reference and review that address existing transmission line upgrades and new proposed transmission line corridors.
LU-03	Please make available documentation for reference and review regarding land-use associated with new water intake/discharge pipelines.
LU-04	Please make available a knowledgeable subject matter expert to address prime farmland.
LU-05	Please provide a knowledgeable subject matter expert to elaborate on mineral resources and make available for reference and demonstration information regarding those resources.
LU-06	Please make available for reference and demonstration maps showing the locations of utility corridors that cross either the CPNPP site or the proposed water intake/discharge pipeline corridors. Provide a knowledgeable subject matter expert to discuss potential project impacts to the utility lines.
LU-07	Please make available for reference and demonstration maps showing the locations and borders of recreation facilities within the project vicinity.
LU-08	Please make available for reference and demonstration maps showing major public and trust land areas in the region.
LU-09	Please make available for reference and demonstration information regarding Proctor Lake comparable to the information provided for other lakes developed by the Army Corps of Engineers.
LU-10	Please provide a subject matter expert to discuss the proposed concrete batch plant to be located largely outside the CPNPP site boundary.
LU-11	Please make available for reference and demonstration information regarding land-uses surrounding Lake Granbury to help assess any impact this withdrawal might have on water-dependent land-use.
LU-12	Please make available for reference and demonstration details and figures of proposed project facilities to be constructed on the CPNPP site that would affect land-use.
LU-13	Please provide a knowledgeable subject matter expert to discuss existing land-use and conditions and potential impacts in the area of the proposed BDTF and between the BDTF and the proposed reactor site on the peninsula.
LU-14	Please make available for reference and demonstration maps showing land use within the proposed new transmission line corridors.
LU-15	Please provide a knowledgeable subject matter expert to discuss land-uses permitted within transmission line rights-of-way (ROWs).
LU-16	Please make available for reference and demonstration information regarding transmission line interference with radio and television signals as described.
LU-17	Please make available for reference and demonstration data on potential land use conflicts at the four candidate alternative sites.

LU-18	Please make available for reference and demonstration data to support the weighted score for each candidate alternative site.
-------	---

Transmission Lines (TL)	
TL-01	Please make available for reference and demonstration detailed maps of the entire length of the proposed new transmission lines.
TL-02	Please make available for reference and demonstration details on the highways, railroads, and utility corridors (including underground oil and gas lines) that will be crossed by the new transmission line corridors.
TL-03	Please provide a knowledgeable expert to discuss the status of the proposed transmission routing study for the new transmission lines.
TL-04	Please provide a knowledgeable expert to discuss the process for selection of the new transmission line corridors and the alignment of the new lines, including a discussion of alternate transmission line routes and alignments.
TL-05	Please provide a knowledgeable expert to discuss the effect on the overall transmission line corridor selection process of combining species of special interest discussions with the ecology (TE) discussions, the wetlands discussions with the water quality factors (HYD) discussions, and floodplains and woodlands discussions with the land use (LU) discussions.
TL-06	Please make available for reference and demonstration Texas Natural Heritage Trust Program (NHP) data and the U.S. Fish and Wildlife Service (FWS) county data and indicate the dates these data were obtained for each of the proposed new transmission corridors. Also, make available for reference and demonstration similar data from the National Wetlands Inventory database and indicate the dates these data were obtained.
TL-07	Please provide a knowledgeable expert to discuss the status of the consultation with the NHP and the FWS regarding the proposed new transmission line corridors.
TL-08	Please provide a knowledgeable subject matter expert to discuss right of way width.
TL-09	Please make available for reference and demonstration estimates of the populations that might live within 100 meters of new transmission lines ROWs.

Water Quality & Use/Hydrology/Geohydrology (HYD)	
HYD-01	Please make available for reference and demonstration site-specific profiles of geology and aquifer units beneath the Comanche Peak Nuclear Power Plant, and provide an expert that can discuss this information.
HYD-02	Please make available for reference and demonstration a summary table of all site-specific hydraulic conductivity values for slug tests, packer tests, pumping tests, and any other relevant hydraulic testing conducted, and provide an expert to discuss this information.
HYD-03	Please provide a knowledgeable expert to discuss post-construction grading plans, the planned removal of regolith/undifferentiated fill, planned placement of engineered fill and the impact this will have on infiltration and surface runoff characteristics, groundwater gradients and flow paths.
HYD-04	Please provide a knowledgeable expert to discuss the four groundwater flow path and travel time scenarios, and make available for reference and demonstration a map showing the start and stop location of each of the scenarios.

