



minnesota power

AN ALLETE COMPANY

30 west superior street / duluth, minnesota 55802-2093 / fax: 218-723-3955 / www.allete.com

David R. Moeller  
Senior Attorney  
218-723-3963  
dmoeller@allete.com

January 6, 2014

**VIA OVERNIGHT DELIVERY**

Mr. Darrel Nitschke  
Executive Secretary  
North Dakota Public Service Commission  
600 E. Boulevard Avenue, Department 408  
Bismarck, ND 58505-0480



RE: **Minnesota Power's Bison 3 Wind Project  
Case No. PU-11-162**

Dear Mr. Nitschke:

Minnesota Power previously communicated with North Dakota Public Service Commission Staff regarding the presence of a bald eagle's nest that was located in spring 2013 after Bison 3 was placed in-service. This eagle's nest was also discussed by Minnesota Power during the Bison 4 public hearing. Minnesota Power engaged WEST to monitor the eagle's nest and WEST prepared a report that is provided as an attachment for the Commission's information.

Please do not hesitate to contact me at the number above should you have any questions.

Yours truly,

David R. Moeller

c: Dan McCourtney, Minnesota Power



**ENVIRONMENTAL & STATISTICAL CONSULTANTS**

4007 State Street, Suite 109, Bismarck, ND 58503  
Phone: 701-250-1756 ♦ www.west-inc.com ♦ Fax: 701-250-1761

December 4, 2013

Dan McCourtney  
Siting and Permitting  
ALLETE/Minnesota Power  
30 West Superior St.  
Duluth, MN 55802

**Re: Bison Wind Resource Area  
Bald Eagle Flight Path and Flight Path Frequency Information**

Dear Mr. McCourtney,

During spring 2013 wildlife surveys at the proposed Bison IV Wind Farm northwest of New Salem, North Dakota, Western EcoSystems Technology, Inc. (WEST) personnel located a previously unknown active bald eagle nest. While the nest was located during surveys of the planned Bison IV facility, it is within approximately 0.4 mile of the nearest Bison III turbine. As such, Minnesota Power requested that WEST initiate surveys near the nest location to document how the adult bald eagles utilize the area during the nesting period. The purpose of this memo is to provide bald eagle flight path information and flight path frequency data as recorded near the nest.

Bald eagle flight paths were recorded at six survey points from May 14 to August 29, 2013. Points 1 and 2 were within ½ mile of the occupied bald eagle nest; these points were surveyed for four hours each, approximately once per week. The remaining survey points were within two miles of the nest and were surveyed for two hours each, approximately once per week. This detailed survey effort focused on the nest location, was not designed to collect eagle use information as is often collected at wind facilities, but to document where the birds were flying and how they were using the area around the nest. During the survey, there was the adult pair (2 birds) of eagles and two young fledged from the nest, so total of 4 eagles were known to be in the area. The young were flying very little when we concluded surveys; therefore the vast majority of the flight paths are from the adult pair. It is possible that a non-breeding adult flew through the area during the survey, but the breeding pair would have defended the territory and drove out any other eagles very quickly.

Bald eagle flight paths were recorded on maps in the field and then digitized into GIS formats for analyses. Seventy-five bald eagle flight paths documented between May 14 to August 29, 2013 are shown in Figure 1. During many of the surveys, bald eagles were only observed perching



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on or near the nest and no flight paths were generated. In order to quantify the frequency of flight paths, we placed a grid with a cell size of 200 meters by 200 meters over an area within two miles of the occupied nest. To determine frequency of flight paths per cell, each grid cell was weighted based on the number of flight paths that passed through the cell and each cell was scaled to 1.0 to identify varying levels of use within the observation area (Figure 2).

