

**SOUTH DAKOTA PUBLIC UTILITIES COMMISSION**

**CASE NO. EL05-022**

**IN THE MATTER OF THE APPLICATION BY OTTER TAIL POWER COMPANY**

**ON BEHALF OF THE BIG STONE II CO-OWNERS**

**FOR AN ENERGY CONVERSION FACILITY SITING PERMIT FOR THE**

**CONSTRUCTION OF THE BIG STONE II PROJECT**

**PREFILED REBUTTAL TESTIMONY**

**OF**

**DANIEL JONES**

**ENVIRONMENTAL SCIENTIST**

**BARR ENGINEERING CO.**

**JUNE 9, 2006**



**PREFILED REBUTTAL TESTIMONY OF DANIEL JONES**

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1                   **BEFORE THE SOUTH DAKOTA UTILITIES COMMISSION**

2                   **PREFILED REBUTTAL TESTIMONY OF DANIEL JONES**

3   **I.     INTRODUCTION**

4   **Q:     Please state your name and occupation.**

5   A:     Daniel Jones, Environmental Scientist, Barr Engineering Co.

6   **Q:     Did you provide direct testimony in this proceeding?**

7   A:     Yes. My direct testimony is marked as Applicants' Exhibit 17.

8   **Q:     What is the purpose of this rebuttal testimony?**

9   A:     This testimony is being provided to respond to a comment in the May 19, 2006 Direct  
10 Testimony of Dr. Olesya Denney of QSI Consulting, Inc., on behalf of the Staff of the Public  
11 Utilities Commission of South Dakota. Specifically, in Table 2 on page 7 of Dr. Denney's  
12 testimony, she indicated a need to provide additional information on breeding times and  
13 migratory pathways.

14 **Q:     Has the requested additional information been provided through the discovery**  
15 **process?**

16 A:     Yes. I compiled information on migratory bird pathways and an overview of the  
17 phenology of representative bird species to respond to the Staff's Second Data Requests dated  
18 March 1, 2006. The information included two maps showing major migratory pathways in a  
19 regional and local context, and a table of the arrival, peak breeding and departure times of eight  
20 bird species representing waterfowl, wetland species, perching birds, birds of prey and grassland  
21 birds that are relatively common and widespread in the area around the Big Stone property.  
22 A copy of the two maps and the table referred to above are attached as Applicants' Exhibits  
23 37-A, 37-B, and 37-C.

1 **Q: Can you summarize the information that you compiled?**

2 A: As indicated on Applicants' Exhibit 37-A, the principal and merging legs of the  
 3 Mississippi Flyway pass within approximately 75 miles of the Big Stone property. A principal  
 4 leg of the Mississippi Flyway runs roughly 75 miles to the west-southwest. Also, as indicated on  
 5 Applicants' Exhibit 37-B, a route that merges the Mississippi Flyway with the Atlantic Flyway  
 6 runs approximately five miles to the northeast of the Big Stone property. Mapped migratory  
 7 flyways are not absolute, but are approximations of the general migratory paths that birds follow  
 8 during seasonal migrations. These paths tend to follow major rivers, and/or pass through areas  
 9 with frequent wetland and open water stopover opportunities. It is likely that migratory birds,  
 10 especially waterfowl, utilize the numerous small wetlands in the surrounding Big Stone area, as  
 11 well as the existing ponds, during seasonal migrations. Applicants' Exhibit 37-C illustrates the  
 12 variation in the timing of seasonal migrations between species. In general, birds migrate through  
 13 the Big Stone area northward in the early spring, and southward in early autumn. Peak breeding  
 14 times vary with species and with habitat types, but in general, species in the vicinity of the Big  
 15 Stone property breed between April and July. Waterfowl and birds of prey tend to breed near the  
 16 early end of that range, and perching birds tend to breed near the later end of the range.