HYD-05	Please provide a knowledgeable expert to discuss porosity and effective porosity in the groundwater travel time calculations, and range of effective porosities in the regolith/undifferentiated fill and underlying bedrock.
HYD-06	Please provide a knowledgeable expert to discuss hydraulic conductivity determinations and groundwater travel time calculations.
HYD-07	Please make available for reference and demonstration all available site-specific soils and hydrogeologic data relevant to the proposed 384 acre onsite storage and evaporation ponds and blowdown treatment facility.
HYD-08	Please provide a knowledgeable expert to provide data and discuss the proposed onsite storage and evaporation ponds, blowdown treatment facility, and impacts these facilities may have on groundwater and surface water and the monitoring.
HYD-09	Please provide a knowledgeable expert to discuss the likely composition and toxicity of the salts in the evaporation ponds.
HYD-10	Please make available for reference and demonstration soils data for all disposal sites.
HYD-11	Please provide a knowledgeable expert to provide details on construction, preoperational, and operational hydrological monitoring.
HYD-12	Please make available for reference and demonstration hydrographs constructed showing groundwater levels in wells screened.
HYD-13	Please provide a knowledgeable expert who can describe how the impact level to groundwater and surface water was determined.
HYD-14	Please provide a knowledgeable expert to discuss the surface water and groundwater pathways.
HYD-15	Please provide a knowledgeable expert to discuss groundwater dewatering during construction activities.
HYD-16	Please make available for reference and demonstration GIS files that specify the locations at which temperature and water quality sampling occurred.
HYD-17	Please provide a knowledgeable expert to discuss the scope of data and computations that yielded the historical surface water temperature results in Table 2.3-25 of the ER.
HYD-18	Please make available for reference and demonstration monthly surface water withdrawal totals (acre-feet) for all withdrawals referenced in Table 2.3-34 of the ER.
HYD-19	Please provide a knowledgeable expert to discuss water loss (consumptive use) from cooling towers and from the Blowdown Treatment Facility.
HYD-20	Please make available for reference and demonstration monthly computations of water use and water loss (consumptive use) for Units 3 & 4 and for Units 1 & 2.
HYD-21	Please make available for reference and demonstration data summarizing the time-varying recreational, navigational, in-stream, and other non-consumptive use of water in water-bodies within a 10-km (6-mi) radius.
HYD-22	Please make available for reference and demonstration location, flow, and concentration information, including temporal and spatial variation information, for all pollutant sources with discharge to water that may interact with the plant.
HYD-23	Please provide a knowledgeable expert to discuss how the plant would use and consume water during periods of minimum water availability.

HYD-24	Please provide a knowledgeable expert to discuss the design of the intake structure for Units 3 & 4.
HYD-25	Please provide a knowledgeable expert to discuss and make available for reference and demonstration data and drawings for the outfall structure.
HYD-26	Please provide a knowledgeable expert and make available for reference and demonstration details of storm water collection, treatment, and disposal facilities and operations.
HYD-27	Please provide a knowledgeable expert to discuss arrangements with the Brazos River Authority (BRA).
HYD-28	Please provide a knowledgeable expert to discuss results and methodology for the water budget modeling.
HYD-29	Please make available for reference and demonstration a copy of the CORMIX input files and calculation package, and provide a knowledgeable expert to discuss.
HYD-30	Please make available for reference and demonstration data files for bathymetric survey and water velocity mapping used in the design of the intake and discharge structures.
HYD-31	Please make available for reference and demonstration waste concentrations, predicted dilutions, and concentrations at various distances from the discharge point for all plant discharges to water-bodies.
HYD-32	Please provide a knowledgeable expert to discuss the hydrodynamics of existing Unit 1 & 2 and proposed Unit 3 & 4 water intakes on Lake Granbury.
HYD-33	Please make available for reference and demonstration the Waste Minimization Plan.
HYD-34	Please provide a knowledgeable expert to discuss the rationale and metrics used to classify the consumptive loss of cooling water from Lake Granbury.
HYD-35	Please provide a knowledgeable expert to discuss the rationale and metrics used to classify the impacts of the Unit 3 & 4 blowdown thermal plume.
HYD-36	Please provide a knowledgeable expert who can discuss how the effluent and ambient monitoring systems and procedures will be designed to enable permitting and compliance with the Texas Pollutant Discharge Elimination System (TPDES)
HYD-37	Please provide a knowledgeable expert to discuss the efforts to identify activities of other agencies and projects that may contribute to a cumulative impact on the water-related impacts of the proposed waste systems for Units 3 & 4.
HYD-38	Please provide a knowledgeable expert to discuss the heat-dissipation alternatives considered by the Applicant.
HYD-39	Please provide a knowledgeable expert to discuss the intake alternatives considered.
HYD-40	Please provide a knowledgeable expert to discuss the cooling water discharge alternatives considered.
HYD-41	Please provide a knowledgeable expert and make available for reference and demonstration details on construction, preoperational, and operational thermal monitoring.