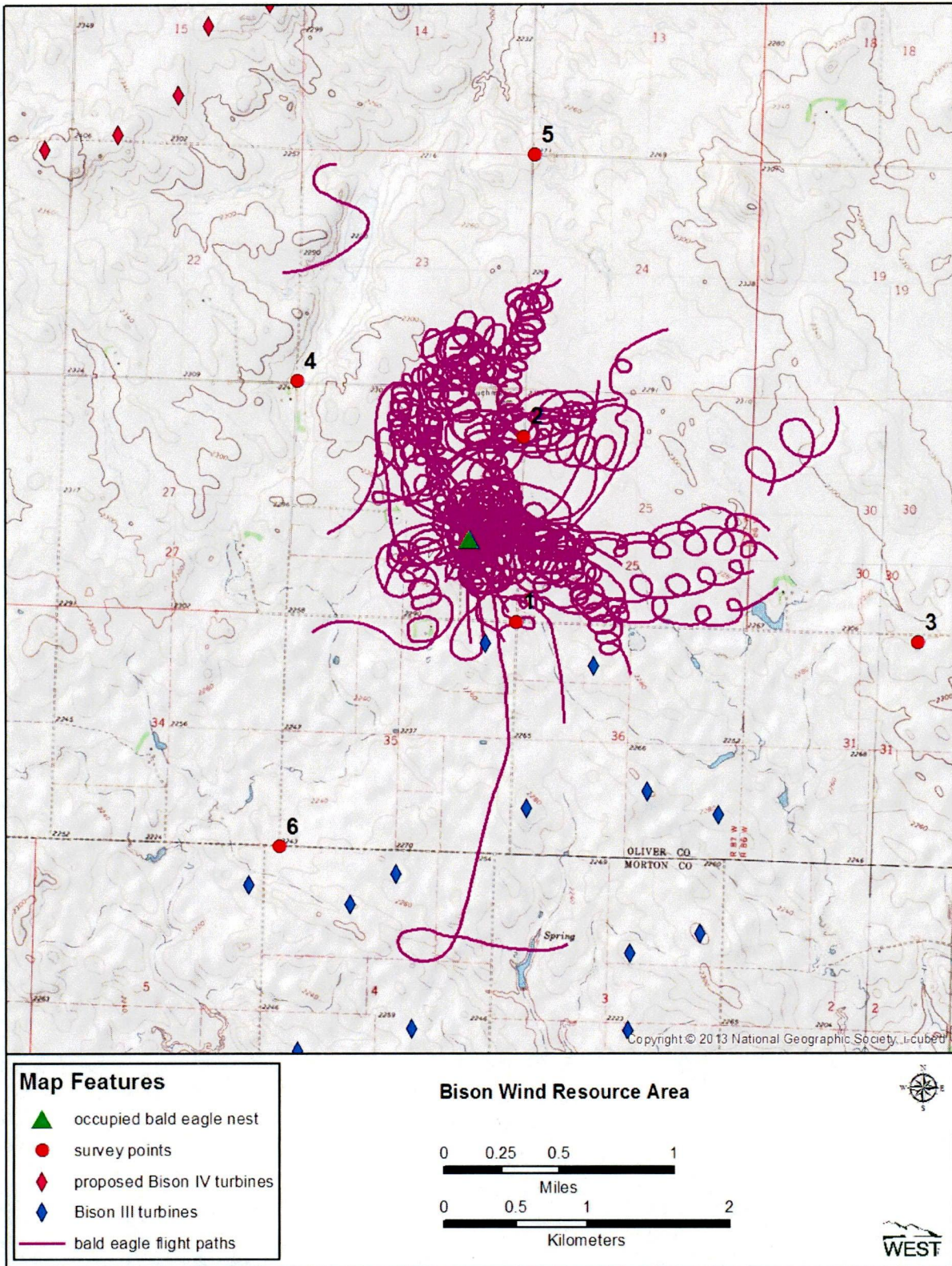
In general, bald eagle flight paths were concentrated within one mile of the nest, with most flight paths to the north and east of the nest (Figure 1) where Bison IV turbines have been set back from the nest a minimum of 2 miles. The frequency of flight paths was greatest at the nest and more frequent with 0.5 miles of the nest. Some flight paths were documented within the Bison III area, but most were north of Bison III (Figures 1 and 2).

The frequency map provides insight into high use areas within the viewshed immediately around the nest, but a complete and thorough understanding of how eagles use the general landscape is not available. To better understand how eagles use the general area, more observation points evenly distributed throughout the project sites would be necessary. If information related to overall use and prediction of potential eagle risk is desired, future efforts should be conducted using a standardized, site-wide data collection approach. Collecting such information throughout the year would allow for preparation of a Resource Selection Function analysis and/or for running the USFWS's Bayesian take estimate model from the draft Eagle Conservation Planning Guidelines. These analyses would allow for a more thorough understanding of the risk for an eagle-turbine collision.

