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June 2, 2009

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Mr. Derek Green  
PBS&J  
6504 Bridge Point Parkway, Suite 200  
Austin, TX 78730

RE: LCRA Transmission Services Corporation (LCRA TSC) Twin Buttes Station, Kendall Station, 345-kilovolt (kV) Transmission Line Project. Competitive Energy Renewable Zones (CREZ), Tom Green, Irion, Schleicher, Menard, Kimble, Kerr, Gillespie and Kendall Counties

Dear Mr. Green:

Texas Parks and Wildlife Department (TPWD) received the information request regarding the above-referenced proposed transmission line which is part of the CREZ Scenario 2 Transmission Plan. On behalf of LCRA TSC, PBS&J is requesting information regarding the preliminary study area for use in preparation of an Environmental Assessment (EA) and Alternative Route Analysis to support an application for a Certificate of Convenience and Necessity (CCN) from the Public Utilities Commission (PUC). PBS&J will use the information gathered in this process to identify environmental and land use constraints within the preliminary study area. TPWD staff has reviewed the information provided and offers the following comments concerning this project.

Project Description

LCRA TSC proposes to construct new electric transmission line facilities in Tom Green, Irion, Schleicher, Menard, Kimble, Kerr, Gillespie and Kendall counties. A new 345-kV double-circuit transmission line on double-circuit capable structures would be built along an approximate 165-180 mile section between the existing Twin Buttes station in Tom Green County and the existing Kendall station in Kendall County. The new line would go through the proposed McCamey D station in Schleicher County and the proposed Westwing station in Northern Kerr/southern Gillespie County. The section of transmission line from Twin Buttes to the new McCamey D station (approximately 35-40 miles) would be constructed as single circuit on double-circuit capable structures. The proposed study corridor is approximately 180 miles (mi) by 25 mi and encompasses approximately 2,879,988 acres (ac).

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The corridor is bounded on the north by San Angelo and on the south by Kerrville.

**Recommendations:** TPWD provided comments and recommendations regarding the entire CREZ Scenario 2 project in a letter (the attached letter) to the PUC on January 21, 2009. The letter, associated maps (Figures 1-24), and other attachments are included on the enclosed compact disc. In the attached letter, recommendations within the following sections under GENERAL RECOMMENDATIONS - ALL NATURAL REGIONS apply to the proposed project.

- Vegetation
- Rare and Protected Species
- Migratory Birds
- Cumulative Impacts
- Managed Areas
- Water Resources

Please review the information and consider the recommendations provided when developing project alternatives.

The study area is located in the Colorado, Guadalupe, and Rio Grande River basins and the Rolling Plains, Edwards Plateau and Llano Uplift natural regions. Please review the information and recommendations provided in the attached letter regarding minimization of impacts to WATER RESOURCES and POTENTIAL IMPACTS BY NATURAL REGION – Rolling Plains, Edwards Plateau and Llano Uplift, as they are also applicable to this project.

*TPWD Recommendations for Electrical Transmission/Distribution Line Design and Construction* are attached. In addition, the following information is specific to the project.

#### TPWD Review Methods

As part of the review, TPWD conducted a Texas Natural Diversity Database (TXNDD) search of known records for species and rare resources within the project corridor and a surrounding ten-mile buffer (Table 1). The TPWD Annotated List of Rare Species for the counties present in the study corridor (attached) was reviewed to determine if habitat or species might be present in the proposed project area. Landscape, water body and vegetation features were examined using GIS based aerial imagery, in-house natural resources data files and publicly available natural resource information on the internet.

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### Vegetation

According to the TPWD Vegetation Types of Texas (1984) map, (Figures 10 and 16 of the attached letter) the following native vegetation types exist within the study corridor:

Mesquite (*Prosopis glandulosa*) - Juniper (*Juniperus*) Shrub  
Live Oak (*Quercus virginiana*) - Ashe Juniper (*Juniperus ashei*) Parks  
Live Oak (*Quercus virginiana*) - Mesquite (*Prosopis glandulosa*) - Ashe Juniper (*Juniperus ashei*) Parks  
Live Oak (*Quercus virginiana*) - Ashe Juniper (*Juniperus ashei*) Woods  
Crops