Terrestrial Ecology (TE)	
TE-01	<p>Please make available for reference and demonstration the following data and information:</p> <ul style="list-style-type: none"> • (FWS 2006) Response letter from the U.S. Department of the Interior Fish and Wildlife Service to ENERCON recommending that potential impact to three species be considered during project planning. December 4, 2006. • (PBS&J 2007) Golden-Cheeked Warbler Bird Survey Report (for) TXU Power, Comanche Peak Power Plant, Somervell County, Texas. Prepared for TXU Power, 1601 Bryan Street, Dallas, Texas 75201 by PBS&J, 18383 Preston Road, Suite 110, Dallas, Texas 75252. May. • (PBS&J 2008) Golden-Cheeked Warbler Bird Survey Report (for) Luminant Power, Comanche Peak Power Plant, Somervell County, Texas. Prepared for TXU Power, 1601 Bryan Street, Dallas, Texas 75201 by PBS&J, 18383 Preston Road, Suite 110, Dallas, Texas 75252. May. • (TUGC 1974) Comanche Peaks Steam Electric Station (CPSES) Environmental Report Volume 1. Texas Utilities Generating Company (TUGC). • (TUGC 1975) Comanche Peaks Steam Electric Station (CPSES) Environmental Monitoring Program: Construction Phase Annual Report. Volume 1-1975. Texas Utilities Generating Company (TUGC).
TE-02	Please provide a knowledgeable expert who can provide details of site reconnaissance and data gathering visits conducted for vegetation and wetland characterization and associated terrestrial animal species reconnaissance, and surveys for important species.
TE-03	Please make available for reference and demonstration a copy of the USFWS protocols for surveying golden-cheeked warblers, and black-capped vireos.
TE-04	Please make available for reference and demonstration information obtained for terrestrial resources from the Texas Parks and Wildlife Department website.
TE-05	Please provide a knowledgeable expert to give a summary of the consultations concerning threatened, endangered, or rare terrestrial species at the CPNPP site, alternative sites, and associated transmission corridor sites.
TE-06	Please provide a knowledgeable expert to discuss travel corridors for important terrestrial species and alternative routes for those corridors that could potentially be blocked by use of the site.
TE-07	Please provide a knowledgeable expert who can provide a description of the environmental impacts of preconstruction activities related to terrestrial ecology at the site.
TE-08	Please provide a knowledgeable expert to discuss the field surveys conducted to identify wetlands at the CPNPP site and their jurisdictional status.
TE-09	Please provide a knowledgeable expert to discuss land use categories in Table 2.2-4.
TE-10	Please provide a knowledgeable expert who can discuss impacts to important terrestrial species from each of the proposed power transmission line alternatives.
TE-11	Please provide a knowledgeable expert to discuss habitat types to be affected by construction and the vegetation management history of the existing pipeline and management plans for the new segments.
TE-12	Please provide a knowledgeable expert who can provide information on acreages, by habitat type, and terrestrial ecological impacts from construction activities Blowdown Treatment Facility area.
TE-13	Please provide a knowledgeable expert to discuss cumulative impacts to the terrestrial environment, including past, present, and expected future

	impacts.
TE-14	Please provide a knowledgeable expert who can discuss the impacts of cooling system heat dissipation on terrestrial resources, including measures or controls to limit or otherwise mitigate adverse impacts; and impacts of fogging and icing due to plant cooling activities to wetlands.
TE-15	Please provide a knowledgeable expert to discuss impacts to shoreline fauna, flora, and any wetland habitat, during the drawdown of water bodies used for plant cooling, including Squaw Creek Reservoir and Lake Granbury.
TE-16	Please provide a knowledgeable expert to discuss making power lines raptor-safe with regard to electrocution hazard.
TE-17	Please make available for reference and demonstration reconnaissance-level information for the alternative sites regarding terrestrial ecological resources potentially affected by facility construction, transmission ROWs, and plant operations.
Aquatic Ecology (AE)	
AE-01	Please make available for reference and demonstration correspondence with federal or state agencies regarding threatened or endangered aquatic species with the potential to be impacted.
AE-02	Please make available for reference and demonstration information on the current status of other aquatic environmental consultations and permits.
AE-03	Please make available for reference and demonstration information documenting cumulative impacts to the aquatic environment in the region.
AE-04	Please make available for reference and demonstration information documenting Best Management Practices (BMPs) to be employed during construction and operation/maintenance of the facility and the new transmission line right-of-ways (ROWs) with regard to protection of aquatic species and habitats.
AE-05	Please make available for reference and demonstration information documenting the construction and operation of the proposed intake structure.
AE-06	Please make available for reference and demonstration information documenting the construction of the proposed discharge structure.
AE-07	Please make available for reference and demonstration information documenting the operation of the proposed discharge structure.
AE-08	Please make available for reference and demonstration information documenting the aquatic ecological monitoring programs at Squaw Creek Reservoir (SCR) and Lake Granbury.
AE-09	Please make available for reference and demonstration reference studies for Lake Granbury and for the Brazos River below the De Cordova Bend Dam and below the Squaw Creek/Paluxy River confluence with the Brazos.
AE-10	Please make available for reference and demonstration details on dredging that may be required for construction of the discharge structure in Lake Granbury.
AE-11	Please make available for reference and demonstration information on the operation of the plant during low flow conditions and the potential impacts to the aquatic ecosystem.
AE-12	Please make available for reference and demonstration information documenting the potential for impingement and entrainment of aquatic organisms at the site. Also, make available for reference and demonstration the following information: (a) information on the life histories of fish species potentially affected by the intake (and discharge) structures; (b) an estimate of the magnitude of the potential impingement and entrainment

