minnesota power
AN ALLETE COMPANY

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September 1, 2011

VIA U.S. Mail

Mr. Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard Ave., Dept. 408
Bismarck, ND 58505-0480

RE: Bison 1 Wind Project
Oliver/Morton Counties
Siting Application
Case No. PU-09-151

230 kV Transmission Line/Morton and Oliver Counties
Case No. PU-09-587

Dear Mr. Nitschke:

Enclosed please find Minnesota Power's Tree and Shrub Mitigation Plan relating to the above-referenced cases. An original and 10 copies are included.

Please let me know if you have any questions.

Yours truly,

David R. Moeller

kl
Attachment
c: Ron Gullicks, Minnesota Power
Jim Atkinson, Minnesota Power
Dan McCourtney, Minnesota Power

Minnesota Power Tree and Shrub Mitigation Plan

For Bison 1A (PU-09-151) and 230 kV HVTL (PU-09-587)

A WIND ENERGY INITIATIVE OF MINNESOTA POWER IN NORTH DAKOTA

Contents

Minnesota Power Tree and Shrub Mitigation Plan

Introduction

In 2010 Minnesota Power (an Allete company) constructed the first phase of their Bison 1 81.8 MW wind project facility. A 230kV transmission line was also built to connect the Bison 1 wind project to an existing substation (the Square Butte Substation). During the construction of these two facilities some trees and shrubs were disturbed. In keeping with the Certificate of Site Compatibility for the Bison 1 wind project facility as well as the Certificate of Corridor Compatibility for the 230kV transmission line, Minnesota Power has developed a Tree and Shrub Mitigation Plan. This mitigation plan will facilitate the replacement of the trees and shrubs that were disturbed during construction and will minimize any associated environmental impacts.

Number and Variety of Trees

Table 1-1 shows the total number of trees and shrubs that were disturbed during construction of the 230kV high voltage transmission line. These numbers were determined by a consultant Minnesota Power hired to perform preconstruction and post construction vegetation surveys. The species have been organized into section-township-range. The consultant was KDK Consulting and the surveys were preformed by Kelly Krabenhoft- Certified Professional Range Management. The transmission line tree and shrub numbers are as follows:

Table 1-1 Stems Disturbed (by Species) Along Transmission Line For Bison 1

Common Name	Scientific Name					
		Sec. 32 T142N, R83W	Sec. 30 T142N, R83W	Sec. 31 T142N, R83W	Sec. 35 T142N, R84W	Sec. 34 T142N, R84W
Trees						
Northern Hawthorn	*Crataegus rotundifolia*				5	8
Green Ash	*Fraxinus pennsylvanica*				13	2
Shrubs	-	-	-	-	-	-
Chokecherry	*Prunus virginiana*				7	1
Bristly Gooseberry	*Ribes setosum*					5
Buffaloberry	*Shepherdia argentea*		4			8
Western Snowberry	*Symphoricarpos occidentalis*	50	10	47		
		Sec. 18 T141N, R84W	Sec. 34 T141N, R85W	Sec. 34 T141N, R85W	Sec. 3 T140N, R86W	
Shrubs						
Chokecherry	*Prunus virginiana*			5		
Western Snowberry	*Symphoricarpos occidentalis*	24	32		213	

Table 1-2 shows the total number of trees that were removed during construction of the first phase of the Bison 1 wind project facility. These numbers were determined by a consultant Minnesota Power hired to perform preconstruction and post construction site surveys. The consultant was KDK Consulting and the surveys were preformed by Kelly Krabenhoft- Certified Professional Range Management. The Bison 1 wind project facility numbers are as follows:

Table 1-2 Woody Species Observed Within Phase 1A Easement Boundary for the Bison I Wind Project

Common Name	Scientific Name	Sec 10 T140N, R86W
Trees		
Peach-leaved Willow	*Salix amygdaloides*	1
TOTAL		1

Mitigation Plan

Following the requirements in both the Certificate of Site Compatibility for the Bison 1 wind project facility as well as the Certificate of Corridor Compatibility for the 230kV transmission line, Minnesota Power will replace disturbed trees and shrubs. The trees and shrubs disturbed during construction are required to be replaced at a minimum ratio of 2:1. However, the actual planting will be at a ratio closer to 3:1 to account for mortality associated with any planting/re-vegetation effort.

