

**Appendix A**  
**Agency Correspondence**



# Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-40\_\_

Phone: (651) 259-5107 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

January 4, 2006

Ms. Sarah Emery  
HDR Engineering, Inc.  
6190 Golden Hills Drive  
Minneapolis, MN 55416

RECEIVED

JAN 09 2006

HDR Engineering, Inc.

Re: Request for Natural Heritage information for vicinity of proposed MinnDakota Wind Project, Lincoln County

Township (N)	Range (W)	Sections
109	46	1-18
110	46	6, 7, 13-15, 18-23, 26-36
110	47	<b>1, 12, 13, 24, 25, 36</b>
111	46	19, 30, 31
111	47	<b>24, 25, 36</b>

NHNR Contact #: ERDB 20020629-0003

Dear Ms. Emery,

Please note that the legal description provided with the Information Request Form appeared to be missing several sections that fall within Minnesota (indicated in bold above). Because the location description that was submitted on the Information Request Form did not exactly match the project area outlined on the map that was submitted with the form, the enclosed search results are for the area indicated on the map (as listed in the subject line of this letter). If the location description of your project area, as listed above, is in error, please contact me.

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 33 known occurrences of rare species or native plant communities in the area searched (for details, see enclosed database printout and explanation of selected fields). Following are specific comments for **only those elements that may be impacted** by the proposed project. Rare feature occurrences not listed below are not anticipated to be affected by the proposed project.

- Portions of Medary Creek within the project area have been designated as critical habitat for the Topeka Shiner (*Notropis topeka*), a federally listed endangered and state listed special concern fish species. Topeka Shiners are adversely impacted by actions which alter stream hydrology or decrease water quality, including sedimentation, dredging and filling, stream dewatering, impoundment, eutrophication, channelization, and pollution/contamination. To help minimize these factors, please see the enclosed fact sheet for recommendations for working in Topeka Shiner habitat. Given the federal status of this species, I also highly recommend that you coordinate with the U.S. Fish & Wildlife Service's Twin Cities Field Office (612/725-3548) regarding this project.
- Because Lincoln County has not yet been surveyed by the Minnesota County Biological Survey Program, there may be native prairie remnants near or within the project area that have not been identified. We recommend that all sites slated for development be surveyed by a qualified botanist

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929



or plant ecologist to determine if any remnant prairie and/or protected plant species exist on the site. I have enclosed a list of potential botanical contractors for your reference. If prairie does exist, we recommend that towers and associated infrastructure not be placed on or within at least ¼ mile of native prairie tracts. Please provide me with copies of all survey reports/prairie management plans that are prepared for this site.

- Ottoe Skippers (*Hesperia ottoe*), a state-listed threatened butterfly species, were documented within a prairie remnant near the north end of the project area. Several other rare butterfly species including Dakota Skippers (*Hesperia dacotae*), a state-listed threatened species and a candidate for federal listing, and Powesheik Skippers (*Oarisma powesheik*), Arogos Skippers (*Atrytone arogos*), and Regal Fritillaries (*Speyeria idalia*), all special concern species, may also be present within the project area. Ottoe and Dakota Skippers would likely only be present if prairie remnants greater than 15 acres in size are also present within the project site. If prairie remnants of this size are found, a survey for all five butterfly species should be conducted. Surveys should take place between late June and early July, when purple coneflowers are in bloom, and must be performed by someone with previous experience conducting rare butterfly surveys. I have enclosed a list of potential contractors for your reference. Please provide me with copies of all survey reports when available.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, but has not been completed for Lincoln County. Therefore ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: index and full record. To control the release of locational information, which might result in the damage or destruction of a rare element, both printout formats are copyrighted. The index provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index for any other purpose, please contact me to request written permission. **The full-record printout includes more detailed locational information, and is for your personal use only. If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.**

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Todd Kolander, at (507) 359-6073.

An invoice in the amount of \$140.11 will be mailed to you under separate cover within two weeks of the date of this letter. You are being billed for map and database search and staff scientist review. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



Sarah D. Hoffmann

Endangered Species Environmental Review Coordinator

encl: Database search results  
Rare Feature Database Print-Outs: An Explanation of Fields  
Fact sheets: Topeka Shiner  
Contractor Lists

cc: Lisa Gelvin-Innvaer  
Todd Kolander

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T109N	R45W	07	THR	THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #37	HOLE-IN-THE-MOUNTAIN COUNTY PARK
T109N	R45W	07	SPC	SPC		ORISMA POWESHEIK (POWESHEIK SKIPPER) #18	HOLE-IN-THE-MOUNTAIN COUNTY PARK
T109N	R45W	18	THR	THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #39	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	18	SPC	SPC		ORISMA POWESHEIK (POWESHEIK SKIPPER) #14	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	18	SPC	SPC		ORISMA POWESHEIK (POWESHEIK SKIPPER) #150	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	18	SPC	SPC		SPEYERIA IDALIA (REGAL PRITTIARY) #11	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ANTENNARIA PARVIFOLIA (SMALL-LEAVED PUSSYTOES) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ARISTIDA PURPUREA VAR. LONGISETA (RED THREE-AWN) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ARISTIDA PURPUREA VAR. LONGISETA (RED THREE-AWN) #6	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ATRYTONE AROGOS (AROGOS SKIPPER) #15	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ATRYTONE AROGOS (AROGOS SKIPPER) #44	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		BOTRYCHIUM CAMPESTRE (PRAIRIE MOONWORT) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		CYPRIPEDIUM CANDIDUM (SMALL WHITE LADY/S-SLIPPER) #132	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC	S3	DRY PRAIRIE (SOUTHWEST) HILL SUBTYPE #30	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	THR	THR		HABRONATUS TEXANUS (A SPECIES OF JUMPING SPIDER) #2	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	THR	THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #32	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	THR	THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #40	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		HESPERIA LEONARDUS PANMEE (PANMEE SKIPPER) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	THR	THR		HESPERIA OTTOE (OTTOE SKIPPER) #9	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	END	END		HESPERIA UMGAS (UMGAS SKIPPER) #3	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ORISMA POWESHEIK (POWESHEIK SKIPPER) #13	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		ORISMA POWESHEIK (POWESHEIK SKIPPER) #17	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		PHIDIPPUS PIUS (A SPECIES OF JUMPING SPIDER) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		SOLIDAGO MOLLIS (SOFT GOLDENROD) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		SPEYERIA IDALIA (REGAL PRITTIARY) #12	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19	SPC	SPC		SPEYERIA IDALIA (REGAL PRITTIARY) #161	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R46W	04	SPC	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #62	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R46W	18	SPC	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #33	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R47W	13	SPC	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #60	HOLE-IN-THE-MOUNTAIN PRAIRIE
T110N	R46W	27	SPC	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #64	HOLE-IN-THE-MOUNTAIN PRAIRIE
T110N	R46W	31	SPC	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #63	HOLE-IN-THE-MOUNTAIN PRAIRIE
T111N	R46W	30	SPC	SPC		ASTRAGALUS FLEXUOSUS (SLENDER MILK-VEITCH) #11	HOLE-IN-THE-MOUNTAIN PRAIRIE
T111N	R46W	31	THR	THR		HESPERIA OTTOE (OTTOE SKIPPER) #3	HOLE-IN-THE-MOUNTAIN PRAIRIE

RECORDS PRINTED = 33

## State of Minnesota Endangered Species Permits

Minnesota's endangered species law (MS 84.0895) and associated rules (Chapter 6212.1800 - 6212.2300 and 6134) impose a variety of restrictions, a permit program, and several exemptions pertaining to species designated as endangered or threatened. The current list of species designated under MS 84.0895 can be found at

[http://www.dnr.state.mn.us/ecological\\_services/nhnrp/endlist.pdf](http://www.dnr.state.mn.us/ecological_services/nhnrp/endlist.pdf). The law and rules prohibit taking, purchasing, importing, possessing, transporting, or selling endangered or threatened plant or animal, including their parts or seeds, without a permit. For animals, taking includes pursuing, capturing, or killing. For plants, taking includes picking, digging, or destroying. The law and rules specify conditions under which the Commissioner of the Department of Natural Resources may issue permits to allow taking and possession of endangered or threatened species. In order to understand all regulations pertaining to species that are designated as endangered, threatened or species of special concern, persons are advised to read the full text of the law and rules, which can be accessed at <http://www.leg.state.mn.us/leg/statutes.htm>.

### PERMITS

**Permits may be issued for taking only under certain conditions:**

- \$ **for scientific study,**
- \$ **for educational programs,**
- \$ **to enhance propagation or survival of the species,**
- \$ **to prevent injury to people or property, or**
- \$ **when the social and economic benefit of the taking outweigh the harm caused by it.**

Permitting decisions must be consistent with the intent of the law, which is to retain or restore healthy populations of native plants and animals. The responsibility for making permitting decisions has been delegated by the Commissioner to the Division of Ecological Services.

**Permit issuance is discretionary and based on DNR's assessment of all relevant information.**

Some species listed under Minnesota law are also listed under the Federal Endangered Species Act. If species that are federally listed as endangered or threatened are to be taken, the USFWS should be contacted at 612/725-3276, ext. 250 or see <http://endangered.fws.gov/esasum.html#Incidental Take>.

### APPLYING FOR PERMITS

**Permit requests must be submitted in writing to:**

Minnesota Department of Natural Resources  
Attn. Endangered Species Permits  
500 Lafayette Rd., Box 25  
St. Paul, MN 55155.