	impacts on aquatic species populations and the aquatic ecosystem; and (c) a description of any proposed systems to reduce entrainment/impingement and to clean the screens.
AE-13	Please make available for reference and demonstration data on entrainment/impingement of organisms on the existing intake structure for Units 1 and 2.
AE-14	Please make available for reference and demonstration information on the operational impacts of the proposed discharge structure, including information on the mixing zone, how the thermal plume may change under typical dam operating conditions, and how impacts to aquatic biota would be expected to change through the seasons. Also, make available for reference and demonstration the documentation of modeling performed.
AE-15	Please make available for reference and demonstration data on the effects of the existing discharge structure for Units 1 and 2 on aquatic organisms of SCR.
AE-16	Please make available for reference and demonstration information documenting the potential occurrence of endangered and threatened species at the alternative sites.
AE-17	Please make available for reference and demonstration information documenting the potential occurrence of wetlands at the alternative sites.
AE-18	Please make available for reference and demonstration reconnaissance-level information for the alternative sites regarding hydrological and ecological characteristics of the water body to be utilized for the cooling system, and aquatic biological resources potentially affected by facility construction, transmission line rights-of-ways (ROWs), and water usage.

Socioeconomics & Environmental Justice (SOC)	
SOC-01	Please provide a knowledgeable expert to discuss the construction and operation periods access roads and the number of operation period workers who will use each of the two access points.
SOC-02	Please provide a knowledgeable expert to discuss the demographic breakdown of population for the low population and exclusion zones.
SOC-03	Please provide a knowledgeable expert to discuss construction workforce populations for existing units and proposed units.
SOC-04	Please provide a knowledgeable expert to discuss the operation period workforce.
SOC-05	Please provide a knowledgeable expert to discuss communities within the CPNPP impact region.
SOC-06	Please provide a knowledgeable expert to discuss workforce economics.
SOC-07	Please provide a knowledgeable expert to discuss state and local taxes associated with the proposed units.
SOC-08	Please provide a knowledgeable expert to discuss roads and traffic during construction and operation.
SOC-09	Please provide a knowledgeable expert to discuss housing in the vicinity and region.

SOC-10	Please provide a knowledgeable expert to discuss local water and waste water treatment systems in the vicinity of the proposed units.
SOC-11	Please provide a knowledgeable expert to discuss public safety and medical services in the vicinity of the proposed units.
SOC-12	Please provide a knowledgeable expert to discuss the public education system in the vicinity of the proposed units.
SOC-13	Please provide a knowledgeable expert to discuss environmental justice in the vicinity of the proposed units.
SOC-14	Please provide a knowledgeable expert to discuss the aesthetic aspects of the location of CPNPP Units 3 and 4 in relation to existing Units 1 and 2.
SOC-15	Please provide a knowledgeable expert to discuss regional and local recreation in the vicinity of the proposed units.
SOC-16	Please provide a knowledgeable expert to discuss the main socioeconomic and environmental justice impacts of preconstruction activities at the site.
SOC-17	Please provide a knowledgeable expert to discuss construction period workforce at the alternative sites.
SOC-18	Please provide a knowledgeable expert to discuss the economy within the vicinity of the alternate sites.
SOC-19	Please provide a knowledgeable expert to discuss environmental justice within the vicinity of the alternate sites.
SOC-20	Please provide a knowledgeable expert to discuss the comparison of alternative sites.

Historic & Cultural Resources (CR)	
CR-01	Please make available for reference and demonstration reconnaissance-level information for the alternative sites, including cultural background and known cultural resources at the alternative site locations.
CR-02	Please provide a knowledgeable expert discuss newly discovered prehistoric sites.
CR-03	Please make available for reference and demonstration a description of preconstruction activities associated with cultural resources impacts.
CR-04	Please make available for reference and demonstration a cultural chronology for the area surrounding the proposed plant. Please make available for reference and demonstration historical maps, records, and aerial photographs used to develop an historic context.
CR-05	Please make available for reference and demonstration a summary of land use at the proposed plant location, beginning with the earliest recorded historic settlement.
CR-06	Please provide a knowledgeable expert to discuss the cultural sensitivity of the project area based on prehistoric and historic occupation in the area.
CR-07	Please make available for reference and demonstration information regarding state law for inadvertent discoveries of human remains.

