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Forest
Service

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Record of Decision
for
Antelope Valley Station to NeseT Transmission Project

Dakota Prairie Grasslands
McKenzie Ranger District
McKenzie County, North Dakota

Responsible Official

Dennis D. Neitzke
Grasslands Supervisor

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I. BACKGROUND

The Williston Basin has a history of oil and natural gas exploration and extraction, and it has seen the somewhat typical boom and bust workload and economy that are associated with oil field drilling. Around 2008 the technique of hydraulic fracturing was improved to the point that exploring and extraction oil from the Bakken/Three Forks formations, within the Williston Basin, became economical where previously it had not been. Since then, fracturing has become refined and improved to the point where the oil and gas reserves in the Bakken/Three Forks have become internationally significant.

Oil production in North Dakota increased from 62.8 million barrels of oil in 2008 to 2.9 billion barrels in 2013 (a 361 percent increase) (North Dakota Industrial Commission, 2014). Production is expected to continue to increase with the development of an estimated 1,100 to 2,700 new wells per year in western North Dakota and 40,000 to 45,000 new wells over the next 20 plus years (Bangsund and Hodur, 2013¹). Electric transmission lines, including the proposed project and other lower voltage lines and natural gas simple cycle generation facilities, have recently been constructed or are in development in western North Dakota to support expanding development and supporting infrastructure.

Connected with this development is the associated influx of businesses related to, and in support of, oil and gas drilling and extraction, along with the thousands of workers in those businesses. One of the differences with the Bakken/Three Forks play is the contiguous layer of oil bearing rock where industry estimates that full development of the formation will take from 20 to 60 years (Williston Basin Conf, 2014²). Population increases within communities in the Williston Basin have far outstripped available housing and infrastructure. All the growth from combined industry and population growth has strained the existing electrical power supplies and is need of addition power for both the immediate and projected future needs.

The Final EIS for this project outlines the studies conducted by Basin Electric Power Cooperative (Basin Electric) (Basin Electric 2011³, 2013a⁴ and IS 2011⁵) within the Midwest Reliability Organization (MRO) for both load forecasting and reliability. The power load forecast indicates growth in the northwestern North Dakota area is accelerating over the next several years primarily as a result of development of the Bakken Formation. Based on the projected load growth of increases of approximately 15 percent in 2014 and 2015, the timeliness of project completion is critical. Much of the short-term load growth in this area is associated

¹ Bangsund, D.A. and N.M. Hodur. 2013. North Dakota State University. Agribusiness and Applied Economics Report 704. Williston Basin 2012: Projections of Future Employment and Population North Dakota Summary. Available at: <http://purl.umn.edu/142589> (accessed November 25, 2013).

² Jim Volkner-CEO Whiting Petroleum, 2014 Williston Basin Petroleum Conference presentation.

³ Basin Electric. 2011. August 2011 Basin Electric Load Forecast.

⁴ Basin Electric. 2013a. 2013 Update of the 2011 Load Forecast. Bismarck, North Dakota.

⁵ IS (Integrated System). 2011. Eastern Montana/Western North Dakota Load Serving Study facility Additions Justification-August 2011.

with electrical service to support the rapid expansion of facilities for oil production, as well as supporting infrastructure and services. Follow-up forecasts (KLJ, 2012⁶) confirm the load projections in northwestern North Dakota due to rapidly expanding electrical service in this region.

Basin Electric is proposing to construct, operate, and maintain a new 345-kilovolt (kV) electrical transmission line connecting the existing Antelope Valley Station (AVS), Charlie Creek, Williston, and Neseet substations. Five newly proposed delivery substations will increase transmission line capacity and reliability of the electricity transmission infrastructure of the region and will meet the expected increase in loads developing in northwestern North Dakota. The overall project area identified for this project encompasses parts of Mercer, Dunn, McKenzie, Williams, and Mountrail counties in North Dakota.

In November 2012, USDA Rural Utilities Service (RUS), lead federal agency, issued a Draft Environmental Impact Statement (DEIS). The project, as evaluated in the DEIS, considered the development of a single 345-kilovolt (kV) transmission line and two new substations in conjunction with one of two alternative routes (alternatives A and B). New load forecasts completed after the issuance of the DEIS in 2013 showed the load increasing above and beyond the original forecasts in years 2016-2017 by nearly 50 percent (Basin Electric, 2013a). Therefore, the original project as described in the DEIS would not achieve the required capacity needs or reliability standards to meet the updated load increase. RUS issued a Supplemental DEIS (SDEIS) for the AVS to Neseet Transmission Project in December 2013, to evaluate significant project changes due to the increased demand projections. Additional alternatives, including building transmission lines on both DEIS-identified routes A and B (identified as Alternative C), double-circuit (Alternative D), and parallel (Alternative E) lines on the route B alternative, and additional substation components were evaluated in the SDEIS. I'm accepting the load forecast as described in the SDEIS (SDEIS Section 1.2.1) as the best available science in supporting development of alternatives. A Final EIS (FEIS) was released to the public the week of May 26, 2014.

USFS has responsibility to issue special use permits (SUP) for right-of-way (ROW) on National Forest System lands under the Federal Land Policy Management Act (FLPMA). USFS has been actively involved in the preparation and review of the FEIS per the requirements of 40 CFR 1506.3 and will use this analysis to make an independent decision related to the approval of the SUP submitted by Basin Electric to construct, maintain, and operate a transmission line through lands administered by USFS on the Little Missouri National Grassland (LMNG).

II. DECISION AND REASONS FOR THE DECISION

Decision

In consultation with RUS, Western Area Power Administration (Western), and under the Agencies' 2009 Memorandum of Understanding for implementing section 216 of the Federal

⁶ KLJ (Kardmas, Lee & Jackson, Inc.) 2012. Power Forecast 2012. Williston Basin Oil and Gas Related Electrical Load Growth Forecast. 135pp.