For species to be taken from the wild in Minnesota, the applicant must document the **justification for the taking, location, species, number of individuals** to be taken or possessed, that there are **no feasible alternatives to the taking**, and provide assurance that **the taking will not negatively affect the species' status in Minnesota**.

**When taking is proposed in connection with a scientific study**, the request must be accompanied by a research proposal that outlines the **justification, methodology** (including the **species and number of individuals** to be taken), the **location** of the project, and the **qualifications** of the researcher. If the research is judged to provide important information about the species that will foster its conservation, the researcher is qualified to do the work, and the proposed taking will not have a significant negative effect on the species population in the

state, a permit may be issued. Permits will specify that final disposition of specimens acquired for the purposes of scientific study is to the University of Minnesota Bell Museum of Natural History. Alternative repositories may be considered if compelling justification is provided.

**For permits to possess living or dead specimens for scientific or educational purposes,** the request must indicate that the permittee is **currently conducting scientific or educational programs** in the field of biology or natural history, and that they or their institution **have appropriate and adequate facilities for the care, exhibition, or storage of the particular species** that are sought to be taken, acquired or possessed. The request must also indicate the **proposed source of the specimens**, and for specimens to be acquired from a secondary source, **documentation that they were legally acquired**. For **possession of living specimens**, the request must indicate **the qualifications and experience of the person(s) who will be caring for the species**, and demonstrate **an understanding of the specific needs of the species, and how they will be met**.

Requests for **permits for propagation** must be accompanied by a project proposal that outlines the **justification, methodology** (including the **species and number of individuals or their parts or propagules** to be taken), the **locations** of both the proposed collection and propagation facilities, and the **qualifications** of the permittee relevant to propagation of endangered or threatened species. The proposal should also describe in detail the **methods of propagation and conditions under which it will occur**, and plans for **disposition of offspring** propagated under the permit. If offspring are to be released into the wild, the proposal must include **coordinates of locations for release, quantitative information about pre-release habitat and species populations at the release site, a risk analysis** of potential negative effects on habitat and species populations at the release site, and a **post-release monitoring plan** for evaluating both the target species populations, and the health of the community into which the release is done. Permits for propagation for conservation purposes will be considered only when the proposal provides convincing justification that propagation is required for the recovery of the species, the protocol is judged to be appropriate, and the permittee is qualified to do the work.

**When taking is proposed in connection with a development project,** the request can be in the form of a letter that outlines the **nature of the project, the location and the species and number of individuals** that would be taken. Before a permit can be issued, **the project proposer is asked to explore project alternatives**, including other locations or designs, which would avoid or minimize taking.

## **MITIGATION**

**If it is determined that there are no feasible alternatives to taking in connection with a development project,** the applicant must propose compensatory mitigation to reduce the impact of the taking to an acceptable level. The magnitude of the compensation required is related to the degree of impact on the species, (for example, will the whole population at a site be destroyed, or just a few individuals?), and also to the statewide significance of the population on the site. Examples of types of compensatory mitigation that have been done for taking endangered or threatened species in Minnesota include:

- \$ funding state acquisition of another site where the species occurs that is currently unprotected and vulnerable to destruction,
- \$ funding additional survey work to locate other sites, and/or
- \$ funding research to improve our understanding of the habitat requirements or protection needs of the species.

**Transplantation generally has not been considered by MNDNR to be acceptable mitigation** for taking of endangered or threatened species for several reasons. First,

conservation of species in their native habitats is our first priority. Transplantation into an artificial habitat is not a sustainable strategy for native plant and animal conservation. Second, it is necessary to understand the life history, habitat requirements, and genetic structure of natural populations in order to determine the feasibility and advisability of transplantation. This information is unknown for most rare species, and acquiring it is the responsibility of the applicant. Third, transplantation may have unanticipated effects on other organisms on the new site through disturbance or competition. Finally, it would be necessary to establish the species on the new site and monitor it for several years to determine whether the species survived and persisted on the new site before taking on the project site could proceed. Most project proposers are not willing or able to defer their projects to determine the success of such an experiment.

**For further information contact: Bonita Eliason** at 651/259-5090, or [bonita.eliason@dnr.state.mn.us](mailto:bonita.eliason@dnr.state.mn.us)

4/2004

# **Recommendations for Construction Projects Affecting Waters Inhabited by Topeka Shiners (*Notropis topeka*) in Minnesota**

**U.S. Fish and Wildlife Service  
Twin Cities Field Office  
(612) 725-3548**

## **Background**

Topeka shiner (*Notropis topeka*) occurs throughout the Big Sioux and Rock River Watersheds in five counties in southwestern Minnesota (Figure 1). The U.S. Fish and Wildlife Service (Service) listed Topeka shiner as an endangered species in 1998 and designated critical habitat<sup>1</sup> for it in 2004. The Endangered Species Act (ESA) prohibits the taking<sup>2</sup> of this species.

## **Endangered Species Act Requirements for Actions in Topeka Shiner Habitat**

### Federal Agency Actions

Federal agencies or their designated non-federal representatives must consult with the Service on any action that they fund, authorize, or carry out that may affect Topeka shiner or its critical habitat. If an agency proposes to implement an action that is likely to result in adverse effects to Topeka shiner, it must undergo formal consultation with the Service. If the agency determines that an action may affect Topeka shiners, but that those effects are not likely to be adverse, it may avoid formal consultation by receiving written concurrence on this determination from the Service.

### Private or Local (Non-federal) Actions

Private landowners, corporations, state or local governments, and other non-federal entities or individuals who wish to conduct activities that might incidentally harm (or "take") Topeka shiners must first obtain an incidental take permit from the U.S. Fish and Wildlife Service (Service). To determine whether an action may require an incidental take permit, coordinate with the Service when planning actions that may affect streams or off-channel habitats in the

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<sup>1</sup> See 69 Federal Register 44,736 (July 27, 2004) or <http://www.fws.gov/midwest/endangered/fishes/index.html#topeka> for further information about Topeka shiner critical habitat.

<sup>2</sup> The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Rock River or Big Sioux River watersheds in Minnesota. Contact the Service's Twin Cities Field Office (612/725-3548) for further information or see the following website for information regarding Endangered Species permits -- <http://endangered.fws.gov/permits/index.html?#forms>.

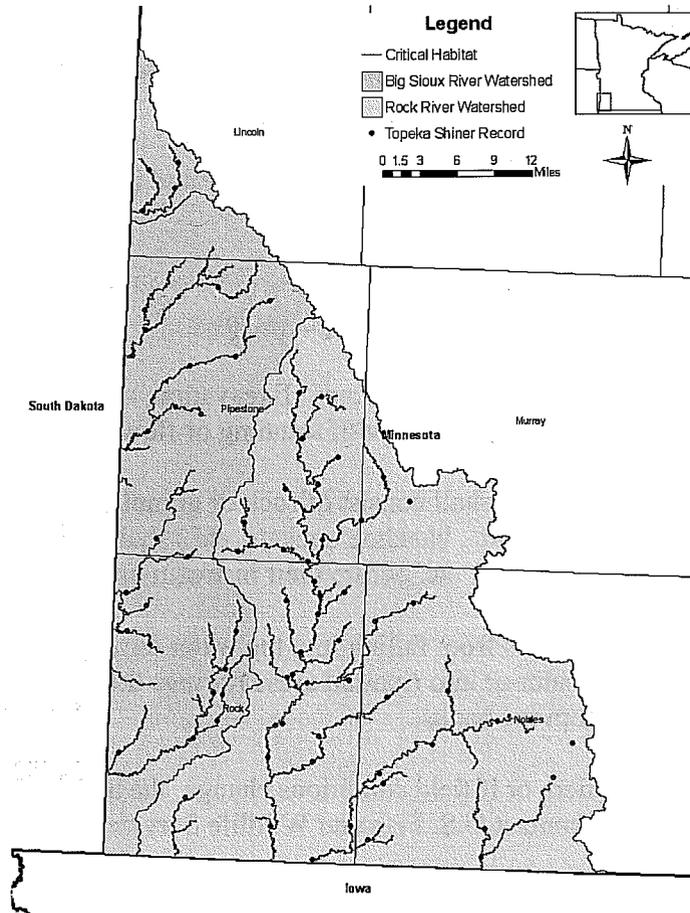
### **Project Recommendations**

The following recommendations are provided to help design actions that would avoid or minimize adverse effects to Topeka shiner. These recommendations may not address every way in which proposed actions may affect this species and may not preclude the need for formal consultation for federal actions or for an incidental take permit for non-federal actions. Therefore, we highly recommend that you coordinate early in the planning process with the Service's Twin Cities Field Office (612/725-3548) when contemplating any action that may affect streams or associated off-channel habitats (oxbows, abandoned channels, etc.) in the Big Sioux River or Rock River watersheds in Minnesota (Fig. 1).

1. Ensure that contractors and subcontractors understand all permit provisions that are necessary to avoid or minimize adverse effects to Topeka shiners.
2. Do not dewater stream reaches or temporarily divert streams for construction.
3. Do not conduct in-stream work before August 15 to avoid disrupting Topeka shiner spawning.
4. Follow all applicable requirements and best management practices for stormwater and erosion control – for example, requirements contained within stormwater permits from Minnesota Pollution Control Agency (MPCA). Useful resources for designing effective stormwater and erosion control include the MPCA Stormwater Best Management Practices Manual (see <http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html>) and the Minnesota Department of Transportation Erosion Control Handbook for Local Roads (see <http://www.lrrb.gen.mn.us/PDF/200308.pdf>). Other resources are available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html#factsheets>. General suggestions for minimizing effects of erosion on Topeka shiners are shown below.
5. Minimize removal of riparian (streamside) vegetation; such removal should occur sequentially as needed over the length of the project.
6. Mulch areas of disturbed soils and reseed promptly.
7. Implement appropriate erosion and sediment prevention measures to the maximum extent practicable. Inspect devices frequently to ensure that they are effective and in good

repair, especially after precipitation.