Meteorology & Air Quality (MET)	
MET-01	Please make available for reference and demonstration current air permit materials, including TCEQ Air Permit No. 19225; Renewal Application dated February 19, 2004; most recent TCEQ Form PI-7 and/or PI-8; and any other air permits associated with current CPNNP operations or construction activities.
MET-02	Please make available for reference and demonstration copies of applications or correspondence with TCEQ related to new or modified air permit for Unit 3 and 4 construction, and Unit 3 and 4 operations.
MET-03	Please provide a knowledgeable expert to discuss thunderstorms occurrences for CPNPP site and vicinity.
MET-04	Please provide a knowledgeable expert to clarify airport identifications used to produce meteorological data utilized in Section 2.7.1.1.
MET-05	Please make available for reference and demonstration a copy of current Dust Control Plans (or similar) used for any earthmoving or use of dirt roads (if any).
MET-06	Please make available for reference and demonstration a copy of current Emission Control Plans (or similar) associated with vehicle, generator, or equipment use (if any).
MET-07	Please make available for reference and demonstration transportation/vehicle estimates for construction.
MET-08	Please make available for reference and demonstration transportation/vehicle estimates for operation of Units 3 and 4.
MET-09	Please make available for reference and demonstration plans for monitoring compliance with air quality permits during construction (if any).
MET-10	Please provide a knowledgeable expert to discuss 2001-2006 meteorological data from Mineral Wells, SACTI model, and meteorological data from the onsite meteorological station, PAVAN model, and XOQDOQ model (From Page 5.3-11 of the ER).
MET-11	Please make available for reference and demonstration Table 2.7-34 from the CPNNP Units 1 and 2 FSAR, as well as associated text and tables from that section of the FSAR.
MET-12	Please make available for reference and demonstration information regarding the location of, and the short-term diffusion estimates for, the control room.
MET-13	Please provide a knowledgeable expert to discuss long-term meteorological data.
MET-14	Please provide a knowledgeable expert to discuss the rationale in developing separate long-term atmospheric dispersion and deposition estimates for the evaporation pond in the ER and FSAR.
MET-15	Please make available for reference and demonstration information regarding meteorological monitoring program and the date at which the station became operational.
MET-16	Please make available for reference and demonstration a detailed, scaled map of the Comanche Peak site showing site boundaries, air emission and noise sources (existing and planned), and nearby sensitive receptors (e.g., residences, schools, hospitals, nursing homes, churches); electronic file is preferred to read off the real coordinates such as UTM or latitude/longitude.

MET-17	<p>Please provide a tour of the following:</p> <ul style="list-style-type: none"> • Existing onsite meteorological tower and discussions regarding <ul style="list-style-type: none"> ○ Meteorological sensors (e.g., sensor types, manufacturer and model numbers, performance characteristics) ○ Instrument surveillance (e.g., inspection, maintenance, and calibration activities and frequencies) ○ Data acquisition and reduction (e.g., type of recorders, sampling frequencies, averaging times/algorithms, system accuracy, data review procedures) • Location of proposed meteorological tower. • Any other meteorological equipment. <p>As part of this tour, include a meeting with the staff who operate and maintain the meteorological equipment.</p>
MET-18	<p>Please provide a knowledgeable expert to discuss:</p> <ul style="list-style-type: none"> • The basis of the meteorology, air quality, and noise sections of the ER (Sections 2.5.5 and 2.7). • Variations of meteorological variables and air dispersion patterns due to the large water body (Squaw Creek Reservoir). <p>Air quality standards attainment status of Somervell County and the Comanche Peak site.</p>
MET-19	<p>Please make available for reference and demonstration input and output data (including original and processed meteorological data) and calculation packages used for the X/Q and D/Q calculations presented in ER Section 2.7.4 (for the PAVAN and XOQDOQ models).</p>
MET-20	<p>Please make available for reference and demonstration relevant data (original data and output file), and indicate software or program if any used for calculating meteorological data summaries such as wind roses, wind persistence, etc.</p>
MET-21	<p>Please make available for reference and demonstration input and output data (including original and processed meteorological data) used for the cooling tower impact analysis presented in ER Section 5.3.3 (for the SACTI model).</p>
MET-22	<p>Please provide a meeting with (1) individual(s) that have written the meteorological monitoring section (Section 6.4) and (2) the staff that operate and maintain the meteorological equipment. This should include discussions regarding:</p> <ul style="list-style-type: none"> • Meteorological sensors (e.g., sensor types, manufacturer and model numbers, performance characteristics) • Instrument surveillance (e.g., inspection, maintenance, and calibration activities and frequencies) <p>Data acquisition and reduction (e.g., type of recorders, sampling frequencies, averaging times/algorithms, system accuracy, data review procedures)</p>