All disturbed tree and shrub species will be replaced by the same species or similar species. In two instances similar species have been prescribed to substitute the original. Northern Hawthorn will be replaced with Arnold Hawthorn and Bristly Gooseberry will be replaced by Black Currant as recommended by the Oliver County Soil Conservation District. This is in following with the guidelines given by the North Dakota Public Service Commission in their Tree and Shrub Mitigation Specifications.

The tree and shrub species were planted in May of 2011. Minnesota Power used KDK Consulting for the planting activities. The use of a professional planting contractor helps ensure high survival of the desired/mitigated species.

Upon completion of mitigation activities the planting sites will then be monitored for three years to ensure that there has been a 75% survival rate based on a **2:1** planting regime. Survival surveys will occur in the fall of each year and will be used to determine if any additional mitigation activities will be required.

Proposed Number, Variety, Type

Table 1-3 lists the original species that were disturbed during construction, the number of species disturbed and the number of mitigation stems that will be planted. Again, these planting numbers are based on a 3:1 planting ratio however the percent survival will be

determined assuming a 2:1 planting ratio. These numbers are for both the 230kV high voltage transmission line as well as first phase of the Bison 1 wind project facility.

Table 1-3 # Stems Disturbed (by Species) Along Transmission Line and For Bison 1 Wind Project

Common Name	Scientific Name		
Trees		# Species Removed	# Species to Plant*
Northern Hawthorn**	*Crataegus rotundifolia*	13	39
Green Ash	*Fraxinus pennsylvanica*	15	45
Peach-leaved Willow	*Salix amygdaloides*	1	3
Shrubs			
Chokecherry	*Prunus virginiana*	13	39
Bristly Gooseberry***	*Ribes setosum*	5	15
Buffaloberry	*Shepherdia argentea*	12	36
Western Snowberry	*Symphoricarpos occidentalis*	376	1128

