

**FINDING OF NO SIGNIFICANT IMPACT**  
**TENNESSEE VALLEY AUTHORITY**  
**CANEY RIVER WIND PROJECT**  
**Power Purchase Agreement**  
**Elk County, Kansas**

The Tennessee Valley Authority (TVA) addresses the power supply needs of its Power Service Area through a variety of energy resources including energy conservation; renewables such as wind, solar and biofuel; hydropower; nuclear; and coal and natural gas-fired generation. Consistent with its 2007 Strategic Plan and its 2011 Integrated Resource Plan, TVA's objectives include increasing the amount of clean and renewable energy resources in its generation portfolio. In support of this effort, the TVA Board authorized the purchase of as much as 2,000 megawatts (MW) of renewable energy. The purchase of 2,000 MW is part of TVA's target of meeting one-half of its power supply needs from clean and renewable energy resources by 2020.

TVA sought proposals in December 2008 from providers of renewable and/or clean energy resources. TVA entertained proposals for such power supply of 1 to 20 years in duration. Due to the limited wind resources available in the TVA Power Service Area, many of the proposals received were for wind energy outside the TVA region. To increase its renewable energy resources, TVA seeks to provide a source of clean, reliable, renewable energy to TVA consumers by contracting for approximately 200-MW of renewable energy generated from the Caney River Wind Project (i.e., the "Project"). The Project as proposed would meet these objectives. TVA's Proposed Action is to commit to a 20-year power purchase agreement (PPA) for the purchase of up to 200-MW of renewable energy from the Project.

An environmental assessment (EA) was prepared under the guidance of TVA, with assistance from Caney River and Burns & McDonnell Engineering Company, Inc., in order to assess the impacts of this Proposed Action.

**Alternatives**

TVA considered two alternatives, the No Action and the Proposed Action Alternative. The impacts of these alternatives are examined in the EA. Under the No Action Alternative, TVA would not enter into a final PPA with Caney River. On a longer term basis, the Project may or may not be built at some future time to provide power to other utilities. For some period of time, existing conditions and resource trends likely would not change as a result of construction and operation of the Project.

Under the Proposed Action Alternative, TVA would purchase power from Caney River through a PPA. Caney River would consequently construct and operate up to 200-MW of wind turbine generators (WTGs) on privately-owned land that is approximately 40 miles east to southeast of Wichita in Elk County, Kansas. Caney River has obtained wind lease agreements with private landowners to construct and operate the Project. The construction, operation, and maintenance of the wind-powered generating facilities are reasonably foreseeable actions resulting directly from the establishment of the proposed PPA. Thus, the Project was included within the scope of the environmental review.

## **Impacts Assessment**

Based on internal scoping and experience with similar projects, consultation with state and federal agencies, and review of comments received from the public on this and other wind farms in the area, the priority issues with a wind farm development in Kansas include effects on tallgrass prairie, the greater prairie chicken, the viewshed, and endangered species. Other natural, social and cultural features of consideration include: geology, geologic hazards, and mineral resources; paleontology; soils and farmland; surface and groundwater; floodplains; wetlands, streams; other wildlife and fisheries (including migratory and other bird species); air quality; noise; shadow flicker; cultural resources; land use; transportation; socioeconomics; environmental justice; managed areas, ecologically significant areas; and hazardous materials.

Minor, if any, effects are anticipated to visual resources, geology, geologic hazards and mineral resources, Greater Prairie Chickens, shadow flicker, socioeconomics, environmental justice, and managed areas. With the application of the identified general design features, preventative measures or best management practices (BMPs), commitments, mitigation and conservation measures, impacts are insignificant to tallgrass prairie, on-site vegetation, paleontological resources, soils, surface and groundwater, floodplains, wetlands, streams, general wildlife, migratory, wintering birds, raptors, air quality, noise, cultural resources, solid waste, sanitation, land use (and existing utilities), transportation, hazardous materials, public health, and public safety.