Health Physics/Non-Accident Radiological Dose/Public Health/Noise (HP)	
HP-01	<p>Please make available for reference and demonstration information regarding compass directions and distances to the site boundary, as well as estimates of the same for the nearest garden and meat/milk animals.</p>
HP-02	<p>Please provide a knowledgeable expert to discuss calculations regarding population dose from ingestion. Also, make available for reference and demonstration information regarding the correlation between actual food production within 50 miles and assumed consumption.</p>
HP-03	<p>Please provide a knowledgeable expert to discuss the top contributors to dose for all dose pathways.</p>

HP-04	Please make available for reference and demonstration information utilized in the impoundment model, including measurements based on continuous operation of Units 1 and 2.
HP-05	Please provide a knowledgeable expert to discuss the historical context of tritium concentrations in the liquid waste stream and how much evaporation is normally required prior to release. Also, provide a knowledgeable expert to discuss environmental report Table 5.4-7 and estimated gaseous radionuclide releases.
HP-06	In calculations of dose, please make available for reference and demonstration a description of the differences in how the tritium releases from gaseous effluents, liquid effluents and evaporation from the pond are treated.
HP-07	Please make available for reference and demonstration the most recent copies of the "Comanche Peak Steam Electric Station Off-Site Dose Calculation Manual Units 1 and 2", and "Comanche Peak Steam Electric Station Annual Radiological Environmental Operating Report".
HP-08	Please provide a knowledgeable expert to discuss the bioassay program with regard to fish species that could be ingested by humans, and their relation to dose calculations.
HP-09	Please make available for reference and demonstration information enumerating the annual emissions of all non-radiological gaseous emissions and the peak emission rates for 8 and 24 hours.
HP-10	Please provide a knowledgeable expert to discuss the microbiological monitoring of the cooling tower waters and waters in the receiving water bodies.
HP-11	Please provide a knowledgeable expert to address the following items: (a) consultations with the Texas Department of State Health Services with respect to thermophilic organisms, (b) Availability of state level consultations with regard to primary amoebic meningoencephalitis (PAM), and operation of the facility.
HP-12	Please make available for reference and demonstration information that addresses human exposures to the thermal plume.
HP-13	Please provide a knowledgeable expert to discuss thermophilic organisms, other than PAM infections, which have been involved in events in Texas.
HP-14	Please provide a knowledgeable expert to discuss the monitoring plan for protection of occupational workers and the protective equipment and procedures associated with cooling tower maintenance.
HP-15	Please make available for reference and demonstration information regarding concentrations of chemicals used to maintain the cooling towers found in the "salt drift".
HP-16	Please provide a knowledgeable expert to discuss the anticipated maximum number of workers on site at any time during construction of Units 3 and 4 and the evacuation procedures for these workers given a radiological emergency at an existing unit. Also, make available for reference and demonstration details regarding worker training, notification and evacuation procedures, as well as anticipated traffic flow rate limits from the site.
HP-17	Please provide a knowledgeable expert to discuss noise impacts in the vicinity of the proposed units.
HP-18	Please make available for reference and demonstration tabular data of results from noise surveys, maps to spatially locate measurement points, and operational conditions of Units 1 and 2 during the measurements. Also, provide a knowledgeable expert to explain whether these conditions bound the anticipated operational noise conditions of Units 3 and 4 or explain differences.
HP-19	Please make available for reference and demonstration information on the effect of the noise environment anticipated with the additional intake pumps. Also, make available for reference and demonstration operational noise levels obtained from the manufacturer or from similar installed

	pumps elsewhere.
--	------------------

Accidents (ACC)	
ACC-01	Please provide a knowledgeable expert to discuss containment failure modes.
ACC-02	Please provide a knowledgeable expert to discuss the characterization of releases and release categories (from the PRA) including radiological composition, timing duration, energy at release, and frequency of occurrence.
ACC-03	Please make available for reference and demonstration data for population distribution and population growth projections for the future.
ACC-04	Please make available for reference and demonstration information and data for the weather characteristics and meteorological conditions applicable to the analysis of accidents.
ACC-05	Please make available for reference and demonstration a copy of the Level 2 Probabilistic Risk Assessment (PRA) during the Audit.

Fuel Cycle/Rad Waste/Decommissioning (FC)	
FC-01	Please provide a knowledgeable expert to discuss the assumptions involved in scaling Table S-3.
FC-02	Please provide a knowledgeable expert to discuss the ER's use of the scaled S-3 Table to calculate environmental impacts representative of the reactor fuel cycles.
FC-03	Please provide a knowledgeable expert to discuss whether the radwaste generation rates are based on scale up of the radwaste systems in Units 1 and 2, as well as whether any technology improvements are reflected in the data for Units 3 and 4.
FC-04	Please provide a knowledgeable expert to discuss whether resins are assumed to be treated onsite and re-used, or would spent resin be immediately disposed of as LLW.