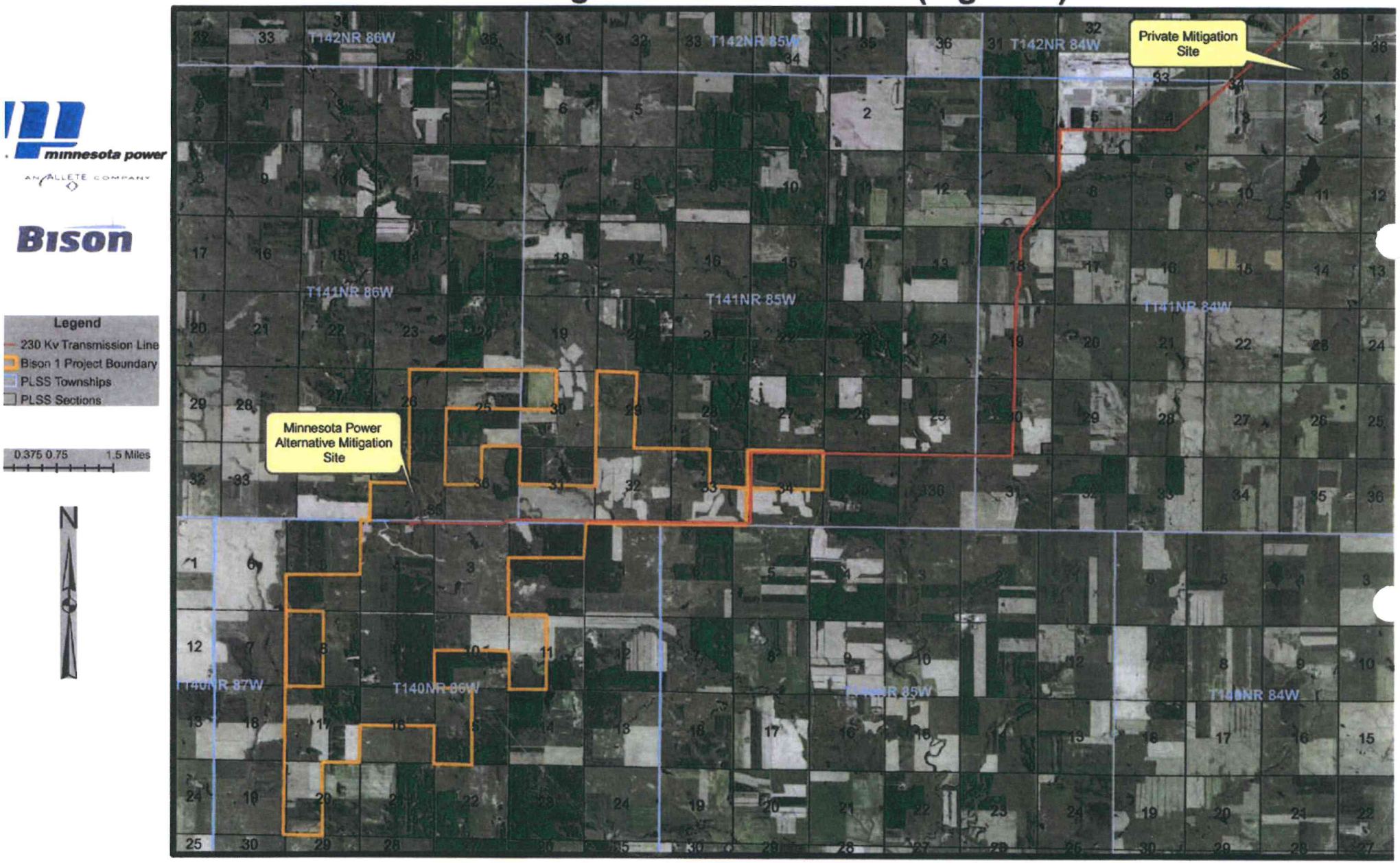
*The # of species to plant was estimated using a 3:1 ratio.
** Northern Hawthorn will be replaced with Arnold Hawthorn as recommended by the Oliver County Soil Conservation District.
*** Bristly Gooseberry will be replaced with Black Currant as recommended by the Oliver County Soil conservation district.

Location and Date of Replacements

In an effort to maintain customer satisfaction, project acceptance and a high standard of public relations, Minnesota Power has developed an alternative site for the mitigation plantings to occur if requested by land owners. Land owners have their choice to have mitigation activities occur either on their ownership or on Minnesota Power's alternative site. Due to the kind of species that are to be planted, most affected land owners prefer mitigation (planting) activities to not occur on their ownership and have opted for Minnesota Power's alternative site.

The Minnesota Power alternate site is located in Morton County in Section 10 - Township 140N - Range 86W. Eight of the nine affected landowners choose Minnesota Power's alternative location for the mitigation activities, one of the nine affected landowners choose to have the mitigation activities take place on their ownership in Section 35- Township 142N – Range 84W and one of the nine landowners BNI Coal (an Allete Company) will perform additional mitigation plantings on their ownership as well as the associated plantings at Minnesota Power's alternative site. See Attached Figure #1 for mitigation site location information.

Mitigation Site Locations (Figure 1)



Appendix A

Alternative Mitigation Location Agreements

Alternative Mitigation Location Agreement

Callen Doll, whose property is located at Section 34 Township 141N-Range 85W, CONSENTOR, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTOR personal property.

The CONSENTOR understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTOR personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTOR

NAME HERE Callen K. Doll

COUNTY OF Oliver.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Jay Volk a repersentitive of BNI Coal, whose property is located in Section 34-Township 142N-Range 84W, CONSENTOR, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTOR personal property.