Based on the pertinent information included in the EA, TVA determined that there would be no adverse impacts to federally or state-listed threatened or endangered species or any designated critical habitat. By letters dated May 5, 2009, and October 20, 2009, the Kansas Department of Wildlife and Parks (KDWP) concurred that this Project is unlikely to negatively affect state-listed species. In letters dated April 15, 2009, and August 11, 2009, the U.S. Fish and Wildlife Service (USFWS) concurred that the Project is not likely to result in adverse impacts to any federally listed or candidate species and TVA concurs in this determination.

In letters dated April 3, 2009, and September 1, 2009, the Kansas State Historic Preservation Office (SHPO) informed Caney River LLC that the proposed Project would have no effect on historic properties. TVA subsequently conducted consultation with the Kansas SHPO, and additional information gathered during the 2010 field surveys was submitted to SHPO for concurrence. The Kansas SHPO informed TVA that the proposed Project would have no effect on historic properties in a letter dated October 28, 2010, and TVA concurs in this determination.

Consistent with Executive Order (EO) 11988 (Floodplain Management) and TVA procedures for consideration of floodplain impacts, the EA contains the required floodplain evaluation and a finding of no practicable alternative with which TVA concurs. The Project has been designed to avoid and minimize impacts on wetlands and waters of the U.S. to the extent practicable. The final turbine layout takes advantage of higher elevations and avoids low-lying areas, which are more likely to contain wetland areas. By avoiding to the extent practicable and minimizing impacts on wetlands through design and by use of protective measures during construction, the Project would have only minor effects and is consistent with EO 11990 (Protection of Wetlands). Due to the very minor amounts of wetlands potentially affected, off-site modifications to road accesses would likely qualify for a Nationwide Permit of the U.S. Army Corps of Engineers.

## **Commitments, Mitigation and Conservation Measures**

The following commitments, mitigation and conservation measures will be applied to avoid, reduce, or eliminate potential environmental impacts related to the Project. As appropriate,

these mitigation measures will be implemented by Caney River or the identified parties under the contingencies identified below.

General Features Incorporated into Design and Operation of the Facility - As has been incorporated into general features, the Project is designed to withstand earthquakes according to WTG manufacturer standards. Site-specific geotechnical information has been used to avoid potential landslide areas. The WTGs, access roads and utilities, and other major Project facilities will be located on uplands away from flood-prone areas, waterways, and wetlands. Caney River will avoid construction on steep slopes and will reclaim disturbed areas not required for operation as soon as practical after construction is complete. Caney River has entered into a road maintenance agreement with Elk County to ensure that access roads are not degraded.

Tallgrass Prairie - As described in the Native Environmental Conservation Plan (NECP) attached as Appendix E to the subject EA, Caney River will implement three primary components:

- perpetual conservation easements (18,164 acres) within the Flint Hills Legacy Conservation Area (FHLCA);
- wind and wildlife research (not considered mitigation but is a component of the plan), and
- other related grant offerings to restore tallgrass prairie habitat (6,000 acres) and promote implementation of important conservation practices.

Caney River has entered into an agreement with the National Fish and Wildlife Foundation (NFWF) to manage and implement the NECP, the primary mitigation and conservation components of which are funded by Caney River.

Greater Prairie Chicken (GPC) - No GPCs were located within the Project boundary during five years of lek surveys; however, proximity to better off-site habitat means some GPC could occur in the general vicinity. In accordance with the NECP, Caney River is committed to habitat restoration that will likely benefit all grassland birds, including GPC. None of the following mitigation measures for the GPC are required by law, but are practices which Caney River will implement to the degree practicable while maintaining financial and commercial obligations. Caney River's obligations pertaining to the NECP can be found in Section 4.8.1 and in Appendix E of the subject EA.

- Limit Project-related disturbance – land disturbance will be limited to that needed for safe and efficient construction and operation.
- Schedule construction and operations and maintenance (O&M) activities to avoid or minimize impacts to on-site leks noted on-site during the construction phase.
- Tallgrass prairie will be restored as discussed below for On-site Vegetation;
- Travel off of planned construction and maintenance routes will be prohibited to prevent inadvertent nest/chick destruction.