Table 1 lists the rare plant communities (Series level) that exist within these vegetation types in the study corridor and include:

#### ***Rare Terrestrial Plant Communities:***

Ashe Juniper-oak Series (*Juniperus ashei-quercus* spp. Series) (4 records)  
Baldcypress-sycamore Series (*Taxodium distichum-platanus occidentalis* Series), (1 record)  
Bigtooth Maple-oak Series (*Acer grandidentatum-quercus* spp. Series) (1 record)  
Curlymesquite-sideoats Grama Series (*Hilaria belangeri-bouteloua curtipendula* Series) (3 records)  
Lacey Oak Series (*Quercus glaucoides* Series) (2 records)  
Pecan-sugarberry Series (*Carya illinoensis-celtis laevigata* Series) (1 record)  
Plateau Live Oak/little Bluestem Series (*Quercus fusiformis/schizachyrium scoparium* Series) (1 record)  
Sideoats Grama Series (*Bouteloua curtipendula* Series) (1 record)  
Texas Oak Series (*Quercus buckleyi* Series) (10 records)

**Recommendations:** General recommendations for vegetation are provided in the attached letter. The rare plant communities within the project footprint should be identified and impacts to these and any other native plant communities should be avoided to the greatest extent practicable. Mitigation for unavoidable impacts is discussed below (See Mitigation Plan.). TPWD recommends avoiding additional vegetation removal and habitat fragmentation during project design and construction by constructing the lines within previously disturbed areas. Unavoidable loss of native vegetation should be mitigated by

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revegetating areas disturbed by project activities with site-specific native species. Site specific plant lists to meet project needs can be developed from the TPWD Texas Plant Information Database at <http://tpid.tpwd.state.tx.us/>.

If applicable, TPWD recommends locating construction easements and staging areas in previously disturbed areas and avoiding impacts to undisturbed native vegetation to the greatest extent possible. Avoidance of impacts to these areas would be the most effective practice over all for conserving existing native vegetation and wildlife habitat.

#### Managed Areas

The following publicly managed areas tracked by TPWD are present within the study corridor (Figures 12 and 18 of attached letter):

Admiral Nimitz Museum State Historical Park – Texas Historical Commission  
Fort McKavett State Historic Site – Texas Historical Commission  
Kerr Wildlife Management Area  
Old Tunnel Wildlife Management Area  
San Angelo State Park  
South Llano River State Park  
O.C. Fisher Lake (USCOE)  
Buck Wildlife Management Area  
Eckert James River Bat Cave

**Recommendation:** Chapter 26 of Parks and Wildlife Code requires demonstration of no feasible or prudent alternative to impacts on TPWD properties. Transmission lines crossing State Parks or Wildlife Management Areas will require an easement. Easements require Commission approval; this process can take 12-18 months. General recommendations for managed areas are provided in the attached letter. Recommendations include avoiding route placement in or near managed areas. Avoidance of adverse visual impacts should be considered near all of the state parks listed above because scenic vistas are major attractions for each of them. For projects with potential to impact a TPWD State Park or State Natural Area, please contact David Riskind at (512)-389-4897. For projects with potential to impact a

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TPWD Wildlife Management Area, please contact Dennis Gissell at (512)-389-4407.

Water Resources

Major waterways are described in the attached letter (Figure 4). The study corridor crosses the Colorado, Guadalupe and Rio Grande River Basins. Included within are the following water bodies:

Bear Creek	Medina River
Beaver Creek	Middle Concho River
Big Saline Creek	Middle Valley Prong
Blanco River	Mulberry Creek
Cibolo Creek	Ninemile Creek
Concho River	North Concho River
Devils River	North Llano River
Dove Creek	North Valley Prong
Dry Creek	Paint Creek
East Fork	Pecan Creek
Epps Creek	Pedernales River
Grape Creek	Poor Hollow
Guadalupe River	San Saba River
James River	South Concho River
Johnson Creek	South Llano River
Johnson Fork	Verde Creek
Kickapoo Creek	West Fork
Las Moras Creek	West Rocky Creek
Lipan Creek	
Llano River	
Maynard Creek	