The CONSENTOR understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTOR personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTOR

NAME HERE J M Volk

COUNTY OF Oliver.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

**BNI Coal, Ltd. also notes that all trees disturbed during the construction of the power line within their mining permits will also be replaced within the existing tree plantings that were disturbed. This will be done regardless of this agreement in fulfillment of BNI Coals reclamation plans set forth in their mining permits.*

Alternative Mitigation Location Agreement

Lyle and Karen Mosbrucker, whose property is located at Section 18 Township 141N-Range 84W, CONSENTORS, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTORS personal property.

The CONSENTORS understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTORS personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTORS

NAME HERE Lyle Mosbrucher NAME HERE Karen A Mosbrucker

COUNTY OF Oliver.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Leslie and Jacqueline Doll, whose property is located at Section10 Township 140N-Range 86W, CONSENTORS, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTORS personal property.

The CONSENTORS understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTORS personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTORS

NAME HERE Leslie Doll NAME HERE Jacki Doll

COUNTY OF Morton.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Robert Reinke, whose property is located in Section 31 Township 142N-Range 83W, CONSENTOR, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTOR personal property.

The CONSENTOR understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTOR personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTOR

NAME HERE Robert Reinke

COUNTY OF Oliver.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Leslie and Laurie Brandt, whose property is located at Section 34 Twonship141N-Range 85W, CONSENTORS, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTORS personal property.

The CONSENTORS understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTORS personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTORS

NAME HERE Leslie Brandt NAME HERE Laurie Brandt

COUNTY OF Oliver

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Mr. & Mrs. Windhorst, whose property is located in Section 30 & 32 Township 142N-Range 83W, CONSENTOR, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTOR personal property.

The CONSENTOR understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTOR personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTOR

NAME HERE Wayne Windhorst POA for Kathleen Windhorst NAME HERE _____

COUNTY OF Oliver.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Alternative Mitigation Location Agreement

Lance Doll, whose property is located at Section 3 Township 140N-Range 86W, CONSENTOR, for valuable consideration, hereby acknowledge consent and convey unto MINNESOTA POWER legally incorporated as ALLETE, Inc., a Minnesota corporation, CONSENTEES and its successors, the right to perform tree and shrub mitigation activities at a mitigation restoration site which is not located on the CONSENTOR personal property.

The CONSENTOR understand that this replaces their rights to have tree and shrub mitigation, as required by applicable permits issued by the North Dakota Public Service Commission, activities preformed on the CONSENTOR personal property in favor of a location determined at the CONSENTEES discretion.

CONSENTOR

NAME HERE Lance Doll

COUNTY OF Morton.

This instrument was drafted by:
Minnesota Power
30 West Superior Street
Duluth, MN 55802

Appendix B

Woodland Inventory Procedures and Survey Results

WOODY SPECIES DISTURBANCE REPORT FOR ALLETE, INC. BISON I WIND PROJECT- TRANSMISSION CORRIDOR IN OLIVER/MORTON COUNTIES OF NORTH DAKOTA

Prepared by KDK Consulting
Kelly Krabbenhoft- Certified Professional Range Management
October 2010

Woodland inventory within the 130-foot diameter corridor (65-feet each side of the center line) along the approximately 22-mile length for the proposed transmission line related to the Bison I Wind Project was conducted in early April 2010 by KDK Consulting. The inventory was conducted to meet the specifications outlined in Case No. PU-09-587. This was accomplished by conducting a thorough ground-truth reconnaissance. All trees and tall shrubs were inventoried by species through direct counts within the sample area. Low shrubs were estimated by utilizing 2-meter by 2-meter quadrats in 30 representative areas (locations provided as point data layer in ArcMap) along the corridor. This methodology for low shrub sampling is utilized for baseline sampling protocol within coal mining permits in North Dakota. Average stems per quadrat can then be converted to stems per acre. This will assist in extrapolation of total stems removed by disturbance in the mapped low shrub community acreage within the corridor. Sample adequacy (Stein's) was met for the low shrub inventory. All data by each tree and shrub species related to the disturbance inventory (by ownership) conducted in late September can be found in Tables 1 and 2 following construction of the transmission line. Now that the determinations of disturbance numbers by species are calculated, a planting plan and survivability monitoring protocol can be outlined to mitigate these losses due to construction. Depending upon each owner's preference, these losses can be either within their own lands or possibly the total disturbance could be pooled together for one significant off-site planting to be determined later.