Paleontological Resources - Any paleontological resource discovered by Caney River or any subcontractor will be reported immediately to the Kansas Geological Survey. Caney River will suspend all operations within 100 feet of the paleontological resource until an evaluation has been made to determine the appropriate actions to be used to prevent the loss of significant scientific values. Contractors will be instructed about the types of fossils that may be encountered and the steps to take if such resources are discovered during construction. Prior

to the initiation of earth-disturbing activities, a procedure for handling unanticipated fossil discoveries will be developed, including provisions for a paleontologist to evaluate any unanticipated discoveries.

Soils - The following measures to minimize impacts to soils will be implemented as part of the Stormwater Pollution Prevention Plan (SWPPP).

- Soils in the path of access roads will be removed and stockpiled for later use in restoration.
- Areas with high erosion potential and/or rugged topography (e.g., steep slopes, unstable soils) will be avoided, where possible.
- Construction activities will be conducted using designated construction corridors.
- O&M activities will be conducted using designated Project access areas and roads.
- Caney River will design and construct the access roads and maintain the existing county roads to ensure life-of-project safety and integrity of all Project roads.
- Certified weed-free straw mulches, certified weed-free straw bale barriers, silt fences, water bars, and other appropriate best management practices (BMPs) will be used to control soil erosion.
- Soil erosion control measures will be monitored, especially after storms, and will be repaired or replaced if needed within a timely manner.
- Soil disturbance will be limited to that which is necessary for safe and efficient construction.
- All disturbed areas will be restored to the approximate original contour and reclaimed as specified in landowner agreements.

Surface and Groundwater - A SWPPP has been prepared and submitted, and a stormwater construction permit has been received for the Project. Erosion control measures including diversions, riprap, matting, sediment traps, and timely revegetation of all disturbed areas will be utilized as appropriate to minimize runoff-related sedimentation impacts. Erosion-prone areas (e.g. dissected land, badlands, and steeper slopes) will be avoided where feasible. If quantities of petroleum products used or stored on-site during construction and/or operation are large enough to necessitate the preparation of a Spill Prevention Control and Countermeasures (SPCC) Plan, Caney River will prepare and implement a SPCC Plan. Proper implementation of the plan will reduce the potential for contamination of water and soil resources due to inadvertent spills.

If heavy equipment is to be used near surface waters, Caney River will implement the following measures to minimize impacts to surface waters.

- Stream banks that are disturbed will be stabilized to prevent slumping and erosion.
- Refueling and staging will occur at least 100 feet from the edge of a stream or stream bank.
- Sediment control measures will be used, as needed, at all stream crossings.
- Stabilizing vegetation will not be removed unless absolutely necessary, and any vegetation removed will be re-established immediately following completion of the crossing.
- Drainages will be crossed at right angles to the channel when possible to minimize the area disturbed.

Air Quality and Noise - All vehicles and construction equipment will be well-maintained to minimize exhaust emissions and noise. Disturbed areas will be watered as necessary to suppress dust. Caney River will use state-of-the-art WTGs that have been designed to minimize noise levels (e.g. upwind rotors, thinner blade tips, streamlined towers, and nacelles). If noise, dust, or emissions during construction becomes a concern to landowners or governmental agencies, Caney River will work with the respective landowner or agency to resolve the issue.

On-site Vegetation - Disturbance within on-site native tallgrass prairie will be minimized by implementing the following measures or BMPs.

- Removal or disturbance of vegetation will be minimized through construction site management (e.g., by utilizing previously disturbed areas, designating limited equipment/materials storage yards and staging areas, windrowing topsoil) and reclaiming disturbed areas.
- Except for areas of permanent structures or supporting infrastructure, all disturbed areas will be restored to the approximate original contour and reclaimed in accordance with landowner agreements.
- Where native prairie has been disturbed, reclamation procedures to restore native prairie will be implemented.
- Topsoil will be removed and stored prior to construction disturbance in native tallgrass prairie; topsoil will be replaced following construction to provide a source of seeds and soil microorganisms to facilitate restoration of tallgrass prairie vegetation.
- The Natural Environment Conservation Plan (NECP) will provide research into tallgrass prairie weed control and as identified therein, provide for the restoration of native prairie in the region.
- Seed mixtures used for reclamation will be free of noxious weed seeds in accordance with state law. Weeds will be mechanically controlled in all disturbed areas. If herbicides are needed to control weeds, the landowners where herbicides will be used will be notified, and herbicides will be applied by a licensed contractor per instructions of the manufacturer. Equipment will be washed at a commercial facility prior to any construction and during construction if invasive weeds are encountered in the Project area. Certified weed-free straw mulches and certified weed-free straw bale barriers, silt fences, and water bars along with other BMPs identified within the SWPPP will be used to control soil erosion.

