United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

May 13, 2005

Michelle F. Bissonnette
HDR Engineering, Inc.
6190 Golden Hills Drive
Minneapolis, Minnesota 55416

Re: Big Stone Transmission Project in Deuel and Grant Counties, South Dakota

Dear Ms. Bissonnette:

This letter is in response to your request dated April 21, 2005, for environmental comments regarding the above referenced project which involves construction of new transmission lines in Minnesota and South Dakota to support a proposed 600-MW coal-fired power plant in Big Stone, South Dakota. Transmission routes presented in your letter indicate that proposed South Dakota lines may be installed in Grant and Deuel Counties parallel to the South Dakota/ Minnesota border.

According to National Wetlands Inventory maps (available online at http://wetlands.fws.gov/), numerous wetlands exist within the proposed construction corridor. If a project may impact wetlands or other important fish and wildlife habitats, the U.S. Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible; then minimization of any adverse impacts; and finally, replacement of any lost acres; in that order. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted and the methods of replacement should be prepared and submitted to the resource agencies for review.

Our records indicate that the Service holds easements on some of the properties included in the proposed transmission corridor. For exact locations of these easements and any additional restrictions that may apply regarding these sites within Deuel County, you will need to contact the Service's Madison Wetland Management District at P.O. Box 48, Madison, South Dakota 57042, Telephone No. (605) 256-2974. For easement issues in Grant County, please contact the Service's Waubay Wetland Management District at 44401 134A Street, Waubay, South Dakota 57273, Telephone No. (605) 947-4521.

The proposed transmission corridor crosses the following waterways that have been classified by the Service as Type II High Priority Fisheries Resources: Whetsone River, North Fork Yellow Bank River, Monighan Creek, West Fork Lac Qui Parle Creek, and Cobb Creek. As per a telephone conversation with you on May 11, 2005, the proposed transmission lines are to be

installed as overhead lines, not buried. In the unlikely event that some of these lines may be buried, we suggest contacting this office again for recommendations regarding minimizing impacts due to stream-crossings.

The primary concern of the Service in regard to overhead power lines is the threat of electrocution to raptors (hawks, owls, eagles, and falcons). Thousands of these birds, including endangered species, are killed annually as they attempt to utilize overhead power lines as nesting, hunting, resting, feeding, and sunning sites. The Service recommends the installation of underground, rather than overhead, powerlines whenever possible and appropriate to minimize environmental disturbances. For all new overhead lines or modernization of old overhead lines, we recommend incorporating measures to prevent raptor electrocutions. The publication entitled "Suggested Practices for Raptor Protection on Power Lines - The State of the Art in 1996" has many good suggestions, including pole extensions, modified positioning of live phase conductors and ground wires, placement of perch guards and elevated perches, elimination of cross arms, use of wood (not metal) braces, and installation of various insulating covers. You may obtain this publication by contacting the Edison Electric Institute via their website at www.eei.org or by calling 1-800-334-5453.

However, please note that the spacing recommendation within the "Suggested Practices . . ." publication of at least 60 inches between conductors or features that cause grounding may not be protective of larger raptors such as eagles. This measure was based on the fact that the skin-to-skin contact distance on these birds (i.e., talon to beak, wrist to wrist, etc.) is less than 60 inches. An adult eagle's wingspan (distance between feathertips) may vary from 70 to 90 inches depending on the species (golden or bald) and gender of the bird. Unfortunately, wet feathers in contact with conductors and/or grounding connections can result in a lethal electrical surge. Thus, the focus of the above precautionary measures should be to a) provide more than 90 inches of spacing between conductors or grounding features, b) insulate exposed conducting features so that contact will not cause raptor electrocution, and/or c) prevent raptors from perching on the poles in the first place.

Additionally, utilizing just one of the "Suggested Practices . . ." methods may not entirely remove the threat of electrocution to raptors. In fact, improper use of some methods may increase electrocution mortality. Perch guards, for example, may be only partially effective as some birds may still attempt to perch on structures with misplaced or small-sized guards and suffer electrocution as they approach too close to conducting materials. Among the most dangerous structures to raptors are poles that are located at a crossing of two or more lines, exposed above-ground transformers, or dead end poles. Numerous hot and neutral lines at these sites, combined with inadequate spacing between conductors, increases the threat of raptor electrocutions. Perch guards placed on other poles have in some cases served to actually shift birds to these more dangerous sites, increasing the number of mortalities. Thus, it may be necessary to utilize other methods or combine methods to achieve the best results. The same principles may be applied to substation structures.