**Recommendation:** General recommendations for water resources are provided in the attached letter. TPWD recommends avoiding impacts to water resources in the project area by spanning creeks and locating crossings in previously disturbed areas to avoid further fragmentation of the riparian corridors associated with these creeks. Trucks and equipment should cross creeks using existing bridge or culvert structures. Destruction of inert microhabitats in waterways such as snags, brush piles, fallen logs, creek banks, pools, and gravel stream bottoms should be avoided, as these provide habitat for a variety of fish

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and wildlife species and their food sources. Erosion controls and sediment runoff control measures should be installed prior to construction and maintained until disturbed areas are permanently revegetated using site specific native vegetation. Measures should be properly installed in order to effectively minimize the amount of sediment and other debris from entering the waterway.

Many of the lakes within the region provide high quality habitat for resident and migratory birds. Should lines be placed in the vicinity of lakes, TPWD recommends the lines be buried or marked to reduce the risk of bird collisions.

#### Ecologically Significant Stream Segments

TPWD has identified ecologically significant stream segments throughout the state to assist regional water planning groups in identifying ecologically unique stream segments under Texas Administrative Code Title 31 357.8. Until approved by the legislature this is not a legal designation. The stream segments are identified through extensive review by TPWD staff and are determined to be ecologically important due to one or more of the following criteria: biological function; hydrologic function; riparian conservation areas; high water quality/exceptional aquatic life/high aesthetic value; or threatened or endangered species/unique communities. The following ecologically significant stream segments (Figure 5 of the attached letter) are present within the study corridor. Ecologically significant stream segments are grouped by region (Regions A-P). Maps of Regions F, J, K and L are attached. Additional information on these stream segments may be found at [http://www.tpwd.state.tx.us/landwater/water/environconcerns/water\\_quality/sigsegs/](http://www.tpwd.state.tx.us/landwater/water/environconcerns/water_quality/sigsegs/).

#### Region F:

Concho River  
James River  
Pedernales River  
San Saba River  
South Llano River  
Spring Creek  
West Rocky Creek

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Region J:

Fessenden Branch  
Guadalupe River  
Johnson Creek  
Medina River  
North Fork Guadalupe River  
South Fork Guadalupe River

Region K:

Pedernales River

Region L:

Blanco River  
Guadalupe River

**Recommendations:** General recommendations for ecologically significant stream segments are provided in the attached letter. The ecologically significant stream segments described above contain some of the most scenic and ecologically important river segments in the state. TPWD strongly recommends that the proposed project avoid any adverse impacts to these ecologically significant stream segments.

Rare and Protected Species

Table 1 lists the known element occurrence records from the Natural Diversity Database (TXNDD) for rare species and tracked resources in the study corridor (Figures 11 and 17 of attached letter). In summary, these records include the following:

Animal Assemblages:

Bat caves (2 records)  
Rookeries (20 records)

Rare and Protected Plants:

Basin bellflower (*Campanula reverchonii*) (1 record)  
Big red sage (*Salvia pentstemonoides*) (10 records)  
Bracted twistflower (*Streptanthus bracteatus*) (1 record)  
Canyon mock-orange (*Philadelphus ernestii*) (1 record)  
Hill Country wild-mercury, (*Argythamnia aphoroides*) (9 records)  
Irion County wild-buckwheat (*Eriogonum nealleyi*) (2 records)



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Texas mock-orange (*Philadelphus texensis*) (4 records)  
Texas snowbells (*Styrax platanifolius* ssp. *texanus*) (1 record)  
Tobusch fishhook cactus (*Sclerocactus brevihamatus* ssp. *tobuschii*) (26 records)

Rare and Protected Vertebrate Animals:

Black Bear (*Ursus americanus*) (2 records)  
Black-capped Vireo (*Vireo atricapilla*) (53 records)  
Blanco River Springs Salamander (*Eurycea pterophila*) (1 record)  
Cagle's Map Turtle (*Graptemys caglei*) (2 records)  
Cascade Caverns Salamander (*Eurycea latitans* complex) (12 records)  
Common Black Hawk (*Buteogalus anthracinus*) (2 records)  
Concho Water Snake (*Nerodia paucimaculata*) (3 records)  
Golden-cheeked Warbler (*Dendroica chrysoparia*) (8 records)  
Guadalupe Bass (*Micropterus treculi*) (14 records)  
Headwater Catfish (*Ictalurus lupus*) (2 records)  
Interior Least Tern (*Sterna antillarum athalassos*)  
Jaguar (*Panthera onca*) (1 record)  
Llano Pocket Gopher (*Geomys texensis texensis*) (5 records)  
Snowy Plover (*Charadrius alexandrinus*) (1 record)  
Swift Fox (*Vulpes velox*) (1 record)  
Valdina Farms Sinkhole Salamander (*Eurycea troglodytes* complex) (12 records)  
Texas Horned Lizard (*Phrynosoma cornutum*) (2 records)  
Texas Salamander (*Eurycea neotenes*) (1 record)

Rare and Protected Invertebrate Animals:

Clear Creek Amphipod (*Hyalella texana*) (1 record)

**Recommendations:** Because graphic representations of TXNDD records over large areas can become cluttered and unclear, this information is best viewed in a Geographic Information system. The most current TXNDD Element Occurrence Data Records and shape files of species distributions may be obtained from Dorinda Scott at (512) 389-8723 or [txnidd@tpwd.state.tx.us](mailto:txnidd@tpwd.state.tx.us). When reviewing EOID records, please refer to the disclaimers regarding interpretation of TXNDD database records in the GENERAL RECOMMENDATIONS – ALL NATURAL REGIONS, Rare and Protected Species in the attached letter. The TXNDD is not wholly inclusive regarding and the presence, absence or condition of special species, natural communities,

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or other significant features within a project area and **cannot be used solely to rule out the potential for a species to occur on a project.**

The TPWD Gillespie, Irion, Kendall, Kerr, Kimble, Menard, Schleicher and Tom Green county lists (attached) should be reviewed to determine if other rare species could be present depending upon habitat availability. County lists are available on-line at [http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered\\_species.phtml](http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species.phtml). As the project progresses, the TPWD county lists and endangered species list at the U.S. Fish and Wildlife Service (USFWS), <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>, should be checked for updates since the status of listed species is subject to change.

Please review the general recommendations for species surveys and POTENTIAL IMPACTS BY NATURAL REGION – Rare and Protected Species, Rolling Plains, Edwards Plateau and Llano Uplift in the attached letter. TPWD recommends identifying any preferred habitat for the species discussed above within the areas being considered in the alternatives analysis. On ground surveys by qualified biologists should be conducted to identify potential habitat throughout the project action area(s). If habitat is present, a survey for the presence of the species should be conducted during the season when the species is most likely to be found on-site. If rare or protected species on the county lists are found, please contact TPWD. All species on the TPWD Annotated County Lists of Rare Species are tracked in the TXNDD and TPWD actively promotes their conservation. TPWD considers it important that LCRA TSC evaluate and if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment. A TPWD TXNDD Reporting Form is attached to report new species information. Electronic copies of this reporting form are available upon request. If any federally or state protected species are found and would be adversely affected by the project, then coordination with USFWS and/or TPWD would be required.

State law prohibits any take of state listed species. State listed species may only be handled by persons with a scientific collection permit obtained through TPWD. For more information on this permit and on handling of the species if found, please contact Christopher Maldonado

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at (512) 389-4647 or by email at [christopher.maldonado@tpwd.state.tx.us](mailto:christopher.maldonado@tpwd.state.tx.us).

Mussel Sanctuaries:

Due in part to long term deterioration of water quality and over harvesting, many rare and endemic Texas mussel species are in decline and are being considered for federal listing under the Endangered Species Act. TPWD has designated certain stream segments as mussel sanctuaries. These locations were selected because they support populations of rare and endemic mussel species, or are important for maintaining, repopulating, or allowing recovery of mussels in watersheds where they have been depleted (From the Adoption Preamble 1, Texas Register 9323, November 2006). The following mussel sanctuaries are present within the study corridor:

1. The Guadalupe River from the Upper Guadalupe River Authority dam in Kerr County downstream to the Flat Rock Dam in Kerr County. Rare, endemic Texas fatmucket (*Lampsilis bracteata*) and Golden orb (*Quadrula aurea*) are both native to Central Texas. Texas fatmucket has been reduced to six known sites (possibly only four remain) and golden orb has only been found alive at five sites since 1992. Both species occur in this stream segment. (Howells. 2004. Texas Freshwater Mussels: Species of Concern. Wildlife Diversity meeting, San Marcos, Texas).
2. The San Saba River from FM 864 in Menard County downstream to the US Highway 83 bridge in Menard County. A significant population was found to be present in this stream segment (Howells 1998), including rare, endemic Texas fatmucket and Texas pimpleback (*Quadrula petrina*), as well as pearl and commercial shell species.
3. Live Oak Creek from U. S. Highway 290 west of Fredericksburg in Gillespie County downstream to the confluence of the Pedernales River in Gillespie County. A small population of rare, endemic Texas fatmucket was found here (Howells et al. 2003) and was still present in 2005 (unpublished survey data, in preparation). This mussel only occurs in Central Texas and has only been found alive at six sites since 1992, but has apparently been lost at two of those sites in recent years. Protecting small populations like this one may reduce the likelihood of this species of mussel being listed as endangered.

**Recommendations:** If native mussel populations are present within the limits of the proposed project area, they should be protected from

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disturbance to the greatest extent possible. TPWD recommends avoiding any ground disturbing activity upstream or in the catchment areas of mussel sanctuaries that may adversely affect the sanctuaries. If any construction would adversely affect or occur within the mussel sanctuaries, please contact TPWD. TPWD recommends use of best management practices (BMPs) for riparian areas to minimize impacts on mussel species. BMPs would include measures such as avoiding construction during mussel spawning periods, completing any ground disturbing activity in streambeds during periods of drought when the stream is dry, and use of double silt fences and doubling soil stabilization measures along the banks to avoid increasing the turbidity of the creek.

#### Mitigation Plan

**Recommendations:** Please review the general recommendations for avoiding impacts to all resources (vegetation, rare and protected species, migratory birds, managed areas and waters) discussed in the attached letter. TPWD recommends the development of a comprehensive mitigation plan for the life of the project. Areas of intrinsic biological value (native plant communities, habitat for rare and protected species, riparian areas, special habitat features such as seeps, springs, bat roost areas, unique features such as cliffside vegetation, bottomland cypress forests, rookeries, etc) should be identified during the project planning phase and plans be made to avoid and conserve and sustain these resources to the greatest extent possible. For those habitats where impacts from the transmission line and new stations cannot be avoided or minimized, TPWD recommends development of a compensatory mitigation plan. This would include impacts to species and habitats covered under federal law (wetlands and associated habitats, threatened or endangered species) and state resource habitat types not covered by state or federal law such as the ones described above. At a minimum, TPWD recommends a replacement ratio of 1:1 for state resource habitat types. For more detailed suggestions or information regarding a mitigation plan, please contact this office.

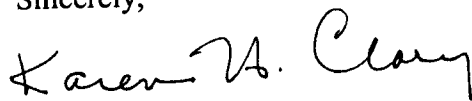
Invasive species pose a significant threat to the existence of native plant communities in disturbed areas. In accordance with Executive Order on Invasive Species (EO 13112) and the Executive Memorandum on Beneficial Landscaping, TPWD recommends that practices be

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implemented to prevent the establishment of invasive species and sustain native species, particularly during the early stages of revegetation. Assistance on invasive prevention can be obtained from several natural resource agencies including the United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). The NRCS can provide standards and specifications for revegetation using native species within the project area. A copy of *TPWD Guidelines for Revegetation of Disturbed Landscapes* is attached.

Please provide a copy of the EA to TPWD for review and comment prior to application to the PUC for a CCN. TPWD appreciates the opportunity to provide preliminary input on potential impacts related to this project, and looks forward to reviewing the EA. Please contact me at (512) 389-8054 or by email at [karen.clary@tpwd.state.tx.us](mailto:karen.clary@tpwd.state.tx.us) if you have any questions.

Sincerely,



Karen H. Clary, Ph.D.  
Wildlife Habitat Assessment Program  
Wildlife Division

KHC:gg.13841

Attachments

cc: Brian Almon, PUC (w/out attachments)  
Omar Bocanegra, USFWS (w/out attachments)