General Wildlife - In addition to the above identified aspects of the NECP which not only benefit tallgrass prairie, but wildlife, the following measures will be implemented to minimize impacts to wildlife.

- Caney River will use state-of-the art technology, including tubular unguyed towers, slow rotating rotors, and underground collection lines to minimize the potential for any bird or bat mortality.
- Caney River and/or its contractor(s) will prohibit hunting, fishing, dogs, cats, or possession of firearms by its employees in the Project area.
- Construction and operation disturbance will be minimized in areas of high wildlife value (e.g. tallgrass prairie, wetlands, and riparian areas) by only allowing vehicles and equipment in designated construction, operations, and maintenance corridors.
- Caney River will advise Project personnel regarding appropriate speed limits on roads to minimize wildlife mortality due to vehicle collisions.

- Caney River will educate employees and contractors about wildlife laws and permit requirements; wildlife harassment will be prohibited.
- To minimize direct impacts to prairie nesting birds, Caney River will mow areas to be disturbed prior to the nesting season, thereby avoiding the taking of active nests.
- To protect plant populations and wildlife habitat, Project-related travel will be restricted to designated roads; no off-road travel will be allowed except in emergencies.
- Caney River will limit human activity to that which is necessary to complete construction and then to operate and maintain the Project.

Migratory and Wintering Birds - Raptors - The following mitigation measures will be implemented to minimize impacts to raptors.

- Raptor/stick nest surveys will be conducted within 660 feet radius of proposed construction areas when construction is to occur during the raptor breeding/nesting season (raptor breeding/nesting season varies in Kansas, typically December 1 through August 31 for eagles)
- All surface-disturbing activities will be prohibited from December 1 through August 31 within an appropriate buffer from all occupied raptor nests. The buffer distance and restriction dates may vary on a case-by-case basis as determined by federal or state agencies or by Caney River. Factors considered will include the activity status of the nest, species involved, natural topographic barriers, line-of-sight distances, the presence of existing disturbances that the birds are habituated to, and other site-specific characteristics.
- If construction within the protective buffer of an active raptor nest becomes necessary, it will be delayed until as late in the nesting season as possible (bigger chicks are less susceptible to long-term absences by an adult).
- Active nests near construction areas may be monitored and, if the adults leave the nest for an extended period, Caney River will stop construction in the vicinity so as to allow them to return.
- Caney River will avoid cutting trees harboring raptor nests

Cultural Resources - Contractor representatives will be instructed about the types of cultural resources that may be encountered and the appropriate steps to take if cultural resources are discovered during construction. Any cultural resource (i.e., historic or prehistoric site or object) discovered by Caney River or subcontractor will be immediately reported to the SHPO. Caney River will suspend all operations in the immediate area, and the site will be inspected and evaluated by a qualified archaeologist. While this determination is being made, the area of the find will be protected from further disturbance. Caney River will not resume construction within the specified site area until the SHPO has made a determination on the site's eligibility for inclusion on the National Register of Historic Places and/or if mitigation will be required. If there are bones present and those bones could potentially be human, the construction manager shall contact the appropriate county sheriff immediately. As the area could be the scene of a crime, no one shall enter the area unless absolutely necessary. Once the Sheriff has determined that the remains either do not contain human remains, or that said remains are ancient and not the result of a crime, the Kansas State Archaeologist will be contacted immediately. In such an event the State Archaeologist would then convene the Unmarked Burial Sites (UBS) Board who will determine proper disposition of the exposed remains.