Power Act, as amended by section 122(a) of the Energy Policy Act of 2005, I have decided to authorize the SUP for a 150 foot wide ROW on the LMNG respective to Agency Preferred Alternative (Alternative C) as described in the FEIS (FEIS, Sections 2.2 and 2.3) for the construction, operation and maintenance of a 345 kV transmission line across approximately 8.41 miles of the LMNG or 3% of the total miles of additional transmission line. National Forest System (NFS) lands affected by this decision will be approximately 153 acres during the construction period while only 0.04 acres will be more or less permanently occupied. Access within ROW may be intermittently needed for maintenance for the life of the transmission line. My decision affords Western and RUS the ability to implement their respective decisions. My authorization affects only the portion of Alternative C on the LMNG in:

- T.145N., R.98W. , Sections, 21, 24, 25, 27, and 35,
- T.147N., R.98W., Section 18,
- T.147N., R.99W., Sections 13 and 24,
- T.148N., R.98W., Section 31, 5th PM, McKenzie County, North Dakota.

Right of Way location is approximately identified in Appendix A herein. Exact placement of transmission line in the ROW analyzed may be affected slightly by ROWs on private lands or site-specific resource concerns. For that reason, I will require as-built drawings with the issuance of a Special Use Permit (SUP). My decision includes the mitigation measures from the FEIS (Appendix A) and included herein as Appendix B and will include additional Agency specific requirements in the SUP for Fire Prevention and Suppression, Pre-work Meetings, Fencing Standards, specified seed mix and use of pesticides.

My decision will be implemented through issuance of this Record of Decision (ROD) followed by issuance of the SUP. Basin Electric will be required to obtain any other local, State or Federal permits and approvals as applicable and required by law for future operations or development on the transmission line easement (FEIS Chapter 6).

In the event of any contradiction or conflict between descriptions or depictions of authorized actions, my decision is to be taken from the project documents in the following order of precedence:

- The description in this ROD,
- The representations on the Appendix A- Decision Map and Mitigations in Appendix B, and
- Descriptions in the FEIS.

Reasons for the Decision

My decision was made after carefully considering the contents of the *Antelope Valley Station to Neset Transmission Project FEIS*, public comments (project record), agency response to comments (FEIS Appendices B and C) , and the supporting project file including Scoping Report, DEIS, SDEIS, Biological Assessment, Biological Evaluation and other reports. I also have considered the recommendations of my staff. I personally met with representatives from all the participating agencies on two occasions to discuss the alternatives, additional considerations, the impacts of the routes and the purpose and need for this action.

There are two basic reasons that I considered when making this decision:

1. Meeting emerging energy needs.
2. Ensuring Reliable Energy Delivery (System Reliability).

Meeting Emerging Energy Needs

Executive Order 13212 directs federal agencies to take steps to increase the energy supply to our nation. I've outlined in the introduction to this Decision the recent changes that are occurring in the Williston Basin due primarily to oil and gas development. Load forecasts have outlined the need to increase the electrical energy supply to the oil producing counties. Taking no action would not address the realities occurring in northwest North Dakota.

System Reliability

The more critical part of the discussion surrounds reliability of the power grid and how that would be addressed through these alternatives. Requirements outlined in the 2005 Energy Policy Act became the hinge point for this decision to permit Alternative C across LMNG lands. This determination was further supported by a recent analysis done by the Department of Homeland Security (DHS) that outlined weaknesses in our nation's power grid from a reliability standpoint (<http://www.dhs.gov/xlibrary/assets/niac/niac-a-framework-for-establishing-critical-infrastructure-resilience-goals-2010-10-19.pdf>). DHS considers system reliability through physical security of infrastructure and cybersecurity. Federal Energy Regulatory Commission (FERC) extends authority to North American Electric Reliability Corporation (NERC) which has developed regulations (including those listed in the FEIS at 1-9) which are extended to Midwest Reliability Organization (MRO) under which Basin Electric operates. NERC Reliability Standards apply to this transmission line and define the reliability requirements for planning and operating the bulk power system and are focused on performance, risk management, and capabilities. Though this project was not part of DHS-specific analysis, it pointed to the need for enhanced reliability in our power grid. At this time there is very limited system redundancy with only Basin Electric's existing 345 kV to Charlie Creek Substation and Western's existing 230 kV lines in the area (FEIS Figure 1-4), limited capacity as evidenced by member electric organization transcripts from public meetings (FEIS Appendices B & C and RUS project file) which in turn affects reliability regulations. These regulations are specifically met on this project through system redundancies (providing multiple lines serving substations in our area) and geographical separation of those lines.

System reliability questions from my staff and me resulted in the federal agencies and Basin Electric doing more analysis and documentation between the SDEIS and the FEIS. While this started as a discussion trying to figure out ways to mitigate visual impacts to Theodore Roosevelt National Park such as moving the route out of the Highway 85 corridor to locations farther east or west (discussed in FEIS Section 2.1 and 2.3 alternatives), it also raised more questions for me related to whether the portion of line connecting existing Charlie Creek Substation and proposed Blue Substation needed to be on the LMNG at all. Additional documentation in the FEIS (Section 1.4), particularly Figures 1-5 to 1-9, demonstrates how reliability for the system is met by having this piece of line and how the substations serving Basin Electric's 345 kV and Western's 230 kV systems can thus compensate for any particular line outage.

A question I had surrounded the fact that I was seeing several lines in the eastern part of North Dakota and Minnesota that were double circuited on a single set of poles and why that was OK there but not here. I found that those are more urban areas and redundancy and reliability are established through multiple 230 kV and 345 kV lines interconnected at substations from which power can be diverted in the event of an emergency. The LMNG area of North Dakota is different from other areas of the state because the LMNG has only the existing Western or Basin lines on which 15 or more member cooperatives rely (FEIS at 1-10)

I asked and it was clarified for me why this proposed line, and an existing 345 kV line connecting to Charlie Creek Substation, did not have a proximity reliability issue similar to the concern expressed for selection of Alternatives D or E. It was explained that line to Charlie Creek Substation serves as a back-up system for southwestern North Dakota power suppliers and adjacent States (FEIS, Figure 1-4) as well as the six counties in the project area, and the lines are physically separated enough to meet NERC standard TPL-002 (FEIS at 1-9).

