TRADE WIND ENERGY®

Critical Issues Analysis (CIA)
Attachment A

Front Range - Midway Solar Project
El Paso County, CO

A trusted partner with utilities, landowners and local communities.

El Paso County, Colorado
Midway Solar Project

Table of Contents

1. **Environmental Setting**
2. **Threatened and Endangered (T&E) Species Assessment**
3. **State Areas of Conservation Concern or Significance**
4. **State Environmental and Wildlife Laws**
5. **Conclusions and Next Steps**
6. **References**

1. Environmental Setting

A desktop review for the Midway Solar photovoltaic (PV) energy Project (Project) located in El Paso County, Colorado was completed on November 14, 2013. The Project area analyzed in this review includes over 30 adjacent parcels of land proposed for solar panel installations. The state and federally protected species known or likely to occur in the vicinity of the project area were reviewed, as well as the environmental setting of the Project and surrounding area.

The Project area encompasses approximately 1,100 acres (1.7 square miles) of land located 10 miles south of the city of Fountain, Colorado and two miles northwest of the populated place of Wigwam, Colorado. The Project is located three miles north of the El Paso-Pueblo county line and lies half a mile west of Interstate 25, which connects the two counties. According to the latest national census data, El Paso County has a population 622,263, Pueblo County has a population 159,063, and the city of Fountain has a population of 25,846 (USCB 2010). No municipalities are located within the Project area.

The Project lies in the U.S. Environmental Protection Agency Level III Ecoregion entitled the Southwestern Tablelands. Specifically, the Project lies within the Piedmont Plains and Tablelands Level IV subsection, located east of the foothills of the Rocky Mountain Range in eastern Colorado. The Level IV Ecoregion is defined by its irregular and dissected plains. Natural vegetation is shortgrass prairie (Chapman et al 2006). The Level IV subsection extends south to New Mexico and east to Kansas. This Ecoregion contains mostly shortgrass prairie rangeland with scattered areas of dry and irrigated cropland (Chapman et al 2006).

Land cover data for the Project area was obtained from the United States Geological Survey (USGS), National Land Cover Database (NLCD) (Fry et al. 2011). Results from these queries indicate a cover type primarily of grassland/herbaceous within and surrounding the Project area. This correlates to shortgrass

prairie as identified in the U.S. EPA Level IV Ecoregion associated with the Project site location. Other cover types represented within the Project area were identified as low, medium, and high density developed areas, developed open space (roads), and a small area of scrub/shrub land cover. The resolution of the dataset (one pixel = 30 meters X 30 meters) indicates that the scrub/shrub area is approximately 1 acre (it is represented by 5 pixels). The shrub/scrub land cover category is defined as dominated by shrubs less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions (Fry et al. 2011).

There is potential for habitat suitable for endangered species within the Project. This statement is based primarily on NLCD Land Cover data that indicates the dominant land cover type within the Project area as grassland/herbaceous (shortgrass prairie). The Project should be surveyed to identify the presence/absence of the required habitat that could support threatened or endangered species. The species most likely to be affected by Project development include terrestrial flora and fauna, and grassland birds. The absence of species specific habitat would be sufficient to determine that there is low likelihood of these T&E species.

Should this Project proceed, an on-site habitat assessment is recommended in order to ground-truth land uses and habitats at the Project.

2. Threatened and Endangered (T&E) Species Assessment

A review of federal and state Threatened and Endangered (T&E) Species was conducted for the Project. The U.S. Fish and Wildlife Service (USFWS) maintains a county list of documented occurrences/locations of federal trust resources, which includes species protected under the Endangered Species Act (ESA). This list was obtained for El Paso County, Colorado. State T&E species in Colorado are not available by a county level query. In-lieu of a county level query, the entire state T&E list was downloaded and researched for species probable occurrence within the Project vicinity. The determination of probable occurrence was based on reading the life history requirements of state listed species and comparing it to potential habitats in the vicinity of the Project. The determination also noted the current range of the species within the state and compared it to the Project location. In summary, federal species having the potential to occur in the county, and state species having the potential to occur within the vicinity of the Project area are listed in the table below. Inclusion of these species on the following table does not confirm that the species is present within the Project area.