Solid Waste and Sanitation - Construction sites will be maintained in a sanitary condition at all times. Waste materials, such as human waste, trash, garbage, refuse, etc., will be disposed of

promptly at an appropriate off-site waste disposal site (e.g. landfill). Trash receptacles will be located throughout the Project area to encourage proper disposal of trash and to prevent littering.

Land Use and Existing Utilities - Caney River will notify other authorized users within the Project area of any crossings or overlaps. Care will be used, including hand/shovel excavation where appropriate, for all construction work that parallels or crosses existing subsurface utility rights-of-way (e.g. pipelines, cables, power lines). Encroachment agreements will be negotiated for crossing existing utility easements.

Hazardous Materials - The BMPs pertaining to hazardous materials are addressed in the SWPPP. If the quantities of certain chemicals or products, such as petroleum products, brought on-site require a Spill Prevention Control and Countermeasures (SPCC) plan, Caney River will prepare and implement a SPCC plan. Caney River will also educate contractors on all the plans prepared for the Project.

Public Health and Safety - The following measures will be implemented to protect public health and safety.

- WTGs will be lighted in accordance with U.S. Federal Aviation Administration (FAA) requirements. In accordance with the agreement with the FAA, Caney River will light the Project as one large obstruction, thus reducing the number of WTGs that need to be equipped with obstruction lighting. The lighting plan calls for lighting a total of 63 out of 111 wind turbines, the equivalent of 57 percent.
- High voltage facilities (excluding transmission lines) will be fenced, and warning signs will be posted.
- To reduce the potential for injury due to ice throw, all turbines will be located more than 1,000 feet from any occupied residence, and the O&M personnel will be trained to recognize icing conditions and risk areas and to take proper precautions for their personal safety.
- The Project area will be maintained in clean and sanitary condition at all times.
- Littering will be prohibited.
- On-site speed limits will be set and enforced.
- Fires will be extinguished immediately by on-site personnel if possible. Otherwise, the appropriate emergency departments will be notified.

### **Public and Intergovernmental Review**

Prior to TVA involvement, Caney River LLC had numerous contacts and discussions with local, state, and federal organizations and agencies regarding their permitting or other interests in this project. Subsequently, TVA considered this available information and correspondence in its determination of scope for the environmental review. TVA conducted formal consultation with the Kansas SHPO regarding cultural resources. TVA also consulted with the U.S. Fish and Wildlife Service and the Kansas Department of Wildlife and Parks regarding mitigation and conservation measures, and the application of particular technical analyses.

TVA made the draft EA available to the public and agencies for review and comment from October 11 to November 26, 2010. In response to public and agency comments, TVA revised the EA and provided a second opportunity for comment on the revised document from April 1 to April 15, 2011. To make the document publicly accessible, TVA also:

- Made this document available for comment on its external website at <http://www.tva.com/environment/reports/index.htm>.
- Placed copies in local libraries in Elk and Shawnee Counties, Kansas and in Knox County, Tennessee.
- Placed ads in local news media in the same counties noted above, announcing the availability of the environmental review and informing the public how to access or obtain copies of the document.
- Provided copies to more than 20 local, state, and federal agencies and Native American tribes.

**Conclusion and Findings**

The execution of the PPA is contingent upon meeting applicable environmental review requirements, making a determination of environmental acceptability and securing a firm transmission path for delivery of the power to TVA. As noted above, the environmental document was prepared under the guidance of TVA, with assistance from Caney River and Burns & McDonnell Engineering Company, Inc. According to 40 CFR 1506.5(b), "If an agency permits an applicant to prepare an environmental assessment, the agency...shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment." TVA staff has independently reviewed and evaluated the identified issues and scope of the environmental review, the technical data and studies, public and agency comments, revisions to the EA, and has found the final document adequate and complete.

Based on the findings listed above and the analyses in the Final EA (herein incorporated by reference), TVA concludes that the Proposed Action of purchasing power from Caney River through a PPA for a twenty year period would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required. This finding is contingent upon adherence to the commitments, mitigation and conservation measures provided above.



May 13, 2011

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 Federal Determinations  
 Environmental Permits and Compliance  
 Tennessee Valley Authority

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Date Signed