My staff also pointed to additional regulations (Energy Policy Act of 2005), policy (FSM 2726.43(ID 2720-2012-1)), and departmental level Memorandum of Understanding (10/23/2009) that my concerns should not just be based solely on effects to the surface resources of the LMNG, but to the greater requirements of energy development and availability for the American people. Federal Energy Regulatory Commissions standards for reliability have been a primary concern of Basin Electric, RUS and Western from the first days they approached the USFS regarding siting the line.

I recognize the urgency to build this line to address immediate load demands to continue to serve the needs of industry (and the greater energy needs of the American people served by development of the Bakken Field) and local residences. My decision addresses the need to meet the FERC reliability standards in cooperation with other federal agencies and allows for future projected transmission development around Watford City, North Dakota.

How Considerations Were Weighed and Balanced In Arriving at the Decision

My decision affects only a small portion of the LMNG and is approximately 3% of the project as a whole. My decision will affect approximately 153 acres temporarily and remove approximately 0.04 acres permanently from production. Access within ROW may be intermittently needed for maintenance for the life of the transmission line. In reaching my decision, I considered and evaluated the reasonableness of utilizing National Forest System lands in meeting reliable energy needs for the continued development of the Bakken Field and surrounding states as afforded by this transmission line and a reliable transmission system in western North Dakota, which also benefits residents now and for future generations. These considerations led me to my decision.

III. SUMMARY OF ALTERNATIVES CONSIDERED

Numerous alternatives were considered in the DEIS, SDEIS and FEIS (Sections 2.1 and 2.3) with five carried forward for detailed analysis. Alternatives Considered and Eliminated from Further Consideration include: single line Alternatives A and B from the DEIS that do not meet

purpose and need with increased load forecasts; system upgrades; four additional 115 kV routes; four additional macro-corridor alignments; higher (500 kV) voltage lines which are incompatible with western North Dakota infrastructure; additional power generation which is outside the scope of this transmission project and is already occurring in various stages of construction and permitting; and additional Alternative C variations which have energy standard or other jurisdictional concerns (DEIS/SDEIS/FEIS Section 2.1).

I have selected Alternative C as it pertains to the LMNG, with the inclusion of Best Management Practices (BMPs)/mitigation measures (FEIS Appendix A and included herein as Appendix B). A summary of the Alternatives Considered (Sections 2.2 and 2.3) in the FEIS follows:

No-action Alternative

Analysis of the No Action Alternative is required by CEQ, 40 CFR Part 1502.14(d). Under this alternative, the transmission line and substations would not be constructed. This alternative does not meet the purpose and need for the project. Under this alternative, it is expected the load growth would increase beyond the load-serving capacity of the existing system for the Williston/Tioga region by 2016, resulting in transmission system reliability issues and violating the criteria for transmission reliability in the region.

Alternative C (Selected Alternative)

Alternative C includes construction of approximately 278 miles of transmission line, including 265 miles of new 345-kV transmission line and 13 miles of new 230-kV line, and construction of five new substations and equipment additions at four existing substations. The new 345-kV transmission line starts at the AVS electric generation facility located near Beulah and extends west to a new Red Substation, located north of Killdeer, continues west to connect with Basin Electric's existing Charlie Creek 345-kV Substation near Grassy Butte. The line extends north and connects with a new Blue Substation northwest of Watford City, continues north to connect with Basin Electric's proposed new Judson 345-kV Substation near Williston. It continues east to terminate at Basin Electric's proposed new Tande 345-kV Substation. A second section of 345-kV line extends north from the Red Substation to the proposed new White Substation and continuing on to a new Blue Substation. Additional 230-kV transmission lines would be constructed between the new Judson Substation and the existing Western Williston 230-kV Substation, between a new 345/230/115-kV Substation (referred to as the Blue Substation) and Western's existing Williston to Watford City 230-kV transmission line, and also between the new Tande Substation and Basin Electric's existing Neset 230-kV Substation near Tioga, North Dakota.

Alternative C includes:

- 45 miles of 345-kV transmission line connecting the existing AVS Substation to a new Red Substation near Killdeer, including 2.3 miles immediately west of the AVS Substation where the proposed line would be double circuited with an existing line to facilitate future coal mine operations

- 21 miles of 345-kV transmission line connecting the new Red Substation to the existing Charlie Creek Substation
- 27 miles of 345-kV transmission line connecting the new Red Substation to the new White Substation and 36 miles of 345-kV transmission line connecting the White Substation to the new Blue Substation
- 51 miles of 345-kV transmission line from the Charlie Creek Substation to the Blue Substation
- 24 miles of 345-kV transmission line from the Blue Substation to the proposed Judson Substation
- Two 230-kV single-circuit transmission lines running parallel for 5 miles connecting the Blue Substation to Western's 230-kV transmission line
- 2 miles of 230/115-kV double-circuit transmission line connecting the proposed Judson Substation to the Williston Substation
- 61 miles of 345-kV transmission line connecting the proposed Judson Substation to the proposed Tande Substation, approximately 31 miles of which would be double-circuited with a MVEC 115-kV line associated with other regional improvement projects
- 1 mile of 230-kV transmission line connecting the proposed Tande Substation to the Neseet Substation

This alternative best meets all the criteria of the purpose and need for action. Approximately 3% (8.41 miles) of necessary ROW occurs on LMNG in the vicinity of Charlie Creek Substation to Grassy Butte then north through the Highway 85 corridor and crossing the Little Missouri River.

Alternative C-1- East Side Double Circuit

A variation to a short section of the Alternative C alignment along U.S. Highway 85 was retained to address USFS and commenter concerns for the LMNG. Basin Electric would construct the proposed project along the proposed alignment of Alternative C on the east side of U.S. Highway 85 as a 345/230-kV double-circuit line for approximately 1 mile (Figure 2-2). After completion of project construction for all of Alternative C, including both the AVS to Neseet and North Killdeer Loop 345-kV lines, expected to be in service the end of 2016, approximately 1 mile of Western's existing 230-kV line on the west side of U.S. Highway 85 would be transferred to the Basin 345/230-kV line section. Double circuit structures would be approximately 15 feet taller than single circuit 345-kV structures. The Western 230-kV line would then be energized on the new double circuit configuration. The section of Western's existing 230-kV transferred to the east side structures would be removed from the USFS Summit Campground and Trailhead Park and the area would be restored to its previous use. Energizing the 230-kV segment of the double-circuited line and removal of Western's abandoned 230-kV line segment would occur in 2017.