Common Name	**Scientific Name**	**State Status**	**Federal Status**
Mexican Spotted Owl	*Strix occidentalis lucida*	Endangered	Threatened
Arkansas Darter	*Etheostoma cragini*	Threatened	Candidate Threatened
Greenback Cutthroat Trout	*Oncorhynchus clarki stomias*	Threatened	Threatened

Common Name	Scientific Name	State Status	Federal Status
Ute Ladies'-Tresses	*Spiranthes diluvialis*	None	Threatened
Pawnee Montane Skipper	*Hesperia leonardus montana*	None	Threatened
Black-Footed Ferret	*Mustela nigripes*	Endangered	EXP*
North American Wolverine	*Gulo gulo luscus*	Endangered	Proposed Threatened
Preble's Meadow Jumping Mouse	*Zapus hudsonius preblei*	Threatened	Threatened
Least Tern	*Sterna antillarum*	Endangered	Endangered
Piping Plover	*Charadrius melodus*	Threatened	Threatened
Whooping Crane	*Grus americana*	Endangered	Endangered
Pallid Sturgeon	*Scaphirhynchus albus*	None	Endangered
Plains Sharp-Tailed Grouse	*Tympanuchus phasianellus jamesii*	Endangered	None
Burrowing Owl	*Athene cunicularia*	Threatened	None
Lesser Prairie-Chicken	*Tympanuchus pallidicinctus*	Threatened	Proposed Threatened
River Otter	*Lontra canadensis*	Threatened	None

Sources: UFWS 2013 and CPW 2013

*EXP - experimental population. A taxon listed as experimental (either essential or nonessential). Experimental, nonessential populations of endangered species (e.g., red wolf) are treated as threatened species on public land, for consultation purposes, and as species proposed for listing on private land.

The Project area may provide habitat for some of the species that are included on the state and federal lists. The lack of significant permanent surface water habitats in the Project area makes it unlikely that obligate aquatic species would occur within the Project area. Sand Creek is a noted blue-line stream immediately south of the Project area. This may be an ephemeral streambed as aerial photography shows little to no riparian vegetation associated with this feature. Fountain Creek occurs several miles east of the Project area. Aerial photography shows a well-developed riparian vegetation zone along this feature. Species listed above that may utilize Fountain Creek and its associated riparian habitat may include Preble's Meadow Jumping Mouse, Least Tern, Piping Plover, Whooping Crane, Pawnee Montane Skipper, River Otter, and Ute-ladies'-tresses. Species listed above that may utilize shortgrass prairie

within the Project area or vicinity include Plains Sharp-tailed Grouse, Burrowing Owl, and Lesser Prairie-Chicken.

The plant species included in the table above have a potential to occur in the project area based on a desktop analysis alone. However, federally-listed plant species are not protected by the Endangered Species Act (ESA) except if they occur on federal lands, or if the proposed Project is considered a federal action or has a federal nexus under NEPA.

Based on the T&E portion of the desktop review for the Project area, critical flaws that would prevent construction of a solar facility were not identified. If the Project moves forward, consultation with the U.S. Fish and Wildlife Service and Colorado Parks and Wildlife is advisable to determine with greater certainty whether appropriate habitat exists within the Project area for any of the above-mentioned species, or others that were not identified for inclusion on the list. Depending on the outcome of consultation, biological surveys may need to be conducted to ensure that T&E species will not be impacted by the Project. If surveys indicate federally protected T&E species are present at the Project, the Project developer may choose to either avoid impacts or seek an incidental take permit from the USFWS to authorize “take” of the protected species under the ESA.

3. State Areas of Conservation Concern or Significance

A search of publicly available maps and GIS data layers was performed in order to identify federal, state, and local lands (wildlife preserves or other protected lands) in the area. No such designated lands are located within the Project area; however, portions of one assumed federal owned land parcel (United States), and one unknown ownership parcel (Public Service) are enveloped by the Project boundary and appear excluded from participating land parcels.

Pikes Peak International Raceway (USA Landmark) occurs approximately 1.5 miles north of the Project boundary. A cemetery labeled as the Wilson Cemetery occurs approximately 1.5 miles northeast of the Project boundary. Wigwam School occurs approximately 1.5 miles southeast of the Project boundary. Fort Carson Military Reservation occurs approximately 1 mile west of the Project boundary.