8. Leave existing features, such as bridge abutments, retaining walls, and riprap, in place as much as is feasible.
9. Ensure that erosion prevention measures are in place and in adequate condition when leaving work site.
10. Design and install instream structures (e.g., box culverts) in a manner that will not impair passage of Topeka shiners and other fish species after construction is completed.
11. Do not operate motorized vehicles instream. Excavation, culvert placement, etc. should be conducted from streambanks outside of standing or flowing water.
12. Backfill placed in the stream shall consist of rock or granular material free of fines, silts, and mud. Machinery parts (i.e., backhoe buckets, etc.) shall be cleaned of all such material and free of grease, oil, etc. before their instream use.
13. Prevent materials and debris from falling into the water during construction. If materials or debris fall into the water or into riparian areas retrieve them promptly by hand or with equipment working from the banks.
14. If the project is modified, or if field conditions change, the applicant or agency representative should contact U.S. Fish and Wildlife Service before proceeding.



**Figure 1. Recorded occurrences of Topeka shiner and officially designated critical habitat in Minnesota. [See 69 Fed. Reg. 44,736 (July 27, 2004) or <http://www.fws.gov/midwest/endangered/fishes/index.html#topeka> for further information about Topeka shiner critical habitat.] U.S. Fish and Wildlife Service (Service) designated critical habitat only in stream reaches where Topeka shiner had been recorded as of August 2002, when critical habitat was originally proposed. Surveys conducted after August 2002 have found Topeka shiners in additional locations, including some that the Service had not proposed as critical habitat. Therefore, some records shown above occur outside of officially designated critical habitat. Surveys for this species are limited and ongoing. Although Topeka shiners are likely to be found in additional sites not indicated on this map, it is unlikely that the species occurs outside of the Rock River or Big Sioux River watersheds. For information on potential Topeka shiner occurrence in a specific location, contact U.S. Fish and Wildlife Service (612/725-3548).**



MINNESOTA HISTORICAL SOCIETY

State Historic Preservation Office

RECEIVED

JAN 31 2006

HDR Engineering, Inc.

January 27, 2006

Ms. Sarah Emery  
HDR Engineering, Inc.  
6190 Golden Hills Drive  
Minneapolis, MN 55416-1518

Re: PPM Energy MinnDakota Wind Farm  
Lincoln County Minnesota and Brookings County, South Dakota  
SHPO Numbers: 2002-1250 & 2003-3240

Dear Ms. Emery:

Thank you for your letter regarding the above referenced project.

Your letter acknowledges that our office has commented on the project in the past, and that we have recommended a cultural resources assessment/survey of the project area. You also indicate that the project area has been expanded.

We would continue to recommend a cultural resources assessment/survey of the project area, which should be used to address the cultural resources section of the site permit application.

Contact us at 651-296-5462 with questions or concerns.

Sincerely,

Dennis A. Gimmestad  
Government Programs & Compliance Officer



IN REPLY REFER TO:  
FWS/AFWE-TCFO

# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Twin Cities Field Office  
4101 East 80th Street  
Bloomington, Minnesota 55425-1665



RECEIVED

FEB 01 2006

JAN 25 2006

HDR Engineering, Inc.

Ms. Sarah Emery  
Senior Environmental Scientist  
HDR Engineering Inc  
6190 Golden Hills Drive  
Minneapolis, Minnesota 55416

Dear Ms. Emery:

We have reviewed your letter dated December 12, 2005, requesting comments on the proposed MinnDakota Wind Farm, formerly known as the Ivanhoe Wind Farm. PPM Energy proposes to construct 100 turbines with associated infrastructure in Brookings County, South Dakota, and Lincoln County, Minnesota. This project was originally located in South Dakota only, and the Pierre Ecological Services Field Office (ESFO) provided comments at that time in a letter dated September 4, 2003. The comments provided in this letter build upon those previously submitted and have been coordinated with the Pierre ESFO.

## Threatened and Endangered Species

The bald eagle (*Haliaeetus leucocephalus*), a species listed as threatened under the Endangered Species Act of 1973 (ESA), as amended, may occur in the project area. Although there are no known eagle nests within the project boundaries, individuals may use the area for migration and wintering. There is potential for future establishment of nesting sites within your project area; therefore, PPM Energy should contact us for updated information if construction activities occur more than one year after the date of this letter.

The Topeka shiner (*Notropis topeka*), a minnow species listed as endangered under the ESA, is known to occur within the project area. This species inhabits streams and tributaries as well as off-channel habitats that may be seasonally or intermittently flooded. Medary Creek in Lincoln County and Deer Creek in Brookings County are two of the waterways known to contain Topeka shiners. In addition, critical habitat has been federally designated for this species in Lincoln County (see enclosed map) and occurs within the proposed project boundaries. Although we recognize that wind turbines will likely be placed on upland sites, we anticipate that associated infrastructure may necessitate crossing streams occupied by the Topeka shiner.

Consultation under the ESA cannot be completed until full details of the entire project (e.g., location of roads, buildings, transmission lines) are provided.

### General Comments

There are currently no U.S. Fish and Wildlife Service (Service) owned or managed lands or wetland or grassland easements for which the Service has responsibility, within your project boundary in Minnesota. There are, however, several tracts of remnant native prairie, an extremely rare habitat type in Minnesota, that should be avoided. Mr. Rich Papasso, the Natural Resource Specialist at Big Stone National Wildlife Refuge, should be contacted at (320) 273-2191, ext 101, for further discussion about remnant prairie tracts. It is our understanding that you have already been in contact with Ms. Sarah Hoffman with the Natural Heritage & Nongame Research Unit of the Minnesota Department of Natural Resources (MNDNR), regarding rare features within the state.

The Service has responsibility for several grassland and Farmers Home Administration easements within the South Dakota portion of the proposed project. Additional lands for acquisitions have been identified in the northern half of the proposed project area. If you have not already done so, please contact Mr. Tom Tornow, Manager at the Madison Wetland Management District, for the presence/location of Service easements and any additional restrictions that may apply regarding these sites. Mr. Tornow may be contacted at (605) 256-2974.

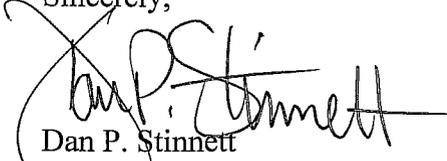
There may be state owned and managed resource lands within the project boundary that may have been purchased with Federal Aid funds. These properties can be identified by the South Dakota Department of Game, Fish and Parks at (605) 773-3485, or by contacting the MNDNR.

Much of the discussion contained in the Service's September 4, 2003, letter regarding migratory bird concerns in relation to the proposed wind farm are pertinent to this review. The environmental concerns identified in both the wind turbine and communication tower guidelines referred to in that letter remain the same. Research conducted thus far on existing wind farms near the MinnDakota site will be valuable in identifying issues, areas, and species of concern during the field visit planned in the coming year. We appreciate the opportunity to participate in the field visit and anticipate that it will present our best opportunity to provide site-specific review.

We understand that further details regarding turbine height, final lighting specifications, extent of associated infrastructure, and other project specifics will become available as planning progresses. We look forward to providing further technical assistance as the project develops.

If you have questions regarding these comments, please contact staff biologist,  
Ms. Laurie Fairchild, at (612) 725-3548, extension 214.

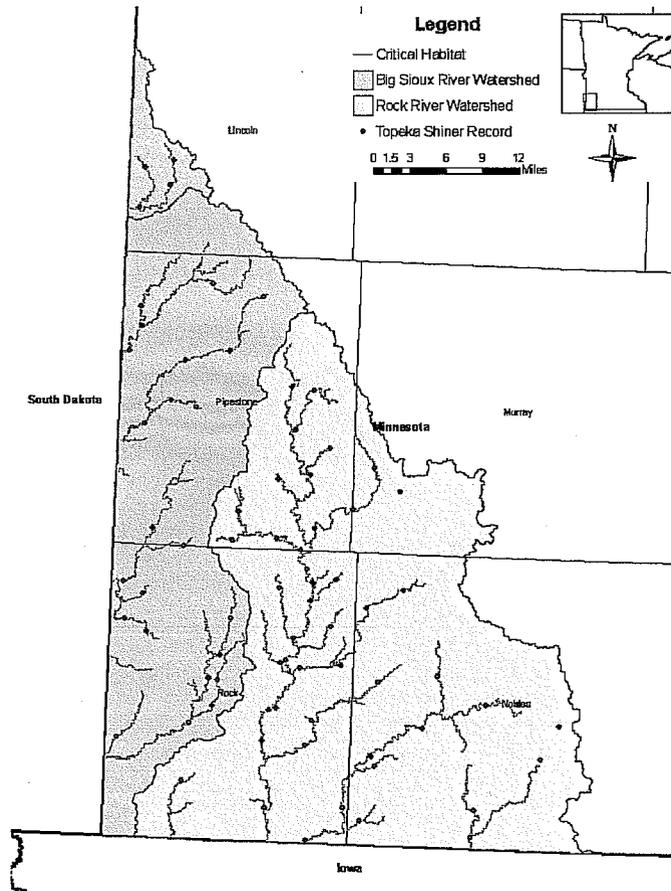
Sincerely,



Dan P. Stinnett  
Field Supervisor

Enclosure

cc: Natalie Gates, Pierre ESFO  
Rich Papasso, Big Stone NWR  
Tom Tornow, Madison WMD



**Figure 1. Recorded occurrences of Topeka shiner and officially designated critical habitat in Minnesota. [See 69 Fed. Reg. 44,736 (July 27, 2004) or <http://www.fws.gov/midwest/endangered/fishes/index.html#topeka> for further information about Topeka shiner critical habitat.] U.S. Fish and Wildlife Service (Service) designated critical habitat only in stream reaches where Topeka shiner had been recorded as of August 2002, when critical habitat was originally proposed. Surveys conducted after August 2002 have found Topeka shiners in additional locations, including some that the Service had not proposed as critical habitat. Therefore, some records shown above occur outside of officially designated critical habitat. Surveys for this species are limited and ongoing. Although Topeka shiners are likely to be found in additional sites not indicated on this map, it is unlikely that the species occurs outside of the Rock River or Big Sioux River watersheds. For information on potential Topeka shiner occurrence in a specific location, contact U.S. Fish and Wildlife Service (612/725-3548).**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501-5408

RECEIVED

SEP - 8 2003

HDR Engineering, Inc.