While this alternative is reasonable, it would be located along highway 85 south of the badlands and Little Missouri River crossing and does not address the visual concern of two corridors through the badlands. Since it does not address the concern and it slightly reduces reliability, I did not select this alternative.

Alternative D (Environmentally Preferable Alternative)

Alternative D is similar to Alternative C with the primary differences being the construction of a 345/345-kV double-circuit lines north of Killdeer for 63 miles to the Blue Substation, the additional Killdeer South 345-kV Switchyard, a 345-kV transmission line connection between the Red Substation and the Killdeer South Switchyard, and no line construction between the existing Charlie Creek Substation and the new Blue Substation through the LMNG. Alternative D includes construction of approximately 251 miles of transmission line beginning at the AVS Substation and ending at the Neset Substation, including 13 miles of new 230-kV line and 238 miles of new 345-kV transmission line, of which 65.3 miles would be 345/345-kV double-circuit. Alternative D also includes construction of five new substations, one switchyard, and additional equipment but no expansion to the four existing substations.

Alternative D includes the following:

- 45 miles of 345-kV transmission line connecting the existing AVS Substation to a new Red Substation near Killdeer, including 2.3 miles immediately west of AVS substation where the proposed line would be double circuited with an existing line to facilitate future coal mine operations
- 21 miles of 345-kV transmission line connecting the Red Substation to the existing Charlie Creek Substation
- A new Killdeer South Switchyard south of Killdeer along Basin Electric's existing AVS to Charlie Creek 345-kV transmission line
- Two 345-kV single-circuit transmission lines running parallel for approximately 12 miles between the Red Substation and the new Killdeer South Switchyard
- 27 miles of 345/345-kV double-circuit transmission line connecting the Red Substation to the new White Substation and 36 miles of 345/345-kV double-circuit transmission line connecting the White Substation to the new Blue Substation
- 24 miles of 345-kV transmission line from the Blue Substation to the proposed Judson Substation
- Two 230-kV, single-circuit transmission lines running parallel for 5 miles connecting the Blue Substation to Western's 230-kV transmission line
- 2 miles of 230/115-kV double-circuit transmission line connecting the proposed Judson Substation to the Williston Substation
- 61 miles of 345-kV transmission line connecting the proposed Judson Substation to the proposed Tande Substation, approximately 31 miles of which would be double-circuited with a MWEC 115-kV line associated with other regional improvement projects
- 1 mile of 230-kV transmission line connecting the proposed Tande Substation to the Neset Substation

Substation facilities for Alternative D would also be the same as those discussed previously for Alternative C.

While this alternative would affect approximately 10% fewer acres overall, this alternative does not effectively meet the reliability portion of the purpose and need of the project. Over 1% of necessary ROW (3.14 miles) occurs on LMNG in the vicinity of Charlie Creek Substation.

Alternative E

Alternative E includes constructing two parallel 345-kV lines between the Red and Blue substations, along the eastern corridor. Alternative E would be the same as Alternative D with the primary difference being the construction of two parallel 345-kV transmission lines north of Killdeer for 63 miles rather than a double-circuit 345/345-kV line proposed as part of Alternative D. Alternative E would include construction of approximately 314 miles of transmission line beginning at the AVS Substation and ending at the Naset Substation, including 13 miles of new 230-kV line and 301 miles of new 345-kV transmission line, of which 126 miles (63 miles times two) would be two single-circuit 345-kV parallel lines. Alternative E would also include construction of five new substations, one switchyard, and additional equipment but no expansion to four existing substations.

Alternative E includes the following:

- 45 miles of 345-kV transmission line connecting the AVS Substation to a new Red Substation near Killdeer, including 2.3 miles immediately west of the AVS Substation where the proposed line would be double circuited with an existing line to facilitate future coal mine operations
- 21 miles of 345-kV transmission line connecting the Red Substation to the existing Charlie Creek Substation
- A new Killdeer South Switchyard south of Killdeer along Basin Electric's existing AVS to Charlie Creek 345-kV transmission line
- Two 345-kV single-circuit transmission lines running parallel for approximately 12 miles between the Red Substation and the new Killdeer South Switchyard
- 27 miles of two single-circuit parallel 345-kV transmission lines connecting the Red Substation to the new White Substation and 36 miles of two single-circuit, parallel 345-kV transmission lines connecting the White Substation to the new Blue Substation
- 24 miles of 345-kV transmission line from the Blue Substation to the proposed Judson Substation
- Two 230-kV single-circuit transmission lines running parallel for 5 miles connecting the Blue Substation to Western's 230-kV transmission line
- 2 miles of 230/115-kV double-circuit transmission line connecting the proposed Judson Substation to the Williston Substation
- 61 miles of 345-kV transmission line connecting the proposed Judson Substation to the proposed Tande Substation, approximately 31 miles of which would be double-circuited with a MWEC 115-kV line associated with other regional improvement projects
- 1 mile of 230-kV transmission line connecting the proposed Tande Substation to the Naset Substation

Substation facilities for Alternative E would also be the same as those discussed previously for Alternative C.

This alternative would affect approximately 13% more acres overall than Alternative C and does not effectively meet the reliability criteria for the purpose and need of the project. Over 1% of necessary ROW (3.14 miles) occurs on LMNG in the vicinity of Charlie Creek Substation.

IV. PUBLIC INVOLVEMENT

A Notice of Intent (NOI) was published in the *Federal Register* on November 2, 2011, informing the public of the intent by RUS to prepare an EIS. The notice initiated the 30-day public scoping period and included the dates for public scoping meetings that were held November 15 and 16 in Williston and Killdeer, North Dakota, respectively. The purpose of the public scoping meetings was to provide the public with information regarding the proposed project, answer questions, identify concerns regarding the potential environmental impacts that may result from construction and operation of the project, and gather information to determine the scope of issues to be addressed in the RUS environmental review and documentation of the project (RUS, 2012⁷). The notification process, public scoping meeting materials, and the process for collecting public comments are described in more detail in the Public Scoping Report (RUS, 2012).