Table 2- Stems Disturbed (by Species) Along Transmission Line For Bison 1 Wind Project By Owner

Common Name	Scientific Name	Windhorst	Windhorst	Reinke	Ternes	BNI Coal
Trees		N2NE4 Sec. 32 T142N, R83W	SE4 Sec. 30 T142N, R83W	SE4, W2 Sec. 31 T142N, R83W	Sec. 35 T142N, R83W	SE4 Sec. 34 T142N, R83W
Northern Hawthorn	*Crataegus rotundifolia*				5	8
Russian Olive	*Eleagnus angustifolia*					
Green Ash	*Fraxinus pennsylvanica*				13	2
Scots Pine	*Pinus sylvestris*					
Blue Spruce	*Picea pungens*					
Cottonwood	*Populus deltoides*					
Peach-leaved Willow	*Salix amygdaloides*					
Siberian Elm	*Ulmus pumila*					
TOTAL		0	0	0	18	10
Shrubs						
Pea Tree (Caragana)	*Caragana arborescens*					
Chokecherry	*Prunus virginiana*				7	1
Wild Plum	*Prunus americana*					
Bristly Gooseberry	*Ribes setosum*					5
Buffaloberry	*Shepherdia argentea*		4			8
Western Snowberry	*Symphoricarpos occidentalis*	50	10	47		
Common Lilac	*Syringa vulgaris*					
TOTAL		50	14	47	7	14

Table 2 (cont.)- Stems Disturbed (by Species) Along Transmission Line For Bison 1 Wind Project By Owner

Common Name	Scientific Name	Lyle & Karen Mosbrucker	Callen Doll	Brandt	Ann Doll	
Trees		N2 Sec. 18 T141N, R84W	N2 Sec. 34 T141N, R85W	S2 Sec. 34 T141N, R85W	Sec. 3 T140N, R86W	
Northern Hawthorn	*Crataegus rotundifolia*					
Russian Olive	*Eleagnus angustifolia*					
Green Ash	*Fraxinus pennsylvanica*					
Scots Pine	*Pinus sylvestris*					
Blue Spruce	*Picea pungens*					
Cottonwood	*Populus deltoides*					
Peach-leaved Willow	*Salix amygdaloides*					
Siberian Elm	*Ulmus pumila*					
TOTAL		0	0	0	0	
Shrubs						
Pea Tree (Caragana)	*Caragana arborescens*					
Chokecherry	*Prunus virginiana*			5		
Wild Plum	*Prunus americana*					
Bristly Gooseberry	*Ribes setosum*					
Buffaloberry	*Shepherdia argentea*					
Western Snowberry	*Symphoricarpos occidentalis*	24	32		213	
Common Lilac	*Syringa vulgaris*					
TOTAL		24	32	5	213	

WOODY SPECIES DISTURBANCE REPORT FOR ALLETE, INC. BISON I WIND PROJECT- PHASE 1A- TREES IN OLIVER/MORTON COUNTIES OF NORTH DAKOTA

Prepared by KDK Consulting
Kelly Krabbenhoft- Certified Professional Range Management
October 2010

Woodland inventory within the easement corridors for Phase 1A of the Bison I Wind Project was conducted in early May 2010 by KDK Consulting. The inventory was conducted to meet the specifications outlined in Case No. PU-09-151. This was accomplished by conducting a thorough ground-truth reconnaissance. All trees were inventoried by species through direct counts within the sample area. All data by each tree species related to the initial and disturbance inventory can be found in Table 1. Only one tree was disturbed during Phase 1a construction based on the inventory in late September. Now a planting plan and survivability monitoring protocol can be outlined to mitigate this loss due to construction. Depending upon the owner's preference, this loss could be planted within their lands or added to the planting plan for trees disturbed along the transmission line during construction.