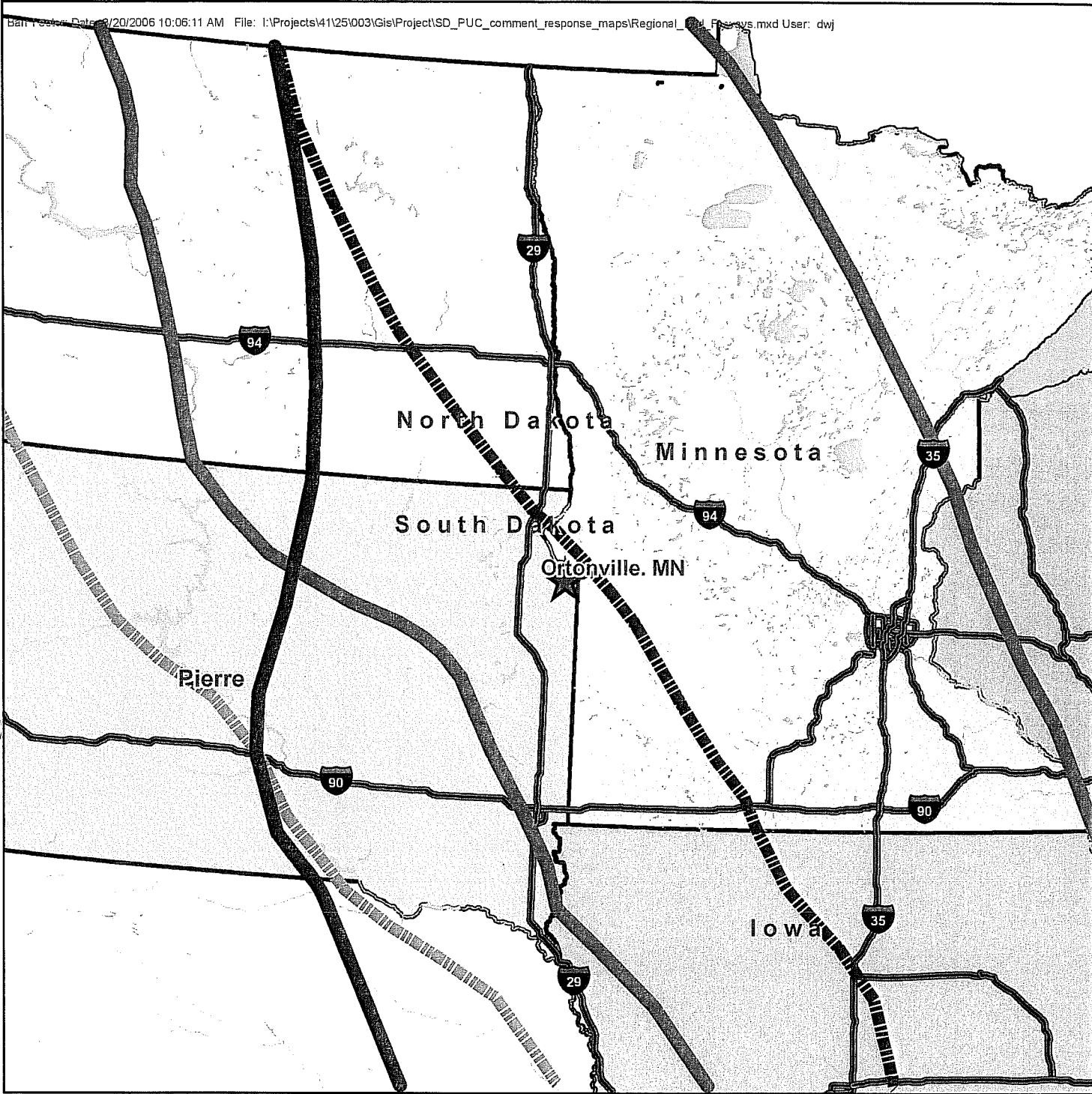
17 **Q: How did you obtain and analyze information relevant to your work?**

18 A: The flyways shown on the maps that I prepared were digitized from North American  
 19 Flyway maps available at [www.birdnature.com](http://www.birdnature.com), and from information obtained from the US Fish  
 20 & Wildlife Service (USFWS) Region 6 website. Information on the timing of seasonal  
 21 migrations and peak breeding periods was obtained from the US Geological Service (USGS)  
 22 Northern Prairie Wildlife Research Center.


23 **Q: Does this conclude your testimony?**



1 A: Yes.



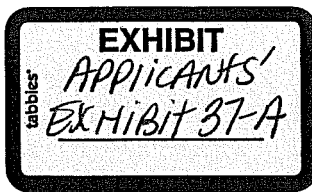
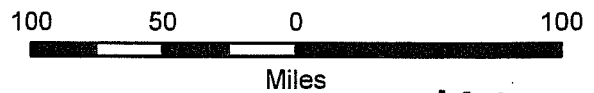
### Legend

-  merging w/Atlantic Flyway
-  merging w/ Central Flyway
-  principal Mississippi Route
-  principal Central Route
-  Interstate Highway
-  Plant Site

### Exhibit SDR-15a Regional Bird Flyways

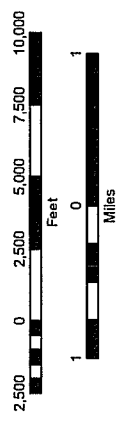
Big Stone II Project  
Big Stone Co-owners

Responses to SD PUC  
Second Data Request  
March 2006





- Property Boundary
- Project Features**
- | ID | Description                   |
|----|-------------------------------|
| 1  | Cooling Tower Blowdown Pond   |
| 2  | Cooling Tower                 |
| 3  | New Plant                     |
| 4  | Construction Parking          |
| 5  | Ethanol Plant                 |
| 6  | Construction Laydown          |
| 7  | Makeup Storage Pond           |
|    | Misc-Air flyway merging route |
|    | NWI Wetlands                  |
|    | Delineated wetlands           |



**Exhibit SDR-15b**  
**Proximity of Migratory Flyway**  
**to Project Site**

Big Stone II Project  
 Big Stone II Co-Owners  
 Responses to SD PUC  
 Second Data Request  
 March 2006

**EXHIBIT**  
**APPLICANTS'**  
**EXHIBIT 37-B**

**Table SDR-15. Breeding Phenology of Representative Bird Species near the Big Stone Property**

Common Name	Scientific Name	Habitat	Arrival	Peak breeding	Departure
Western meadowlark	<i>Sturnella neglecta</i>	Grassland, perching	Mid-March to mid-May	Early May to mid-July	Mid-October to Mid - November
Bobolink	<i>Dolichonyx oryzivorus</i>	Grassland	Late April to mid-May	Early June to mid-July	July to September
Savannah sparrow	<i>Passerculus sandwichensis</i>	Perching, grassland	Late March to early May	Early June to mid-July	Early September to October
Sora rail	<i>Porzana carolina</i>	Wetland	Mid-March to June	Early June to late July	Late July to early December
Blue-winged teal	<i>Anas discors</i>	Waterfowl	April-May	Late May	Late August to September
Red-tailed hawk	<i>Buteo jamaicensis</i>	Bird of prey	Late February to early March	March to June	Early October
Northern harrier	<i>Circus cyaneus</i>	Wetland, bird of prey	Late March to early April	April through July	August to November
Horned lark	<i>Eremophila alpestris</i>	Grassland	Late February to early March	Late April to late July	Late October to late November

Source: USGS Northern Prairie Wildlife Research Center

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EXHIBIT  
*APPLICANTS'*  
 EXHIBIT 37-C