A notice of availability of the DEIS for the AVS to Neseet Transmission Project was published in the *Federal Register* on December 7, 2012. Two public hearings were held on January 15 and 16, 2013, in Killdeer and Williston, North Dakota, respectively. Approximately 30 comments were submitted to RUS on the DEIS during the public comment period that ended on January 22, 2013. These comments are summarized in Appendix B of the FEIS.

A notice of availability of the Supplemental DEIS was published in the *Federal Register* on December 20, 2013, followed by a public hearing held in Watford City, North Dakota on January 16, 2014. Public comments were accepted on the document until February 3, 2014. Approximately 45 comments were received on the document; these comments are summarized in Appendix C of the FEIS.

Public, Tribal and agency comments were sought during preparation of the DEIS, SDEIS and FEIS (refer to Section VI). Responsive to comments, additional alternatives were considered and/or additional analysis conducted. Primary issues affecting LMNG lands are tied to visual resources and proximity to Theodore Roosevelt National Park and the Little Missouri River crossing. Efforts were made by Basin Electric, to the extent possible, in the Highway 85 corridor to minimize visual impacts through the inclusion of mitigation measures such as color choices and placement of individual tower structures. Installation methods that would minimize disturbance near the river include the use of helicopters. Other alternatives and alignments were considered that routed the line outside of this corridor but obstacles of terrain, sensitive habitats, roadless, and additional disturbance requirements prevented these routes from becoming viable

⁷ RUS. 2012. Public Scoping Report. Available at: http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/92957_FSPLT2_291792.pdf

alternatives. Other routes considered simply moved similar concerns to other federal or tribal jurisdictions.

V. CONSISTENCY WITH DAKOTA PRAIRIE GRASSLANDS LAND AND RESOURCE MANAGEMENT PLAN

My decision supports the Purpose and Need of meeting projected future electric demand and to maintain electric transmission reliability standards in accordance with the requirements of the North American Reliability Council for this project (FEIS Section 1.4) and is consistent with Grassland Plan direction. The Grassland Plan allows utility corridors and resource development in areas where such activities would be consistent with the Plan. Affected lands within the LMNF are not inventoried roadless, are located near existing disturbances/utilities and have been sited to the extent possible to avoid sensitive habitats, developed recreation areas and minimize impacts on other land uses. My decision restricts potential future uses of NFS lands that are incompatible with the construction, operation, maintenance and of this transmission line in this location. Traditional uses of LMNG such as recreation and grazing are generally compatible with transmission lines.

Commenters have expressed concerns over views or viewsheds from Lone Butte, Killdeer Mountains, Highway 85 corridor, Little Missouri River and Theodore Roosevelt National Park. Alternatives considered in detail (FEIS Section 2.3) and those considered and eliminated from further consideration (FEIS Section 2.1) represent trade-offs for this resource and where impacts would occur on public and private lands. For this project, viewsheds are important to the LMNG and our neighbors on the western alignment and represents a similar concern on the eastern alignment as it relates to cultural settings and traditional properties. Visual resources have been analyzed in the FEIS in sections 3.1, 3.6, and 4.4.6 and visual simulations have been included. Areas on the LMNG where the transmission line would occur have mostly low (a landscape appearing heavily fragmented with human activities strongly dominating the natural landscape) or low-moderate scenic integrity objectives for which this transmission line is compatible. It is also compatible with the Grassland Plan Special Uses Guideline (Plan at 1-25) to concentrate development in areas that have already been disturbed. My staff has been working with Basin Electric regarding design features including color and materials of tower structures (e.g., Core 10 self-weathering steel instead of galvanized) and placement of individual structures that will be used to minimize visual impacts to the LMNG to the extent possible. I acknowledge viewsheds may be impacted from locations identified by commenters; however, the impacts have been disclosed, the impacts to the National Grasslands are consistent with the visual impacts prescribed in the Grassland Plan for those affected management areas on the LMNG.

VI. FINDINGS RELATED TO OTHER LAWS AND REGULATIONS

To the best of my knowledge, this decision complies with all applicable laws and regulations. In the following, I have summarized the association of my decision to some pertinent legal requirements.

Executive Order 13212 of May 18, 2001

This Order called the federal agencies to expedite their review of permits for energy related projects while maintaining safety, public health, and environmental protections. The Forest Service Strategic Plan calls for the Forests to “help meet energy resource needs,” generally directing the agency to expedite federal actions necessary for energy related project approvals. My staff has cooperated and coordinated with RUS and Western to optimize siting of the ROW and endeavored to expedite applications by making analysis of this project a priority project per 30 U.S.C. 185(p) and 43 U.S.C. 1763.

Federal Land Policy and Management Act of 1976

FLPMA allows for the use of public lands. Title V of FLPMA (43 U.S.C. 1761-1771) states the Forest Service is authorized to grant, issue, or renew ROWs over National Forest System lands. FLPMA directs that ROWs shall be granted, issued, or renewed, without rental fees, for electric ... facilities eligible for financing pursuant to the Rural Electrification Act of 1936, as amended [7 U.S.C. 901 et seq.] (43 U.S.C. 1764(g)). My authorization of a ROW on LMNG for a transmission line with optimized siting for system reliability and funded by RUS under the Rural Electrification Act of 1936 is consistent with this act. Further, my decision follows the legal direction and agency policy for issuing Special Use Permits on National Forest System lands.

Multiple-Use Sustained-Yield Act of 1960

This Multiple Use - Sustained Yield Act of 1960 (or MUSYA) (Public Law 86-517 as amended by, P.L. 104-333) states that renewable resources are to be managed for the long term sustained yield . MUSYA authorizes and directs the Secretary of Agriculture to develop and administer the renewable resources of timber, range, water, recreation and wildlife on the national forests for multiple use and sustained yield of the products and services. MUSYA defines the terms "multiple use" and "sustained yield" as follows:

- Multiple Use- the "management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people"
- Sustained Yield- "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land"

This project provides for multiple uses of the land including existing uses such as recreation and grazing once construction is complete. This project would remove 0.04 acres from productivity ensuring sustained yield of grassland resources. Through this project, energy needs of the American people are being met. My decision is, therefore, consistent with this act.