September 4, 2003

Michelle F. Bissonnette, Senior Environmental Consultant  
HDR Engineering, Inc.  
6190 Golden Hills Drive  
Minneapolis, Minnesota 55416-1567

Re: PPM Energy, South Dakota Wind  
Farm in Brookings County, South  
Dakota

Dear Ms. Bissonnette:

This letter is in response to your request dated July 14, 2003 (received by this office on July 21, 2003), for environmental comments regarding the above referenced project involving the construction of a 200-megawatt wind farm that may include up to 130 wind turbines, depending on final project and turbine size. The proposed project area includes Sections 4, 5, 8-10, 15-22, and 27-34 in Township 111 North, Range 47 West, and the East half (E1/2) of Section 25 in Township 111 North, Range 48 West, Brookings County, South Dakota.

The U.S. Fish and Wildlife Service's (Service) primary concerns regarding wind turbines are collision mortality of birds and the loss of habitat and habitat avoidance behaviors by wildlife. While there is still much to be learned regarding wind turbine/wildlife interactions, we do know that wind turbines can adversely impact wildlife and their habitats. Turbine location, spacing, aspect, lighting, size, and design are all potential factors related to the risk posed to resident and migratory wildlife as are the types of surrounding habitats, their use by various species of wildlife, landscape features, prey base, migration corridors, and behavioral patterns. Currently, perhaps the best means of avoiding impacts to wildlife is to avoid high wildlife use areas. Per a visit to the site by Natalie Gates of this office and a conversation with Ms. Sarah Emery of your office, it was determined that the area is considerably impacted by agriculture, with some grazed property interspersed. Very little of the grazed lands appear to be intact native prairie. Despite this, raptors were observed onsite, and the area topography suggests that it could receive high use by raptors which seem to be particularly vulnerable to wind turbine related mortality. Raptor counts during spring/fall migration may be particularly valuable. Additionally, recent studies of grassland nesting birds have shown a tendency for avoidance of areas immediately surrounding turbines; thus, placement of the turbines within cropland would minimize that concern. We recommend that wildlife use of the area be further evaluated prior to construction and appropriate project modifications made, as necessary, to minimize wildlife impacts. Post construction monitoring is also recommended in order to further understand impacts from wind turbines.

As you may be aware, the Service has recently developed voluntary interim guidelines to assist energy companies in accomplishing the goal of reducing the risk posed by turbines to wildlife.

You may access these guidelines on the internet at:

<http://www.fws.gov/r9dhcbfa/WindTurbineGuidelines.pdf>. The guidelines stress the importance of proper evaluation of potential wind turbine development sites, proper location and design of turbines and related facilities, and pre- and post-construction research and monitoring.

Some of the information in the Service's wind turbine guidance is similar to our guidelines concerning communications towers. It is our understanding that meteorological towers are often constructed in association with wind turbines and that these structures are often similar in design to typical communications towers: tall, lighted, lattice structured, and guyed. These types of towers can be problematic primarily for avian wildlife as the birds may be drawn to the towers, particularly during inclement weather, and reluctant to leave the lighted area. Mortality results as the birds circle the structure and collide with the guy wires or the lattice of the tower itself. If meteorological towers will be part of the proposed project, we recommend following the guidance set forth in "U.S. Fish and Wildlife Service Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning" (<http://migratorybirds.fws.gov/issues/towers/comtow.html>) to minimize the threat of avian mortality.

In order to obtain information on the usefulness of the communications tower guidelines in preventing birds strikes and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of any other towers associated with the wind turbine project and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures cannot be implemented, please explain why they were not feasible. Enclosed you will find a Tower Site Evaluation Form. If towers other than the turbines themselves are to be constructed, please complete this form and return it to our office.

Although the Service's recommended guidelines will provide some protection for migratory birds, implementation of these measures 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):

<u>Species</u>	<u>Status</u>	<u>Expected Occurrence</u>
Bald eagle ( <u>Haliaeetus leucocephalus</u> )	Threatened	Migration, Wintering, Possible Nesting.
Topeka shiner ( <u>Notropis topeka</u> )	Endangered	Known Resident.

Bald eagles could potentially be observed in Brookings County (and throughout the State of South Dakota) any time of the year, including the breeding season. We are currently unaware of any bald eagle nests within Brookings County; however, new nests appear each year. 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.

Topeka shiners are known to occupy numerous small streams within eastern South Dakota, and most are concentrated within the Big Sioux, Vermillion, and James River watersheds. Survey efforts continue to reveal additional inhabited streams. Deer Creek is a known Topeka shiner occupied stream that extends into the proposed project area. Although we recognize that wind turbines will likely be placed on upland sites, we anticipate that installation of associated new electrical lines or construction of roads associated with the turbines could necessitate crossings of Deer Creek and its tributaries or other occupied Topeka shiner streams in Brookings County. If this is the case, additional consultation may be necessary to address impacts to the Topeka shiner, and you should contact this office again for guidance on Best Management Practices to minimize potential impacts to the Topeka shiner once specific information on these structures is obtained.

Per the conversation with Ms. Emery, we learned that your request for information on behalf of PPM, Inc. does not, at this time, involve a Federal agency which would trigger consultation under the Endangered Species Act. The purpose of your letter was to gather information for an initial screening for "fatal flaws" for the project. If a Federal action agency is later identified, the agency, or their designated representative, must determine impacts to listed species. If the agency determines that the project "may adversely affect" listed species in South Dakota, it should request formal consultation from this office. If a "may affect - not likely to adversely affect" determination is made for this project, it should be submitted to this office for concurrence. If a "no effect" determination is made, further consultation may not be necessary. However, a copy of the determination should be sent to this office. For more information regarding Federal action agency responsibilities as related to section 7 of the Endangered Species Act, please refer to the Service's Endangered Species Act Consultation Handbook, available online at <http://endangered.fws.gov/consultations/index.html>.

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

Enclosure

**TOWER SITE EVALUATION FORM**

1. Location ( Provide maps if possible):

State:\_\_\_\_\_ County:\_\_\_\_\_ Latitude/Longitude/GPS Grid:\_\_\_\_\_

City and Highway Direction ( 2 miles W on Hwy 20, etc.)\_\_\_\_\_

\_\_\_\_\_

2. Elevation above mean sea level: \_\_\_\_\_

3. Will the equipment be co-located on an existing **FCC licensed** tower or other existing structure (building, billboard, etc.)? (y/n)\_\_\_\_\_ If yes, type of structure:\_\_\_\_\_

If yes, no further information is required.

4. If no, provide proposed specifications for new tower:

Height: \_\_\_\_\_ Construction type (lattice, monopole, etc.):\_\_\_\_\_

\_\_\_\_\_

Guy-wired? (y/n)\_\_\_\_\_ No. bands:\_\_\_\_\_ Total No. Wires:\_\_\_\_\_

Lighting (Security & Aviation):\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If tower will be lighted or guy-wired, complete items 5-19. If not, complete only items 19 and 20.

5. Area of tower footprint in acres or square feet:\_\_\_\_\_

6. Length and width of access road in feet:\_\_\_\_\_

7. General description of terrain - mountainous, rolling hills, flat to undulating, etc. Photographs of the site and surrounding area are beneficial:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Meteorological conditions (incidence of fog, low ceilings, etc.):\_\_\_\_\_

\_\_\_\_\_

9. Soil type(s):\_\_\_\_\_

10. Habitat types and land use on and adjacent to the site, by acreage and percentage of total:

\_\_\_\_\_

\_\_\_\_\_

---

---

11. Dominant vegetative species in each habitat type: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Average diameter breast height of dominant tree species in forested areas: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. Will construction at this site cause fragmentation of a larger block of habitat into two or more smaller blocks? (y/n) \_\_\_\_\_ If yes, describe: \_\_\_\_\_

\_\_\_\_\_

14. Is evidence of bird roosts or rookeries present? (y/n) \_\_\_\_\_ If yes, describe: \_\_\_\_\_

\_\_\_\_\_

15. Distance to nearest wetland area (forested swamp, marsh, riparian, marine, etc.), and coastline if applicable: \_\_\_\_\_

16. Distance to nearest telecommunications tower: \_\_\_\_\_

17. Potential for co-location of antennas on existing towers or other structures: \_\_\_\_\_

\_\_\_\_\_

18. Have measures been incorporated for minimizing impacts to migratory birds? (y/n) \_\_\_\_\_

If yes, describe: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

19. Has an evaluation been made to determine if the proposed facility may affect listed or proposed endangered or threatened species or their habitats as required by FCC regulation at CFR 1.1307(a)(3)? (y/n) \_\_\_\_\_ If yes, present findings: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

20. Additional information required:



# Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25

500 Lafayette Road

St. Paul, Minnesota 55155-40\_\_

Phone: (651) 296-7863

Fax: (651) 296-1811

E-mail: sarah.hoffmann@dnr.state.mn.us

RECEIVED

AUG 14 2003

HDR Engineering, Inc.