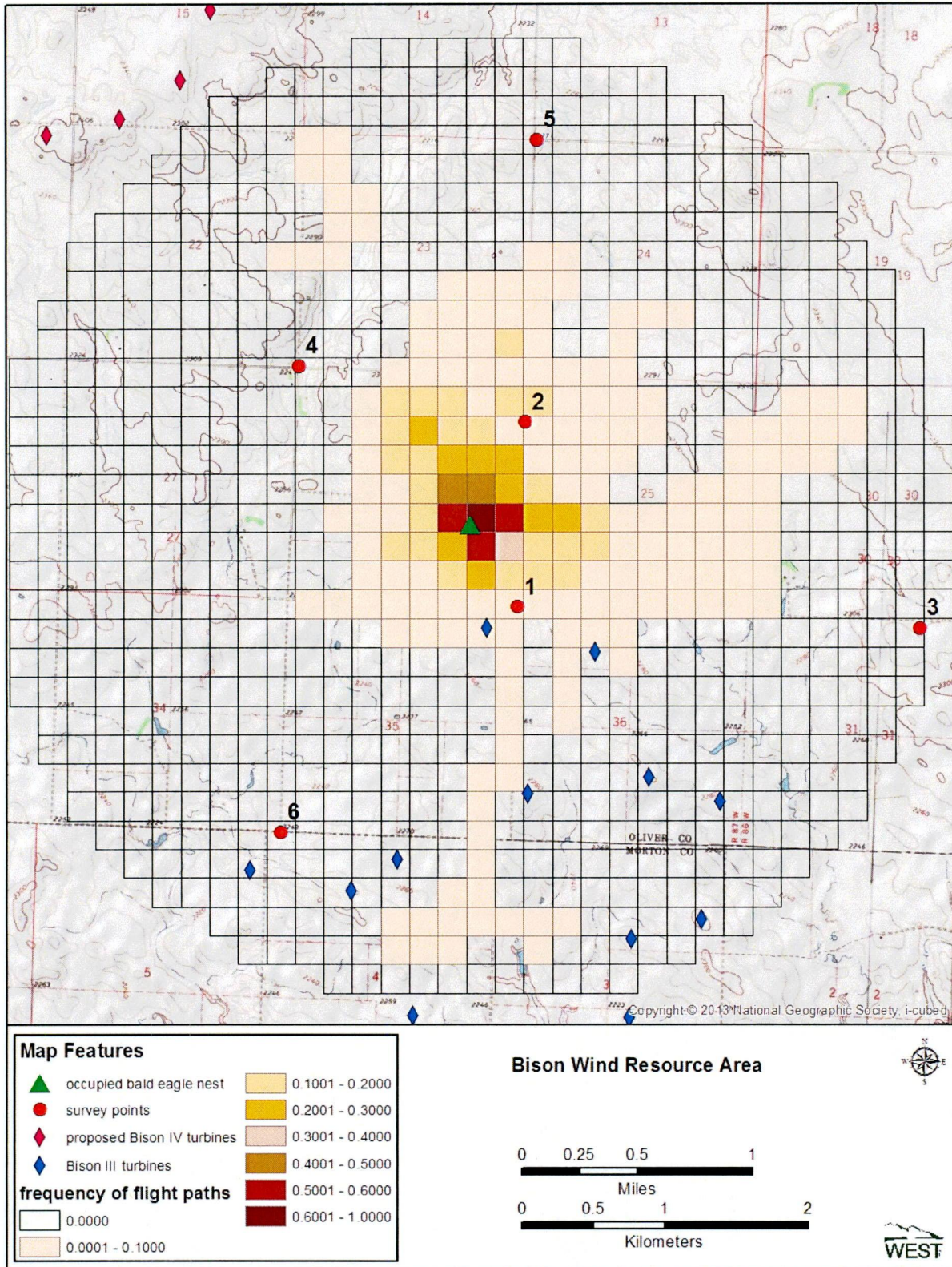
Please let me know if you have any questions or need further information regarding the 2013 eagle flight path monitoring.

Sincerely,

Clayton Derby  
Senior Manager



**Figure 1. Flight paths documented during bald eagle nest monitoring surveys at the Bison IV Wind Resource Area, May 14 to August 29, 2013.**



**Figure 2. Frequency of flight paths documented during bald eagle nest monitoring surveys at the Bison IV Wind Resource Area, May 14 to August 29, 2013.**