Federal Power Act, as amended

Federal Power Act as amended by Energy Policy Act of 2005 designates the Federal Energy Regulatory Commission (FERC) as the licensing authority The Energy Policy Act of 2005

further amended the Federal Power Act to extend FERC's jurisdiction to reliability of electric service. Basin Electric, RUS and Western have designed the AVS to Neset line to maintain reliability in compliance with FERC's requirements. The USFS role under the Energy Policy Act of 2005 is also to ensure jobs for the future with secure, affordable, and reliable energy. In 2009, the Departments of Agriculture (RUS and USFS) and Energy (Western) also entered into a Memorandum of Understanding with other federal entities to expedite siting of electric transmission infrastructure and analysis and have committed to following the FERC regulations concerning siting. My decision supports the alternative that offers the greatest system reliability. I have considered line siting to meet FERC reliability standards. My decision promotes a secure and reliable energy supply for current and projected needs. My decision is, therefore, consistent with this Act and the Memorandum of Understanding.

National Forest Management Act of 1976

National Forest Management Act (NFMA) and its implementing regulations govern National Forest and National Grassland planning. The Northern Great Plains Management Plans Revision was approved in 2001, as required by this Act. This long-range land and resource management plan provides guidance for all resource management activities in the Dakota Prairie Grasslands. NFMA requires all projects and activities to be consistent with the Grasslands Plan. This project has been sited to occur in compatible motorized use management areas (Management Areas 3.65, 6.1) (FEIS at sections 3.1, 3.7, 3.10, 4.4.1, 4.4.7, 4.4.10). The Grassland Plan and its associated FEIS has been reviewed in consideration of this project (<http://www.fs.usda.gov/detailfull/dpg/landmanagement/?cid=stelprdb5340280&width=full>). This project and my decision comply with the Dakota Prairie Grassland Plan and therefore with NFMA.

Clean Air Act of 1955, as amended 1977

This Clean Air Act (CAA) required States to develop plans to implement, maintain, and enforce primary and secondary ambient air quality standards for any criteria air pollutants, and called federal agencies to prevent deterioration of air quality. Effects on air quality as a result of this project were analyzed (FEIS Section 3.2) and showed that this project will have construction emissions comparable to 4832 passenger cars per year spread over the length of the project area and relatively minor operational emissions (equivalent to approximately 9 cars per year). The project would not qualify as a large source of emissions that would require reporting nor would it cause emission-related visibility impairments to Class I area at Theodore Roosevelt National Park. Contributions of construction, operation and maintenance of the transmission line on greenhouse gases would be low. My decision is, therefore, consistent with this Act.

Clean Water Act and Amendments of 1972

This Clean Water Act (CWA) requires State and Federal agencies to control and abate water pollution. This transmission line was designed to comply with this Act (Appendix B and FEIS Section 3.4, Appendix A) through the inclusion of mitigation measures for the protection of water resources and monitoring and compliance with all state and local laws. To the extent

possible water features have been avoided by spanning them. My decision is, therefore, consistent with this Act.

Executive Orders 11990 and 11988

The management of wetlands and floodplains are subject to Executive Orders 11990 and 11988, respectively. The purpose of the EOs are to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and floodplains and to avoid direct or indirect support of new construction in wetlands wherever there is a practical Alternative. This order requires agencies to take action to minimize destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. In compliance with this order, agency direction requires that an analysis be completed to determine whether adverse impacts would result (FEIS, Sections 3.4 and 4.4.4). The project was designed to avoid impacts to wetlands and floodplains by spanning these areas and through the inclusion of mitigation measures (Appendix B herein, FEIS Appendix A). Basin Electric is also required to obtain all appropriate permits identified in FEIS Chapter 6. My decision is consistent with these orders.

Executive Order 12898

Concern for environmental justice stems from Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” signed February 11, 1994 by President Clinton. In this order (Section 1-101), “*each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States.*” The population around the project area was reviewed and effects on minority and low income populations were disclosed (FEIS Section 3.9). Impacts on these individuals or communities are not expected to be disproportionately high; therefore, my decision is consistent with this Order.

National Historic Preservation Act

Federal Agencies (led by RUS), Tribes, North Dakota State Historic Preservation Office (SHPO), and other consulting parties have entered into a Programmatic Agreement for consultation under Section 106 of the National Historic Preservation Act, as amended in 1999. This consultation will be ongoing due to the phased development nature of the project. Class III Archaeological and Tribal surveys have been completed on the LMNG. Additional sites on the LMNG had been identified for further testing (excavation) at the time of my Draft ROD to determine eligibility to National Register of Historic Places. Concurrence from the SHPO has since been received for those sites (August 22, 2014). Sites eligible for nomination to the National Register of Historic Places will be avoided and preserved in place with two sites requiring active monitoring during construction activities. No infrastructure will be placed within the boundaries of known or newly discovered sites. Surveys, consultation and avoidance/monitoring of eligible sites demonstrate compliance with this Act.

Endangered Species Act

Biological resources including USFS special status species have been considered (DEIS, SDEIS, FEIS sections 3.5 and 4.4.5, Biological Assessment and Biological Evaluation). Alternatives considered represent a trade off on effects to species on public and private lands. My staff has participated in the preparation and reviews of supplemental reports prepared by Basin Electric's and Western's biological consultants and have concurred with their finding

A Biological Assessment (BA) was prepared for the project as a whole. All known endangered, threatened, proposed, and candidate species and their critical habitat or proposed critical habitat in the project area were considered and treated as listed for consultation purposes. The transmission line would not affect gray wolf, pallid sturgeon or black-footed ferret. Due to "may affect, not likely to adversely affect" determinations for Sprague's pipit, piping plover, critical habitat for piping plover, interior least tern, whooping crane, Northern long-eared bat, Dakota skipper, and rufa red knot, Western, as designated federal agency for consultation, has consulted/conferenced with U.S. Fish and Wildlife Service (USFWS). Western completed a supplemental/revised request for concurrence and conference (concurrence dated May 22, 2014) regarding effects determinations based on USFWS recommendations (January, 2014) and species status changes. Basin Electric will be required to comply with effects minimization measures in the revised BA (project file) for threatened and endangered species. If additional findings regarding threatened or endangered, proposed or sensitive species are discovered, the BA will be updated and informal consultation reinitiated. Therefore, my decision is consistent with this Act.