In addition to electrocution, power lines located adjacent to wetlands or crossing streams may increase the threat of line strike mortality to migratory birds. In situations where these lines are adjacent to large wetlands or where waters exist on opposite sides of the lines, we recommend marking them in order to make them more visible to birds. Orange or yellow aviation balls are frequently used for this purpose. We encourage the use of yellow balls, preferably with a vertical black stripe around the center, as these have been shown to be most effective in preventing line strikes by birds. Most bird strikes occur at mid-span; thus, balls should be placed at least along the central portion of a span. For spans 50 meters or less, place one ball at the center of the span. For more information on bird strikes, please see "Mitigating Bird Collisions With Power Lines:

The State of the Art in 1994" which may be obtained by contacting the Edison Electric Institute at the same website and telephone number listed above.

Additional information regarding simple, effective ways to prevent raptor electrocutions on power lines is available in video form. "Raptors at Risk" may be obtained by contacting EDM International, Inc. at 4001 Automation Way, Fort Collins, Colorado 80525-3479, Telephone No. (970) 204-4001, or by visiting their website at http://www.edmlink.com/raptorvideo.htm.

Although the size, design, and spacing of devices on transmission lines (as compared to relatively smaller distribution lines) may preclude some of the concerns described above, the Service still recommends that, if burial of the lines is not possible, every effort be made to minimize the electrocution and collision risk posed to migratory birds by these structures.

Although the "Suggested Practices . . ." publications and "Raptors at Risk" video will provide protective recommendations for migratory birds, implementation of these recommendations alone will not remove any liability should violations of the law occur. Please be apprised of the potential application of the Migratory Bird Treaty Act of 1918 (MBTA), as amended, 16 U.S.C. 703 et seq., and the Bald Eagle Protection Act of 1940 (BEPA), as amended, 16 U.S.C. 668 et seq., to your project. The MBTA does not require intent to be proven and does not allow for "take," except as permitted by regulations. Section 703 of the MBTA provides: "Unless and except as permitted by regulations . . . it shall be unlawful at any time, by any means, or in any manner, to . . . take, capture, kill, attempt to take, capture, or kill, possess . . . any migratory bird, any part, nest, or eggs of any such bird . . . ." The BEPA prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing activities.

In accordance with section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed species may occur in the project area (this list is considered valid for 90 days):

Species	Status	Expected Occurrence
Bald eagle (Haliaeetus leucocephalus)	Threatened	Migration, Winter Resident, Possible Nesting.
Western prairie fringed orchid (Platanthera praeclara)	Threatened	Possible Habitat, No Recent Specimens.

Bald eagles occur throughout South Dakota, and new nests are appearing each year. One known nest is located very near Big Stone City in Grant County. No construction should occur within one-quarter mile of any known active bald eagle nest. The species' nesting season is January to August. Any nests found should be reported to this office.

The Western prairie fringed orchid has not recently been documented in South Dakota. However it is recognized that the life cycle of the plant often makes it difficult to detect. Additionally, populations currently exist in the neighboring states of Nebraska, Minnesota, and North Dakota, and potential habitat may still be found in South Dakota. Although the plant is typically associated with intact native prairie, the Western prairie fringed orchid has also been found on disturbed sites. Potential habitats generally include mesic upland prairies, wet prairies, sedge meadows, subirrigated prairies, and swales in sand dune complexes. If these habitats exist within the State Highway 42 corridor, surveys for the Western prairie fringed orchid should be considered prior to construction.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

Additionally, the Dakota skipper (Hesperia dacotae) has been located in areas adjacent to the proposed transmission line corridor; thus, it may occur on native prairie areas within the proposed transmission corridor in Grant and Deuel Counties. The Dakota skipper is a candidate species and accordingly is not at present provided Federal protection under the Endangered Species Act. It's candidate status defines this small prairie butterfly as a species in decline that the Service believes needs to be listed as threatened or endangered, but listing is currently precluded by other priorities.

Dakota skippers are obligate residents of high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. In northeastern South Dakota, Dakota skippers inhabit dry-mesic hill prairies with abundant purple coneflower but also use mesic to wet-mesic tallgrass prairie habitats characterized by wood lily and smooth camas. Avoidance of impacts to potential Dakota skipper habitat is recommended. Of all states, populations in South Dakota may be the strongest and most interconnected in the United States. It has been suggested that up to six groups of local populations interconnected by dispersal may occur in South Dakota.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 34.

Sincerely,

Pete Gober
Field Supervisor
South Dakota Field office

cc: FWS/Twin Cities ES, Bloomington, MN
FWS/Waubay WMD; Waubay, SD
FWS/Madison WMD; Madison, SD