Transportation (TR)	
TR-01	Please provide a knowledgeable expert to discuss shipments of unirradiated fuel.
TR-02	Please make available for reference and demonstration the calculation packages for the transportation analyses in the ER, Sections 3.8 and 7.4.
TR-03	Please provide a knowledgeable expert to discuss information represented in section 3.8.1.11(Number of Truck Shipments), paragraph 5 of the ER.

TR-04	Please make available for reference and demonstration heat load calculations.
TR-05	Please make available for reference and demonstration input and output files for TRAGIS and RADTRAN that were used for the transportation analysis.
TR-06	Please provide a knowledgeable expert to discuss the analysis in Section 3.8 that implies that NRC has approved higher enrichments and burn-up levels that exceed the basis in the S-4 table.
TR-07	Please provide a knowledgeable expert to discuss Table 3.8-7, for the cumulative annual dose to transport workers, and Alternate Site B result (4.98E-5).
TR-08	Please make available for reference and demonstration the input and output files for the ORIGEN-ARP results presented in Table 7.4-1(Radionuclide Inventory).
TR-09	Please make available for reference and demonstration a complete description of assumptions used for release fractions of spent fuel under transportation accident conditions, including assumptions of aerosolized and respirable fractions.

Need for Power and Benefit Cost (NP)	
NP-01	Please provide a knowledgeable expert to discuss the 2007 Electric Reliability of Texas (ERCOT) assessment and other information that has become available after the 2007 referenced document.
NP-02	Please provide a knowledgeable expert to discuss the distinction between peak and base loads for nuclear power plant siting, the relationship between base load nuclear units and peak loads, and transmission needs.
NP-03	Please provide a knowledgeable expert to address why the plants are not specifically discussed within the context of the need for power analysis and at specific points in time, given that the plants would not come on line until about ten years in the future.
NP-04	Please provide a knowledgeable expert to address the effect of recently updated documents by ERCOT.
NP-05	Please provide a knowledgeable expert to discuss the ERCOT assumptions driving generation capacity and mix.
NP-06	Please provide a knowledgeable expert to discuss ERCOT's relationship with other NERC components and the grid, comparative need for power forecasts, future grid connection plans, and power exports via DC lines planned for the proposed units.
NP-07	Please provide a knowledgeable expert to discuss wholesale customers and their potential effect on the need for power basis.
NP-08	Please provide a knowledgeable expert to discuss the following topics; uncertainty in forecasting, current economic impacts on need for power, extreme weather events effect on need for power, and demand-side management programs and conservation programs.
NP-09	Please provide a knowledgeable expert to discuss the following topics: the supply of capacity, capacity due to be retired over the next decade, capacity retirement rate represented in ERCOT's 2008 update, efficiency or lower costs due to the proposed plants, and requests for ERCOT interconnection studies for 2007.
NP-10	Please make available for reference and demonstration information in regard to wind availability factors.

NP-11	Please provide a knowledgeable expert to discuss the price for electrical power for the proposed Units 3 and 4 to customers in relationship to Units 1 and 2.
NP-12	Please provide a knowledgeable expert to discuss projected number of plants that are needed to meet the forecasted load.
NP-13	Please provide a knowledgeable expert to discuss power supply, existing capacity by types, the various plants that could be retired over the relevant period, and the plants that are now planned to be added.
NP-14	Please provide a knowledgeable expert to discuss the demand, supply, and reserve margin data in Table 8.4-1 (ERCOT Demand, Supply and Reserve Margin) and figures 8.3-7 (ERCOT Generation Capacity and Demand Projections) and 8.3-8 (Possible ERCOT Generation Capacity Needed).
NP-15	Please make available for reference and demonstration estimates of wages paid.
NP-16	Please make available for reference and demonstration decommissioning costs.
NP-17	Please provide a knowledgeable expert to discuss the following: benefit cost summary data used to anticipate short-term benefits or long-term benefits and costs to the local region; estimates of the times paths of numbers of workers and their dependents that would commute and/or relocate to the region during construction and operating in relation to potential impacts on local infrastructure such as schools, roads, and uniformed services; real property tax base to the tax rolls over the periods of construction and operation. Also, discuss the relationship of Units 1 and 2 to the previously mentioned characterizations.
NP-18	Please make available for reference and demonstration information in regard to mothballed generating capacity referred to in Section 9.2.1.2 and Section 8.3.1.
NP-19	Please provide a knowledgeable expert to discuss Table 8.4-1, ERCOT Demand, Supply, and Reserve Margin and its relationship with alternative base load capacity in chapter 9 of the ER.

Alternatives (ALT)

ALT-01	Please provide a knowledgeable expert who can discuss the legal requirements associated with supplying power to the ERCOT from only within the ERCOT region.
ALT-02	Please provide a knowledgeable expert to discuss demand-side management and its potential as an alternative. Also, make available for reference and demonstration information used to formulate the basis discussed.
ALT-03	Please provide a knowledgeable expert to discuss the ERCOT wind energy forecasts and their viability within the project time.
ALT-04	Please make available for reference and demonstration information used to formulate the conclusions found in Section 9.2.2.1 (Wind).
ALT-05	Please make available for reference and demonstration information used to produce the 545 MW hydro capacity figure for the ERCOT service area.
ALT-06	Please make available for reference and demonstration information on the availability of adjacent land for purchase.