Attempts have been made by my staff and other agencies to minimize impacts on public and private lands to biologic resources and habitats in accord with 40 CFR 1505.2(c) through the inclusion of mitigation measures (Appendix B), line design and tower structure placement. I agree with the approach taken by all agencies to address species and habitat-related concerns which further protect biological resources on the LMNG.

National Environmental Policy Act

All documentation in the project record in support of, and including the USFS involvement and independent review of FEIS (40 CFR 1506.3) and preparation of this ROD have been developed to comply with this Act, CEQ regulations at 40 CFR 1500, Forest Service policies at Forest Service Handbook 1909.15 and 36 CFR 220, requirements that evolved through the practice of NEPA, and from case law.

The resource effects analyses presented in the FEIS (Chapters 3 and 4) describes potential direct, indirect and cumulative impacts to resources from the transmission project. Best Management Practices (BMPs)/mitigation measures have been developed (FEIS Appendix A, herein Appendix B) for the protection of air quality, water, geology/minerals/soils, biological resources, cultural resources, land uses, public health/safety, visual resources and noise. BMPs/mitigations will minimize adverse impacts to the LMNG and to the rest of the project area while meeting the anticipated energy needs of the affected counties and meeting the reliability requirements of a transmission system. Attempts have been made by my staff and other agencies to minimize

impacts on public and private lands to biologic resources and habitats in accord with 40 CFR 1505.2(c) through the inclusion of mitigation measures (Appendix B), line design and tower structure placement.

Other Permits Required

FEIS Chapter 6 identifies numerous laws and permits under which Basin Electric must operate. With regard to USFS lands, a SUP must be issued for easement ROW for the construction, operation and maintenance of the transmission line. Once issued, the SUP is not subject to further administrative review, except pursuant to 36 CFR 214 (b) and (c).

Policy

The objectives of the special-uses program (FSM 2702) related to this proposal are to: (1) Authorize and manage special uses of National Forest System lands in a manner which protects natural resources and public health and safety, consistent with National Forest System Land and Resource Management Plans and (2) Administer special uses based on resource management objectives and sound business management principles. My staff has used this policy as a guide to site the line on the LMNG and direct analysis in the FEIS to protect resources and public safety. My decision is therefore consistent with this policy.

VII. IMPLEMENTATION DATE AND OBJECTION OPPORTUNITY

Project Implementation

Implementation will only occur after the full Pre-decisional Administrative Review Process (36 CFR §218 subparts A and B) is complete. Upon signature of this Record of Decision, this project may be implemented immediately through the issuance of a SUP to Basin Electric. Actual construction of the transmission line through the LMNG is hoped to begin in late summer/early fall 2014 depending on finalization of ROWs on surrounding private lands.

Pre-Decisional Objection Opportunities

This decision was subject to a pre-decisional objection period, pursuant to 36 CFR 218.4 because specific written comments were received during the formal opportunities to comment provided for this project.

A handful of comments from State and Federal permitting agencies (Federal Aviation Administration, North Dakota Parks and Recreation Department, North Dakota Department of Health, Army Corps of Engineers and North Dakota Department of Transportation) were received during the objection period. These were verified by the Reviewing Officer's staff with submitters to only be comments and not filed as objections; however, I did receive additional confirmation from Basin Electric that all permitting requirements have been addressed and while future highway expansion for Highway 85 is being contemplated, it would not impact the location of the transmission line on the LMNG.

One additional comment letter from Fort Berthold Community College students was sent to my staff in response to the notification of the draft decision, but was addressed to Region 8 of the Environmental Protection Agency and was undeterminable to which project it applied based on the general nature of the comments and references to a “pipeline”. There was no mention of this (or any) project by name in the letter nor was there mention of violation of any law, regulation or policy indicating that it might be an objection for this project. This letter was not processed as an objection for reasons stated above and because it did not meet the content requirements of 36 CFR 218.8 and 218.9.

One timely objection was received from Badlands Conservation Alliance (BCA). This objection was processed in accordance with 36 CFR 218 Subparts A and B with Deputy Regional Forester, David Schmid, as the Reviewing Officer. On August 21, 2014 I, along with my staff and other agencies, met with Jan Swenson of BCA and the Reviewing Officer to discuss the objection points. We were unable to come to resolution of objection points as the proposed solution of moving Western’s existing 230 kV transmission line out of Theodore Roosevelt National Park to minimize effects on visual resources is outside of my decision space for this proposed line. On August 29, 2014, I received the approval to sign this decision with the caveat that I address an inconsistency found in the administrative record. This is addressed below.

The following discrepancy was noted during the Forest Service’s administrative review of the project: AR document # 488 (p. 2) appears to claim that >30 to 40% of the viewshed of Theodore Roosevelt National Park would be impacted, while the FEIS (p. 3-28) states that less than 20 percent of the total area of the park’s north unit would be impacted.

Response

The agencies have reviewed visual information prepared by the National Park Service (NPS) (AR document # 488 (p. 2)) which was submitted and explained during a Public Service Commission hearing on September 4, 2013 (hearing testimony transcripts available in record) and have compared that testimony to the analysis in the FEIS (3-28). The map submitted by the NPS has colors that have not reproduced well in the PDF versions in our record. The North Unit of Theodore Roosevelt National Park appears to be the same color as the impact area of 30-40% when in fact the corresponding testimony states that the park is “tan” and that the areas of the impact corresponding to the higher levels of impact are in fact “orange” (>20-30%--appears more brown on map) and “red” (>30-40%--appears the same pinkish-color as the Park’s tan on map). The NPS acknowledges, as quoted, in testimony that “orange, red, those areas—it’s not going through those areas, fortunately, but if it were, it would show you that it would be visible from even more of the park area”(Testimony at 320). The NPS map submitted with corresponding testimony shows the highest level of impact of the transmission line in a “yellow” color (>10 to 20%--appears to be a yellow-green color on PDF maps) where the transmission line is proposed in Sections 30 and 31 just north of the Little Missouri River and in Sections 7 and 18 south of the Little Missouri River. Unfortunately, impact value levels stated in additional NPS testimony (Testimony at 320-321) and letters (FEIS Appendix C, comment F-002-004) do not correspond to the NPS map and legend values submitted. Analysis in the FEIS (3-28) conservatively defines the impact as <20% which corresponds to the actual modelled analysis values of “>10 to 20%” for the yellow areas submitted by the NPS. The agencies have also done

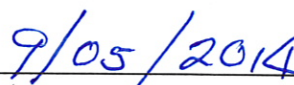
a visual simulation based on photography from the North Unit of the Park (FEIS Appendix E, Simulation 3) in an effort to compare the NPS GIS-based analysis to actual transmission line placement. While we find some conflicts between the NPS's statements/letters, we find no discrepancy between the actual NPS science-based mapping analysis provided (relying on the NPS's testimony description of the colors of the original map) and the disclosure in the FEIS.