A database search was performed to identify designated National Register of Historic Places (NRHP) resources within 5 miles of the Project area in El Paso and Pueblo counties. A total of 87 designated NRHP properties in El Paso County and 64 NRHP properties in Pueblo County were identified by the database query (NRHP 2013). Of these properties, none were located within the proposed Project installation area, or within 5 miles of the Project. The nearest property to the Project is located 10 miles to the north within the city of Fountain, Colorado. The Project is not expected to impact any historical properties during construction or operation.

4. State Environmental and Wildlife Laws

Colorado Revised Statutes (C.R.S.) Article 2 - *Nongame and Endangered Species Conservation* (C.R.S. 33-2-105, revised 2013) comprises the state's endangered species provisions. The term "threatened species" means any species or subspecies of wildlife which, as determined by the commission, is not in

immediate jeopardy of extinction but is vulnerable because it exists in such small numbers or is so extremely restricted throughout all or a significant portion of its range that it may become endangered (C.R.S. 33-1-102). The term "endangered species" means any species or subspecies of native wildlife whose prospects for survival or recruitment within this state are in jeopardy as determined by the commission (C.R.S. 33-1-102).

This statute empowers the State of Colorado to list species and also outlines the criteria for listing. Under this statute it is unlawful for any person to take, possess, transport, export, process, sell or offer for sale, or ship and for any common or contract carrier to knowingly transport or receive for shipment any species or subspecies of wildlife appearing on the list of wildlife indigenous to this state determined to be threatened or endangered within the state (C.R.S. 33-2-105). It should be noted that the State of Colorado has not "adopted" federal ESA listed species, but for the most part the commission lists most of the species that occur on the USFWS list. Based on a preliminary review of C.R.S. 33-2-105, it appears that plants and insects do not receive state statutory protection in Colorado. Additionally, the prohibitions on state T&E species are fundamentally different from prohibitions on federal ESA listed species. According to C.R.S. 33-1-102, the term "take" means to acquire possession of wildlife; but such term shall not include the accidental wounding or killing of wildlife by a motor vehicle, vessel, or train.

5. Conclusions and Next Steps

This desktop study of the Midway Solar project in El Paso County, Colorado was conducted to ensure compliance with state and federal regulations including, but not limited to, the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Cultural and Historic Regulations, and various local zoning regulations.

Based on data obtained in this analysis for the proposed Solar PV Project site in El Paso County, Colorado, no critical flaws that would prevent construction of a solar energy facility were identified. However, potential concerns were identified that need consideration when siting project facilities and infrastructure. The following issues may warrant further study:

- A habitat assessment to determine the presence/absence of required habitat that could support any of the T&E species identified in this report is recommended. The absence of species specific habitat would be sufficient to determine that there is low likelihood of those T&E species.

Additionally, an ASTM Phase I Environmental Site Assessment should be conducted for the Project.

6. References

Colorado Parks and Wildlife (CPW). 2011. Threatened and Endangered List (last updated 12/21/2011). Available on-line at: http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/ThreatenedEndangeredList/Pages/ListOfThreatenedAndEndangeredSpecies.aspx. Accessed November 2013.

Fry, J., G. Xian, S. Jin, J. Dewitz, C. Homer, L. Yang, C. Barnes, N. Herold, and J. Wickham. 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, *PE&RS*, Vol. 77(9):858-864.

National Park Service. 2012. List of National Historic Landmarks. Available on line at: http://www.nps.gov/nhl/designations/listsofnhls.htm. Accessed October 2013.

National Register of Historic Places (NRHP), National Park Service. 2013. National Register of Historic Places Download Center. Available on line at: http://nrhp.focus.nps.gov/natreg/docs/Download.html. Accessed October 2013.

United States Census Bureau (USCB). 2010. 2010 Census Data. Available on line at: http://quickfacts.census.gov/qfd/states/08000.html. Accessed November 2013.

U.S. Fish and Wildlife Service. 2013. County query for federal threatened and endangered species that may be affected by project. Available on-line at: http://www.fws.gov/mountain-prairie/co.HTML. Accessed November 2013.

TRADE WIND ENERGY®

Engineering Feasibility Report (EFR)
Attachment B

Front Range - Midway Solar Project
El Paso County, CO

A trusted partner with utilities, landowners and local communities.