August 12, 2003

Michelle Bissonnette  
HDR Engineering, Inc.  
6190 Golden Hills Drive  
Minneapolis, MN 55416-1567

Re: Request for Natural Heritage information for vicinity of proposed Ivanhoe Wind Farm  
NHNR Contact #: ERDB 20020629-2

County	Township (N)	Range (W)	Sections
Lincoln	109	46	1-23
Lincoln	109	47	1,12,13,24
Lincoln	110	46	19,21,22,27-35
Lincoln	110	47	24,25,36

Dear Ms. Bissonnette,

We have re-reviewed the Minnesota Natural Heritage Database to determine if there are any additional rare feature concerns related to the proposed Ivanhoe Wind Farm development. We do not have any additional information for this area at this time. As noted in your July 21, 2003 letter, we have requested that the project area be surveyed for the presence of native prairie. Please forward the results of any survey work to my attention. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Sarah D. Hoffmann  
Endangered Species Environmental Review Coordinator

encl: Invoice

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929

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IVANHOE WIND FARM  
 T109N R46W & R47W, T110N R46W & R47W, LINCOLN COUNTY  
 MnDNR, Natural Heritage and Nongame Research Program

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T109N	R45W	07		THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #37	HOLE-IN-THE-MOUNTAIN COUNTY PARK
T109N	R45W	07		SPC		OARISMA POWESHEIK (POWESHEIK SKIPPER) #18	HOLE-IN-THE-MOUNTAIN COUNTY PARK
T109N	R45W	18		THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #39	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	18		SPC		OARISMA POWESHEIK (POWESHEIK SKIPPER) #14	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	18		SPC		OARISMA POWESHEIK (POWESHEIK SKIPPER) #150	
T109N	R45W	18		SPC		SPEYERIA IDALIA (REGAL FRITILLARY) #11	
T109N	R45W	19		SPC		ANTENNARIA PARVIFOLIA (SMALL-LEAVED PUSSYTOBS) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		ARISTIDA PURPUREA VAR. LONGISETA (RED THREE-AMN) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		ARISTIDA PURPUREA VAR. LONGISETA (RED THREE-AMN) #6	
T109N	R45W	19		SPC		ATRYTONE AROGOS (AROGOS SKIPPER) #15	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		ATRYTONE AROGOS (AROGOS SKIPPER) #44	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		BOTRYCHIUM CAMPESTRE (PRAIRIE MOONWORT) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		CYPRIPEDIUM CANDIDUM (SMALL WHITE LADY'S-SLIPPER) #132	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC	S3	DRY PRAIRIE (SOUTHWEST) HILL SUBTYPE #30	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		HABRONATTUS TEXANUS (A SPECIES OF JUMPING SPIDER) #2	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #32	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #40	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		HESPERIA LEONARDUS PAWNEE (PAWNEE SKIPPER) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		THR		HESPERIA OTTOE (OTTOE SKIPPER) #9	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		END		HESPERIA UNCAS (UNCAS SKIPPER) #3	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		OARISMA POWESHEIK (POWESHEIK SKIPPER) #13	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		OARISMA POWESHEIK (POWESHEIK SKIPPER) #17	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		PHIDIPPUS PIUS (A SPECIES OF JUMPING SPIDER) #1	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		SOLIDAGO MOLLIS (SOFT GOLDENROD) #5	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		SPEYERIA IDALIA (REGAL FRITILLARY) #12	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R45W	19		SPC		SPEYERIA IDALIA (REGAL FRITILLARY) #161	HOLE-IN-THE-MOUNTAIN PRAIRIE
T109N	R46W	04	LE	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #62	
T109N	R46W	18	LE	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #33	
T109N	R47W	13	LE	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #60	
T110N	R46W	27	LE	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #64	
T110N	R46W	31	LE	SPC		NOTROPIS TOPEKA (TOPEKA SHINER) #63	



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Twin Cities Field Office  
4101 East 80th Street  
Bloomington, Minnesota 55425-1665

RECEIVED

FEB 27 2002

FEB 28 2002

HDR Engineering, Inc.

Ms. Michelle Bissonnette  
Senior Environmental Consultant  
HDR Engineering  
6190 Golden Hills Drive  
Minneapolis, Minnesota 55416

Dear Ms. Bissonnette:

We have reviewed your letter dated January 18, 2002, requesting threatened and endangered species review for a proposed 51-megawatt wind farm. Navitas Energy and PacifiCorp Power Marketing are proposing to construct 28-34 turbines in Lincoln County, Minnesota.

The Topeka shiner, listed as endangered under the Endangered Species Act of 1973, as amended, has been documented in the following locations within the potential project area:

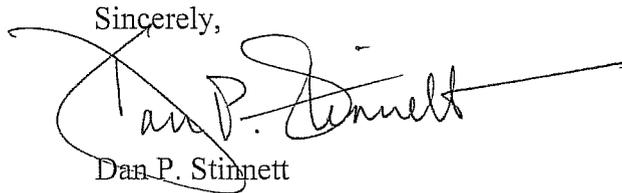
T109N, R46W, Sections 4 and 18  
T109N, R47W, Section 13  
T110N, R46W, Sections 27 and 31

As you determine specific turbine locations and the potential for riparian habitat disturbance and/or creek crossings, please contact this office again to ensure that the Topeka shiner is not impacted by the proposed project. In addition, we recommend that you locate the turbines on disturbed sites such as previous agricultural fields or gravel pits to avoid impacting remnant native prairie in the proposed project area. This type of habitat has become increasingly rare and valuable in Minnesota and all efforts should be made to conserve it.

The Fish and Wildlife Service has generated guidelines to lessen the impact of cell towers on migratory birds and raptors. Although these guidelines are not specific to wind turbines, a copy is enclosed as they may be helpful in your determination regarding placement and operation of the turbines given their similarity in potential for bird strikes (e.g., height, concentration on the landscape). We understand that the proposed wind farm would be constructed south of an existing wind-power facility and some of these measures may already be in effect.

We appreciate the opportunity to comment on the proposed project. If you have questions regarding our comments, please contact Ms. Laurie Fairchild at (612) 725-3548, extension 214.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan P. Stinnett", with a long horizontal flourish extending to the right.

Dan P. Stinnett

Enclosure

cc: Big Stone NWR  
Victoria Poage, MNDNR



MINNESOTA HISTORICAL SOCIETY

RECEIVED

AUG 25 2003

HDR Engineering, Inc.

August 21, 2003

Ms. Michelle Bissonnette  
HDR Engineering  
6190 Golden Hills Drive  
Minneapolis, MN 55416-1567

Re: Ivanhoe Wind Farm  
T109 R46 S1-23  
T109 R47 S1, 12, 13, 24  
T110 R46 S19, 21, 22, 27-35  
T110 R47 S24, 25, 26  
Lincoln County  
SHPO Number: 2003-3240

Dear Ms. Bissonnette:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We recommend that a cultural resource survey of the area be completed. The survey must meet the requirements of the Secretary of the Interior's Standards for Identification and Evaluation, and should include an evaluation of National Register eligibility for any properties that are identified.

If you have any questions or concerns, contact us at 651-296-5462.

Sincerely,

 Dennis A. Gimmestad  
Government Programs & Compliance Officer

RECEIVED

AUG - 8 2003

HDR Engineering, Inc.

August 4, 2003

MICHELLE F. BISSONNETTE  
HDR ENGINEERING, INC.  
6190 GOLDEN HILLS DRIVE  
MINNEAPOLIS MN 55416-1567

**SECTION 106 PROJECT CONSULTATION – IDENTIFICATION/EVALUATION**

Project: 030718014F – PPM Energy, South Dakota Wind Farm, T11N, R47W and 48W, Section 4, 5, 8-10, 15-22, 27-34

Location: Brookings County

Dear Ms. Bissonnette:

The Office of the State Historic Preservation Officer (SHPO) is currently unable to make a determination concerning the effect of your proposed undertaking on the non-renewable cultural resources of South Dakota. Your letter does not include adequate documentation for our office to comment on the possible effect of your agency's undertaking on historic properties.

Your letter received on July 18, 2003, indicates that the proposed Federal action is an undertaking as defined in 36 CFR part 800.16(y) and is a type of activity that has the potential to cause effects on historic properties (36 CFR part 800.3(a)). Furthermore, it is the responsibility of the federal agency to identify historic properties, evaluate their historic significance, and apply the criteria of adverse effect pursuant to 36 CFR part 800.

The role of the South Dakota SHPO is to review the federal agency's documentation regarding determinations of eligibility of historic properties and effect of the federal agency's undertaking on those properties. In order for our office to provide meaningful comment as to the effect of the federal undertaking the federal agency will need to provide documentation consistent with the standards outlined in 36 CFR part 800.11. The submission of documentation that fulfills the requirements of 36 CFR 800.11 will help to ensure that your agency has supplied adequate information for the SHPO to concur with your agency's determination of effect.