Table 1- Woody Species Observed Within Phase 1A Easement Boundary for the Bison I Wind Project

Common Name	Scientific Name	Number of Individuals in Easement Boundary	Number of Individuals Disturbed in Easement Boundary
Trees			
Box Elder	*Acer negundo*	2	
Peach-leaved Willow	*Salix amygdaloides*	4	1*
TOTAL		6	1

* Disturbed Tree was on land owned by Les & Jackie Doll in the NW4 Sec. 10 T140N, R86W

Appendix C

2011 Survival Report

WOODLAND PLANT SURVIVABILITY MONITORING
FOR MINNESOTA POWER- A DIVISION OF ALLETE, INC.
WITHIN BISON I WIND FARM

Conducted by KDK Consulting August 15, 2011

A survival count within 3 block plantings within the Bison I Wind Farm, planted in the spring of 2011, was conducted by KDK Consulting on August 15, 2011. Variable results were seen within and across blocks as found in Tables 1 through 3. The overall survival for the first growing season was 84.9% (1112 living trees/shrubs from a total of 1310 potential trees/shrubs evaluated). Trees/tall shrubs fared the best at 86.8 and the low shrubs were at 84.6% survival. However, the 1112 living replanted trees/shrubs is greater than the number of individuals that were disturbed to date (853 total individuals: 29 trees, 79 tall shrub, and 745 low shrub) based upon the 2010 disturbance sampling conducted by KDK Consulting. Both the tree/tall shrub and low shrub replacement numbers are above the disturbed levels.

The survival within individual blocks ranged from 81.3% in Block 2 to 97.3% in Block 3. Within Block 2 on the private land, the only two losses of individuals was due to their being run over by what appeared to be ATV tracks. As expected, north aspect survival (Block 1) was greater than that of the south aspect (Block 2). However, adequate survival appears evident to meet the assigned goal of having woodland all around the mitigation pond. Overall, the result was greater than anticipated given the trees/shrubs were going into unprepared conditions. Competition from surrounding vegetation usually will decrease the survival percentage of newly planted woodlands. However, above-average moisture was received during the growing season, with adequate soil moisture present during planting, which aided in the better than anticipated results.

The mitigation ratio of 2:1 has been exceeded for each category of disturbed woodlands planted during the spring of 2011. The number surviving, in each case, exceeds 100% of what was required which is the threshold for successful mitigation of woodlands disturbed during the construction phase.

The data provided within the tables provides sufficient information to aid in any additional efforts that may need to be undertaken based on this evaluation.

Minnesota Power- A Division of Allete, Inc.: Bison I Wind Farm
Woodland Plant Survivability Monitoring: 2011
August 15, 2011

Table 1: Block 1 (South of Mitigation Pond)

	Total Alive	Total	% Survival
Trees/Tall Shrub	33	35	94.3
Willow	3	3	100.0
Low Shrub	581	678	85.7
	617	**716**	**86.2**

Table 2: Block 2 (North of Mitigation Pond)

	Total Alive	Total	% Survival
Trees/Tall Shrub	49	69	71.0
Low Shrub	373	450	82.9
	422	**519**	**81.3**

Table 3: Block 3 (Private Landowner: Section 35)

	Total Alive	Total	% Survival
Green Ash	38	39	97.4
Hawthorn	15	15	100.0
Chokecherry	20	21	95.2
	73	**75**	**97.3**

Overall Survival

	Total Alive	Total	% Survival
Trees/Tall Shrub	158	182	86.8
Low Shrub	954	1128	84.6
	1112	**1310**	**84.9**

Total Needed For 2:1 Mitigation

	Number Needed for 2:1 Ratio	Observed Total	% of Needed[1]
Trees/Tall Shrub	116	158	136.2
Willow	2	3	150.0
Low Shrub	752	954	126.9

[1] If greater than 100%, then survival exceeds mitigation ratio