ALT-07	Please make available for reference and demonstration information relating to noise and transportation effects associated with coal deliveries, copies of noise and traffic studies, and expected rail pathway for coal deliveries.
ALT-08	Please make available for reference and demonstration information used to describe construction time and job support for various plant sizes (Section 9.2.3.2.3.1, Socioeconomics, [Gas]).
ALT-09	Please provide a knowledgeable expert to discuss the comparison between nuclear energy levelized costs per kWh (NINI 2004) and costs associated with coal and gas.
ALT-10	Please make available for reference and demonstration information addressing the following items: (a) Air quality at alternate sites– in particulate with respect to attainment; (b) Environmental impacts of new transmission lines from the alternate sites; and (c) Historic and cultural resources at alternate sites.

Environmental Audit Information Needs – Summarized Version

(1) The following is a listing of the models that have input/output files requested in the above Table of Information Needs. Please make available for reference and demonstration the following input/output packages, along with an expert knowledgeable in the specifics of the respective input/output packages. (Note that this list is not intended to exclude any others requested in the Table).

CORMIX, GASPAR, LADTAP, MACCS2, ORIGEN-ARP, PAVAN, RADTRAN, SACTI, TRAGIS, and XOQDOQ

(2) As requested in the above Table of Information Needs, please make available for reference and demonstration the following references and documents as hard copies during the site audit. (Note that this list is not intended to exclude any others requested in the Table).

- A copy of the “transmission routing study,” as referenced in Section 3.7.2.
- A copy of the data files for bathymetric survey and water velocity mapping used in the design of the intake and discharge structures.
- A copy of the Waste Minimization Plan.
- The following references from ER Section 2.4.3:
 - (FWS 2006) Response letter from the U.S. Department of the Interior Fish and Wildlife Service to ENERCON recommending that potential impact to three species be considered during project planning. December 4, 2006.
 - (PBS&J 2007) Golden-Cheeked Warbler Bird Survey Report (for) TXU Power, Comanche Peak Power Plant, Somervell County, Texas. Prepared for TXU Power, 1601 Bryan Street, Dallas, Texas 75201 by PBS&J, 18383 Preston Road, Suite 110, Dallas, Texas 75252. May.
 - (PBS&J 2008) Golden-Cheeked Warbler Bird Survey Report (for) Luminant Power, Comanche Peak Power Plant, Somervell County, Texas. Prepared for TXU Power, 1601 Bryan Street, Dallas, Texas 75201 by PBS&J, 18383 Preston Road, Suite 110, Dallas, Texas 75252. May.
 - (TUGC 1974) Comanche Peaks Steam Electric Station (CPSES) Environmental Report Volume 1. Texas Utilities Generating Company (TUGC).
 - (TUGC 1975) Comanche Peaks Steam Electric Station (CPSES) Environmental Monitoring Program: Construction Phase Annual Report. Volume 1-1975. Texas Utilities Generating Company (TUGC).
- Copies of the USFWS protocols for surveying golden-cheeked warblers, and black-capped vireos [if any] (see ER Section 2.4.1, page 2.4-3).
- Copies of all available correspondence with federal or state agencies regarding threatened or endangered aquatic species with the potential to be impacted.
- Copies of the Best Management Practices (BMPs) to be employed during construction and operation/maintenance of the facility and the new transmission line right-of-ways (ROWs).

- Copies of any studies that are available for Lake Granbury and for the Brazos River below the DeCordova Bend Dam and below the Squaw Creek/Paluxy River confluence with the Brazos.
- Copies of consultation letters with SHPO and tribes. (Appendix A, which is referenced in the ER as containing these letters, is missing from the ER.)
- Copies of current air permit materials, including TCEQ Air Permit No. 19225; Renewal Application dated February 19, 2004; most recent TCEQ Form PI-7 and/or PI-8; and any other air permits associated with current CPNNP operations or construction activities.
- Copies of applications or correspondence with TCEQ related to new or modified air permit for Unit 3 and 4 construction, and Unit 3 and 4 operation.
- A copy of the currently existing Dust Control Plans (or similar) used for any earthmoving or use of dirt roads (if any).
- A copy of currently existing Emission Control Plans (or similar) associated with vehicle, generator, or equipment use (if any).
- The most recent copies of the “Comanche Peak Steam Electric Station Off-Site Dose Calculation Manual Units 1 and 2”, and “Comanche Peak Steam Electric Station Annual Radiological Environmental Operating Report”.
- A copy of the Level 2 Probabilistic Risk Assessment (PRA).