To aid you in providing complete information I have enclosed 36 CFR part 800.11 (documentation standards), a flow chart outlining the section 106 process and responsibilities of the federal agency, "Information Needed for Section 106 Project Review" and "*Protecting Historic Properties: A Citizen's Guide to Section 106 Review.*" The submission of documentation that fulfills the requirements of 36 CFR 800.11 will help to ensure that your agency has supplied adequate information for the SHPO to concur with your agency's determination of effect.

Please note: while 36 CFR part 800 allows the federal agency to delegate the responsibility to prepare information for compliance with section 106 to applicants and contractors the federal agency official remains responsible for all findings and determinations.

Your assistance in providing complete information will help to ensure that your projects can be reviewed in a timely manner. Our office will respond to proposed undertakings within 30 calendar days of the receipt of complete information pertaining to the project. Given that projects are reviewed in the order that complete information is received, a failure to supply all needed information may cause a delay in the review of your proposal.

Should you require any additional information, please do not hesitate to contact Paige Hoskinson, Review & Compliance Coordinator, at (605) 773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated. The full text of 36 CFR part 800 is available on the Advisory Council on Historic Preservation's web page at [www.achp.gov](http://www.achp.gov).

Sincerely,

Jay D. Vogt  
State Historic Preservation Officer

A handwritten signature in cursive script that reads "Paige Hoskinson". The signature is written in dark ink and is positioned above the printed name and title.

Paige Hoskinson  
Review & Compliance Coordinator

## The Revised Section 106 Process: A Summary

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the Council. These regulations, "Protection of Historic Properties," were revised in May, 1999 and are summarized below. They will be codified at 36 C.F.R. Part 800.

### Initiate Section 106 process

The responsible Federal agency first determines whether it has an undertaking that could affect historic properties, which are properties that are included in or that meet the criteria for the National Register of Historic Places. If so, it must identify the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) to consult with during the process. It should also plan to involve the public, and identify other potential consulting parties. If it determines that it has no undertaking, or that its undertaking has no potential to affect historic properties, the agency has no further Section 106 obligations.

### Identify historic properties

If the agency's undertaking could affect historic properties, the agency determines the scope of appropriate identification efforts and then proceeds to identify historic properties in the area of potential effects. The agency reviews background information, consults with the SHPO/THPO and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. Districts, sites, buildings, structures, and objects listed in the National Register are considered; unlisted properties are evaluated against the National Park Service's published criteria, in consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them.

If questions arise about the eligibility of a given property, the agency may seek a formal determination of eligibility from the National Park Service. Section 106 review gives equal consideration to properties that have already been included in the National Register as well as those that meet National Register criteria.

If the agency finds that no historic properties are present or affected, it provides documentation to the SHPO/THPO and, barring any objection in 30 days, proceeds with its undertaking.

If the Agency finds that historic properties are present, it proceeds to assess possible adverse effects.

### Assess adverse effects

The agency, in consultation with the SHPO/THPO, makes an assessment of adverse effects on the identified historic properties based on criteria found in the Council's regulations.

If they agree that there will be **No Adverse Effect**, the agency proceeds with the undertaking and any agreed upon conditions.

If the parties cannot agree or they find that there is an **Adverse Effect**, the agency begins consultation to identify ways to avoid, minimize, or mitigate adverse effects.

### Resolve adverse effects

The agency consults with the SHPO/THPO and others, who may include Indian tribes and Native Hawaiian organizations, local governments, permit or license applicants, and members of the public. The Council may participate in consultation when there are substantial impacts to important historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Indian tribes or Native Hawaiian organizations.

Consultation usually results in a Memorandum of Agreement (MOA), which outlines agreed upon measures that the agency will take to avoid, minimize, or mitigate the adverse effect. In some cases, the consulting parties may agree that no such measures are possible, but that the adverse effects must be accepted in the public interest.

### Implementation

If an MOA is executed, the agency proceeds with its undertaking under the terms of the MOA.

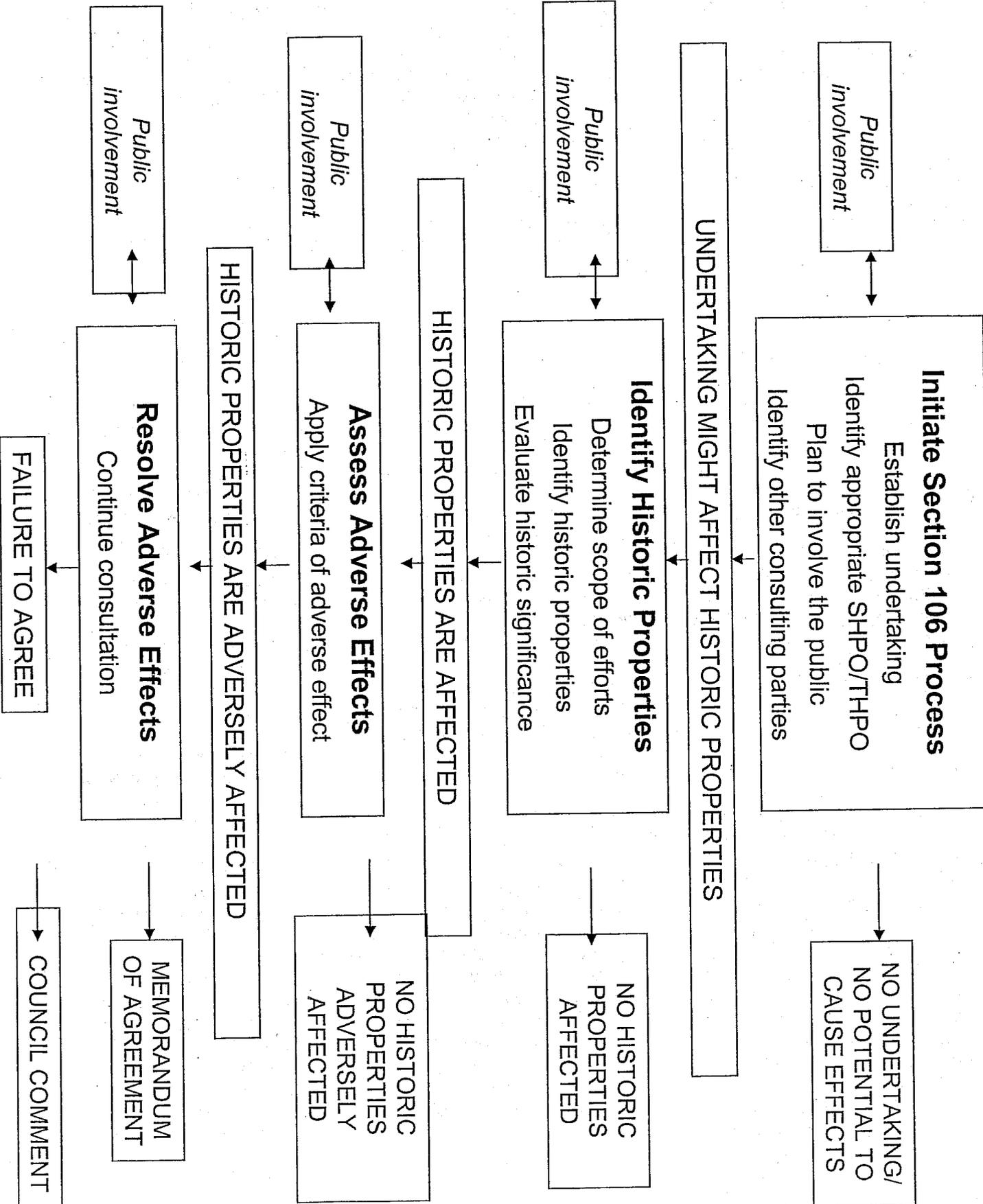
### Failure to resolve adverse effects

If consultation proves unproductive, the agency or the SHPO/THPO, or the Council itself, may terminate consultation. If an SHPO terminates consultation, the agency and the Council may conclude an MOA without SHPO involvement. However, if a THPO terminates consultation and the undertaking is on or affecting historic properties on tribal lands, the Council must provide its comments. The agency must submit appropriate documentation to the Council and request the Council's written comments. The agency head must take into account the Council's written comments in deciding how to proceed.

### Tribes, Native Hawaiians, & the public

Public involvement is a key ingredient in successful Section 106 consultation, and the views of the public should be solicited and considered throughout the process.

The regulations also place major emphasis on consultation with Indian tribes and Native Hawaiian organizations, in keeping with the 1992 amendments to NHPA. Consultation with an Indian tribe must respect tribal sovereignty and the government-to-government relationship between the Federal government and Indian tribes. Even if an Indian tribe has not been certified by NPS to have a THPO that can act for the SHPO on its lands, it must be consulted about undertakings on or affecting its lands on the same basis and in addition to the SHPO.



## Sec. 800.11 Documentation standards.

(a) *Adequacy of documentation.* The agency official shall ensure that a determination, finding, or agreement under the procedures in this subpart is supported by sufficient documentation to enable any reviewing parties to understand its basis. The agency official shall provide such documentation to the extent permitted by law and within available funds. When an agency official is conducting phased identification or evaluation under this subpart, the documentation standards regarding description of historic properties may be applied flexibly. If the Council, or the SHPO/THPO when the Council is not involved, determines the applicable documentation standards are not met, the Council or the SHPO/THPO, as appropriate, shall notify the agency official and specify the information needed to meet the standard. At the request of the agency official or any of the consulting parties, the Council shall review any disputes over whether documentation standards are met and provide its views to the agency official and the consulting parties.

(b) *Format.* The agency official may use documentation prepared to comply with other laws to fulfill the requirements of the procedures in this subpart, if that documentation meets the standards of this section.

(c) *Confidentiality.*

(1) *Authority to withhold information.* Section 304 of the act provides that the head of a Federal agency or other public official receiving grant assistance pursuant to the act, after consultation with the Secretary, shall withhold from public disclosure information about the location, character, or ownership of a historic property when disclosure may cause a significant invasion of privacy; risk harm to the historic property; or impede the use of a traditional religious site by practitioners. When the head of a Federal agency or other public official has determined that information should be withheld from the public pursuant to these criteria, the Secretary, in consultation with such Federal agency head or official, shall determine who may have access to the information for the purposes of carrying out the act.

(2) *Consultation with the Council.* When the information in question has been developed in the course of an agency's compliance with this part, the Secretary shall consult with the Council in reaching determinations on the withholding and release of information. The Federal agency shall provide the Council with available information, including views of the SHPO/THPO, Indian tribes and Native Hawaiian organizations, related to the confidentiality concern. The Council shall advise the Secretary and the Federal agency within 30 days of receipt of adequate documentation.

(3) *Other authorities affecting confidentiality.* Other Federal laws and program requirements may limit public access to information concerning an undertaking and its effects on historic properties. Where applicable, those authorities shall govern public access to information developed in the section 106 process and may authorize the agency official to protect the privacy of non-governmental applicants.

(d) *Finding of no historic properties affected.* Documentation shall include:

- (1) A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps, drawings, as necessary;
- (2) A description of the steps taken to identify historic properties, including, as appropriate, efforts to seek information pursuant to Sec. 800.4(b); and
- (3) The basis for determining that no historic properties are present or affected.

(e) *Finding of no adverse effect or adverse effect.* Documentation shall include:

- (1) A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps, and drawings, as necessary;
- (2) A description of the steps taken to identify historic properties;
- (3) A description of the affected historic properties, including information on the characteristics that qualify them for the National Register;
- (4) A description of the undertaking's effects on historic properties;
- (5) An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize or mitigate adverse effects; and
- (6) Copies or summaries of any views provided by consulting parties and the public.

(f) *Memorandum of agreement.* When a memorandum of agreement is filed with the Council, the documentation shall include, any substantive revisions or additions to the documentation provided the Council pursuant to Sec. 800.6(a)(1), an evaluation of any measures considered to avoid or minimize the undertaking's adverse effects and a summary of the views of consulting parties and the public.

(g) *Requests for comment without a memorandum of agreement.* Documentation shall include:

- (1) A description and evaluation of any alternatives or mitigation measures that the agency official proposes to resolve the undertaking's adverse effects;
- (2) A description of any reasonable alternatives or mitigation measures that were considered but not chosen, and the reasons for their rejection;
- (3) Copies or summaries of any views submitted to the agency official concerning the adverse effects of the undertaking on historic properties and alternatives to reduce or avoid those effects; and
- (4) Any substantive revisions or additions to the documentation provided the Council pursuant to Sec. 800.6(a)(1).

Please include the following information when submitting a request for project review under Section 106 of the National Historic Preservation Act (NHPA) to the State Historic Preservation Officer (SHPO) at the South Dakota State Historical Society, 900 Governors Drive, Pierre, SD 57501:

- 1. Name of Federal Agency Funding, Licensing, or Assisting the Projects:** Every project has a federal funding, licensing or permitting agency. Include the name, address, and telephone number of the contact person at the federal agency. A federal agency or federally delegated authority contact is mandatory. [800.1]
- 2. Name of State Agency Funding, Licensing, or Assisting the Project, if Applicable:** Include the name, address and telephone number of the contact person at the state agency. If this is a grant program note the name of the program (i.e. CDBG, SRF, etc).
- 3. Consultant Contact Person, if Applicable:** If your organization is not a federal agency, include the name, address, and telephone number of the contact person to whom questions may be directed. Please be aware that consultants are not recognized as federally delegated authorities. The SHPO will not issue opinions of effect to consultants. To complete the review process, federal or federally delegated contact information is mandatory. [800.2(c)]
- 4. Project Description:** A description of the project that identifies and explains any work that will involve disturbance of the ground, or the demolition or modification of any existing buildings. If no ground disturbance, demolition, or modification of existing structures will take place, please say so. If the area has been previously disturbed by activities other than agriculture please include this information. For projects that involve new construction on vacant land include information as to what previously occupied the site and whether that site has any known historic or archaeological significance. [800.4]
- 5. Project Location:**
  - Address;
  - City;
  - County; and
  - Section, Township, Range

**Maps of Project Area:** UNITED STATES GEOLOGICAL SERVICE quad map(s)\* on as large a scale as possible (7.5 minute quad maps preferred), showing the exact location of the project. If the project is located in an urban area the location(s) should also be shown on a city map. On any quad map submitted for review, **THE NAME OF THE QUAD MAP** and **LEGAL LOCATION MUST BE INDICATED**. Photocopies are acceptable, however, poor quality maps or insufficient information will cause review delays.

- 6. Indicate the Project's Area of Potential Effect:** The area of potential effect must be highlighted on the localized map. Describe the steps taken to identify the area of potential effects and justify the boundaries chosen. The area of potential effects is defined as the geographic area or areas within which an undertaking may directly, or indirectly, cause changes in the character or use of historic properties. In most instances, the area of potential effects is not simply the project's physical boundaries or right-of-way. The area of potential effects is influenced by the scale and nature of an undertaking. [800.4(a)(1)] [800.16(d)]
- 7. Identification of Historic Properties:** A historic property is defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places." It is the responsibility of the federal agency or delegated authority to make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history, interviews, sample field investigations, and field survey. [800.16 (1)(I)] [800.4(b)(1)] The SHPO does not conduct background research.

**Projects potentially affecting archaeological sites:** Recommended documentation should include [800.4(b)(1)] [800.11];

- Records search for all previously known archaeology surveys and sites; and
- On-the-ground survey of proposed project area not previously surveyed. Survey type dependent on scope of project; and
- Updated archaeology site forms for all sites affected by the proposed project.

- Complete the appropriate historic sites survey form for each property to be affected; and
- **Photographic documentation:** Clear, original photographs of any affected buildings/structures constructed more than 49 years ago. An overall front view of each structure is required, as well as any other views necessary to fully describe the structure(s) and the proposed undertaking; and
- **Architectural drawings:** as necessary to describe the project and its impact.

**8. Determination of effect:** The federal agency or federally delegated authority is required to submit a determination of effect:

- For a determination of: **no historic properties affected** [36 CFR part 800.4(d)(1)], if the agency official finds that either there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in Sec. 800.16(i), the agency official shall provide documentation of this finding, as set forth in Sec. 800.11(d), to the SHPO.
- For a determination of: **adverse effect** [36 CFR Part 800.5(a)(1)], an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.
- For a determination of: **no adverse effect** [36 CFR part 800.5(b)], the agency official, in consultation with the SHPO/THPO, may propose a finding of no adverse effect when the undertaking's effects do not meet the criteria of 36 CFR Part 800.5(a)(1) or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.

Project information submitted by the agency or agency's designee, including photographs, is not returned but is kept on file at the South Dakota State Historical Society, Historic Preservation Office. Submission of incomplete, unclear or confusing project information will result in delay of the review process until accurate information is obtained.

Faxed and electronic submissions will be reviewed in the same manner as any other submission and with the same considerations for clarity and completeness. These types of correspondence must be followed by original documents.

Well in advance of the beginning of construction activities it is the responsibility of the agency official to make sure that surveys requested as a result of the above review are carried out. A report must then be completed and sent to the SHPO and to the office of the state archaeologist at the Archaeological Research Center (ARC), PO Box 1257, Rapid City SD 57709-1257 explaining the results of the survey. The involvement of the SHPO early in the planning process will allow the federal agency adequate time to complete their obligations under section 106 of the National Historic Preservation Act (NHPA).

\*USGS 7.5 minute series quad maps cover the entire state of South Dakota. Information on purchasing these maps can be obtained on the internet at <<http://mapping.usgs.gov/mac/maplists.html>> To determine which USGS map you need go to the clickable online map at <<http://www.sdgs.usd.edu/map3.html>> These maps can also be purchased from the following businesses in South Dakota:

#### ADDITIONAL CONTACT INFORMATION

South Dakota State Historic Preservation Website - [www.sdhistory.org/histpres.htm](http://www.sdhistory.org/histpres.htm)

- State Register Listed Properties

Advisory Council on Historic Preservation - [www.achp.gov](http://www.achp.gov)

- National Historic Preservation Act of 1966 as amended

National Park Service - [www.nr.nps.gov/](http://www.nr.nps.gov/)

- National Register Data Base

Archaeological Research Center - (605)394-1936

- Record Search Information

State Archives - [www.sdhistory.org/archives.htm](http://www.sdhistory.org/archives.htm)

- Historic photographs
- Additional Historical Information

For additional information regarding properties listed in the State or National Register of Historic Places and previously surveyed properties contact Michelle Saxman at (605)773-3458.

To: Tim Seck	
From: Erika Palmer and Sarah Emery	Project: PPM MinnDakota Wind Farm
CC: Michael Madson and Michael Justin	
Date: January 17, 2006	Job No: 33400

**RE: MinnDakota Wind Farm Cultural Resources Literature Review**

This memorandum documents the cultural resources data collection (Phase Ia Inventory) for the proposed MinnDakota Wind Farm project. HDR Engineering, Inc. (HDR) initiated this data collection in December 2005 to assist PPM Energy, Inc. (PPM) in project planning. The known cultural resources information, derived from previous professional cultural resources surveys and reported site leads, was collected from the State Historic Preservation Office (SHPO) in St. Paul, Minnesota. Collected data includes archaeological site files and previous cultural resources studies and reports. In addition, HDR reviewed 19<sup>th</sup>-century Public Land Survey (PLS) maps to identify potential historic-period cultural features that may yet exist in the project area.

*Cultural Background*

The proposed project area lies within the Southwest Riverine and Prairie Lake Archaeological Regions (Anfinson 1990). The Southwest Riverine Archaeological Region includes a small portion of Lincoln County, Minnesota as well as sections of southeastern South Dakota, including Brookings County. This area comprises the southern portion of the project area. During the time of Euroamerican settlement, the landscape was devoid of lakes and trees and consisted mostly of tallgrass prairie and numerous streams. Soils consist mostly of fine silty loams. Predicted habitation site locations for this region include areas along major streams on terraces. Due to the scarcity of a diverse subsistence resource base and a lack of wood, Woodland period sites are most likely uncommon (Anfinson 1990). Resource procurement sites and special use sites may be located within all areas of this region. In addition, mound sites and earthworks would most likely be on hilltops near rivers or on high river terraces.

The Prairie Lake Archaeological Region covers the northern portion of the project area, including the remainder of Lincoln County and most of southwestern and south-central Minnesota. Topography includes typical swell and swale topography of a ground moraine. Soils within the project area consist of medium to fine textured prairie soils. Habitation sites in this region are commonly located near wooded areas, near major lakes or river valleys. Resource procurement sites may be located in upland settings, but more commonly would be found along areas near waters edge.

*Cultural Resources Reports and Sites*

HDR reviewed existing cultural resources documentation for the following townships that comprise the MinnDakota Wind Farm project area in Minnesota (Table 1).

State	Township Name	Township	Range	Section
MN	Lake Hendricks	111N	47W	24-25, 36
MN	Shaokatan	111 N	46 W	19, 30-31
MN	Richland	110N	47W	1, 12-13, 24-25, 36
MN	Drammen	110 N	46 W	6, 7, 13-15, 18-23, 26-36
MN	Verdi	109 N	46 W	1-18

The Phase Ia inventory documented 11 previous cultural resources reports documenting six cultural resources investigations within the project area (Table 2). Several of these reports pertain to investigations conducted in support of wind farm construction.

Table 2. Previous Cultural Resources Investigations in the Project Area and Vicinity.

Survey Report Date	Report Title	Author(s)/Association	Comment	Associated Sites
1911	<i>The Aborigines of North America</i>	N.H. Winchell	Within one mile of project area	21LN000l, 21LN000j, 21LN0003, 21LN0004
1940	<i>Lincoln County Memos</i>	Lloyd Wilford	Within one mile of project area	21LN0003, 21LN0004
1997	<i>CRM Investigation: Northern States Power's Wind Generation Resources, 110MW Phase II Project, Lincoln County, Minnesota, Phase I Survey Report, Vol. 2 (Alphas &amp; Charlie Project Areas)</i>	Amy L. Ollendorf	Inside project area	21LN0030, 21LN0033, 21LN0034, 21LN0035
1997	<i>CRM Investigation: Northern States Power's Wind Generation Resources, 110MW Phase II Project, Lincoln County, Minnesota, Phase I Survey Report, Vol. 1 (Bravo Area)</i>	Amy L. Ollendorf	Inside project area	21LN0031, 21LN0032
1997	<i>CRM Investigation: Northern States Power's Wind Generation Resources, 110MW Phase II Project, Lincoln County, Minnesota, Phase I Survey Report (Addendum)</i>	Amy L. Ollendorf	Inside project area	21LN0036
1980	<i>Cultural Resources Literature Search and Records Review of the Upper Minnesota River Subbasin Southwestern Minnesota and Northeastern South Dakota</i>	Archaeological Field Services, Inc.	Literature review completed inside the project area	21LN0003, 21LN0004
1998	<i>Draft Report: Cultural Resources Management Investigation: Micon and Vestas Wind Generation Projects, Lincoln County, Minnesota Phase I Investigation</i>	Randy J. Peterson and Amy L. Ollendorf	Inside project area	21LN0037, 21LN0038, 21LN0039, 21LN0040
1998	<i>Draft Report: Cultural Resources Management Investigation: Micon and Vestas Wind Generation Projects, Lincoln County, Minnesota Phase I Investigation; Addendum</i>	Randy J. Peterson and Amy L. Ollendorf	Inside project area	21LN0037, 21LN0038, 21LN0039, 21LN0040
1998	<i>Draft Report: Cultural Resources Management Investigation: Micon and Vestas Wind Generation Projects, Lincoln County, Minnesota Phase II Site Evaluations</i>	Randy J. Peterson and Amy L. Ollendorf	Inside project area	21LN0038, 21LN0039, 21LN0040
1999	<i>Final Report: Cultural Resources Management Investigation: Micon and Vestas Wind Generation Projects, Lincoln County, Minnesota Phase II Site Evaluations</i>	Randy J. Peterson and Amy L. Ollendorf	Inside project area	21LN0038, 21LN0039, 21LN0040
1999	<i>Final Report: Cultural Resources Management Investigation: Micon and Vestas Wind Generation Projects, Lincoln County, Minnesota Phase I Investigation</i>	Randy J. Peterson and Amy L. Ollendorf	Inside project area	21LN0037, 21LN0038, 21LN0039, 21LN0040

Previous investigations in the project area documented 15 archaeological resources, including lithic scatters, pre-contact and post-contact artifact scatters, earthworks and Native American forts (Table 3). The Native American forts are noted as “embankments, ditches, lunettes and pits, located on a bluff” (21LNI) and “a ditch and an embankment enclosing a small area” (21LNj) (Winchell 1911). Three resources are within the MinnDakota Wind Farm project area and 12 resources are within one mile.

Site Number	Site Type	Comment	NRHP Status
21LN0003	Pre-contact mounds	Within one mile project area	Unknown
21LN0004	Pre-contact mounds	Within one mile of project area	Unknown
21LN0030	Pre-contact lithic scatter	Within one mile of project area	Unknown
21LN0031	Pre-contact lithic and artifact scatter	Within one mile of project area	Unknown
21LN0032	Pre-contact lithic scatter	Within one mile of project area	Unknown
21LN0033	Pre-contact lithic scatter	Within one mile of project area	Unknown
21LN0034	Pre-contact and post-contact artifact scatter	Within one mile of project area	Unknown
21LN0035	Pre-contact and post-contact artifact scatter	Within one mile of project area	Unknown
21LN0036	Pre-contact lithic scatter	Within one mile of project area	Unknown
21LN0037	Pre-contact isolated find and razed farmstead	Within one mile of project area	Unknown
21LN0038	Pre-contact lithic scatter	Inside project area	Recommended eligible (Peterson et al 1999)
21LN0039	Pre-contact lithic scatter	Inside project area	Recommended not eligible (Peterson et al 1999)
21LN0040	Pre-contact lithic scatter	Inside project area	Recommended not eligible (Peterson et al 1999)
21LN000i	Native American fort	Within one mile of project area	Unknown
21LN000j	Native American fort	Within one mile of project area	Unknown

### Public Land Survey Map Review

HDR reviewed PLS maps for the project areas (Table 4). The maps illustrate environmental conditions, including elevation variations across the landscape and watercourses, during the early 1880s. The maps indicate intensive historic-period land use south, east, and west of the project area, including roads, active farmsteads and cultivated acreages.

Township Name	Township	Range	PLS Dates (Commenced-Completed)	Cultural Features/Location
Shaokatan	111 N	46 W	1866-1871	None
Drammen	110 N	46 W	1866-1871	Cultivated field in Sections 25-26, 29-32 and 35-36
Verdi	109 N	46 W	1858-1871	House and cultivated field in Section 12, roads traveling through Sections 17-18 and

Table 4. Public Land Survey Map Data.				
Township Name	Township	Range	PLS Dates (Commenced-Completed)	Cultural Features/Location
				12-15

*SHPO Correspondence (see attached)*

A letter was sent to the Minnesota SHPO on July 21, 2003 requesting a review of the proposed project area and potential impacts to cultural resources. HDR received a response on August 25, 2003, stating that the SHPO recommended the completion of a cultural resources survey prior to project construction.

As the project area expanded, a second letter was sent to the Minnesota SHPO on December 12, 2005. This letter requested a review of the proposed project and potential impacts to cultural resources. HDR received a response on January 27, 2006, stating that the SHPO still recommended completion of a cultural resources survey prior to project construction.

*Implications for Archaeological Resources*

After review of the recorded archaeological site information and the information in previous survey reports, HDR suggests that the project area has a relatively high potential for pre-contact archaeological resources on elevated landforms and areas within 150 meters of permanent water sources.

*Conclusions*

HDR recommends a Phase I archaeological resources survey for areas proposed for project construction; including wind turbine locations, associated access roads and other construction elements. These investigations must be conducted by a professional archaeologist meeting the Secretary of the Interior’s Standards for Archaeology as published in the Code of Federal Regulations, 36 CFR Part 6. Survey strategies would depend on surface exposure and the characteristics of the landforms proposed for development. After receiving the proposed turbine and access road locations, HDR archaeologists will design an appropriate survey strategy to review areas of high potential. These areas will most likely include portions of the project area within 150 meters of a permanent water source, areas of higher elevation and areas near previously identified cultural resources. If cultural resources are identified during the survey, HDR archaeologists will provide recommendations for National Register eligibility, and offer recommendations for site avoidance, impact minimization, or mitigation if necessary.