Contact

For more information about this project, please contact Jay Frederick, District Ranger, at jfrederick@fs.fed.us or 701-842-2393 ext. 29 or Jeff Ingalls, Lands Specialist, at jingalls@fs.fed.us or 701-842-2939 ext. 16.

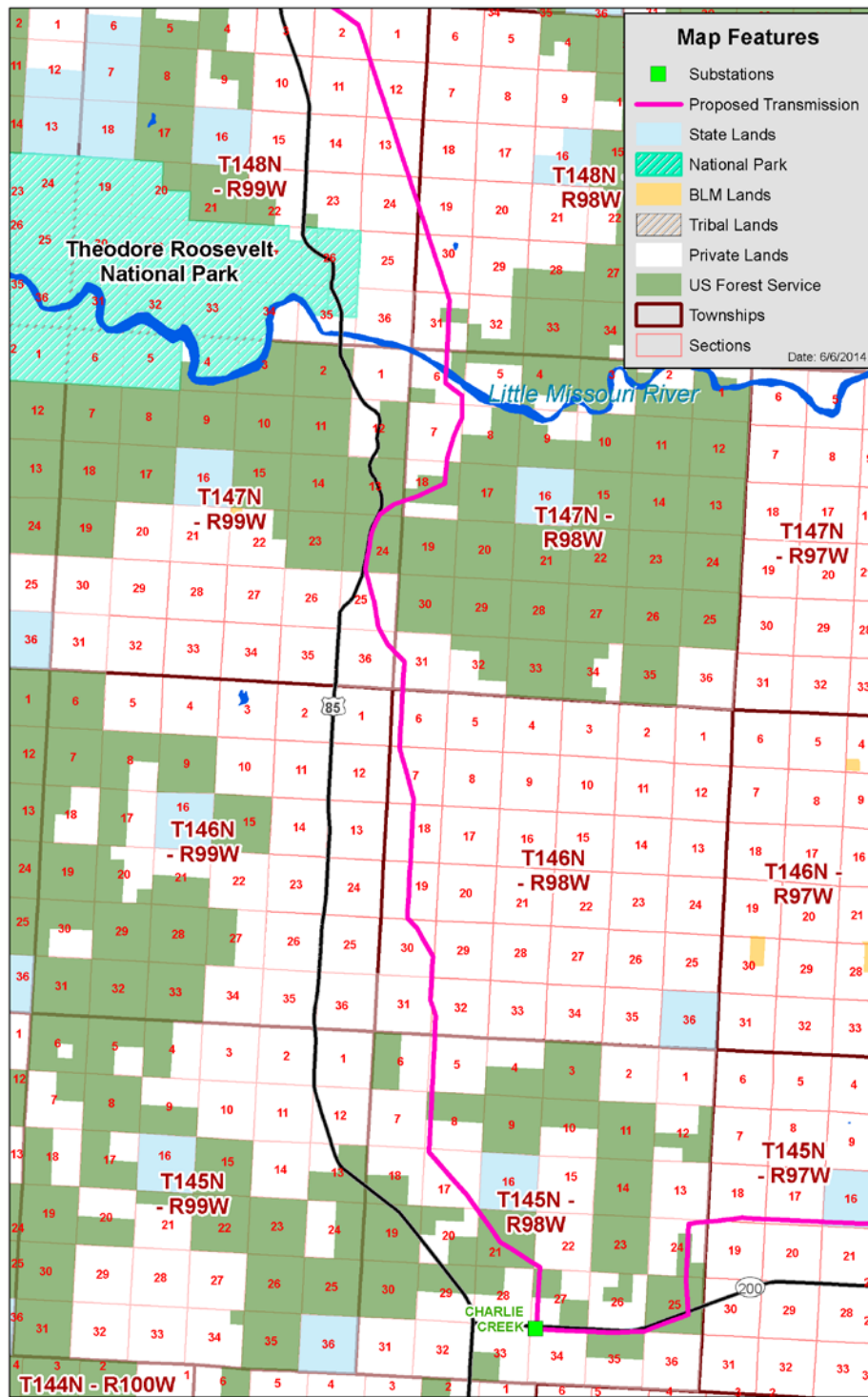


DENNIS D. NEITZKE
Dakota Prairie Grasslands Supervisor



Date

APPENDIX A. DECISION MAP



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APPENDIX B. STANDARD MITIGATION/CONSERVATION MEASURES AND BEST MANAGEMENT PRACTICES (BMPs) TO BE USED BY BASIN ELECTRIC FOR THE PROPOSED AVS TO NESET TRANSMISSION PROJECT

General	
Gen-1	The requirements of all applicable federal, state, and local environmental laws, executive orders, and regulations would be met during construction and operation of the proposed project.
Gen-2	All permit conditions required by federal, state, and local agencies would be adhered to for construction and operation of the proposed project.
Gen-3	<p>Prior to construction, all construction personnel and heavy equipment operators would be instructed on the protection of cultural, paleontological, and ecological resources, and all applicable permit requirements. Construction contracts would address:</p> <ul style="list-style-type: none"> • Federal, state, and local laws regarding antiquities, fossils, plants, and wildlife, including collection/removal • The importance and necessity of protecting such resources • All applicable permit requirements
Air Quality	
Air-1	The emission of dust into the atmosphere during construction would be minimized to the extent practical during the excavation and transport of material, site grading, and movement of equipment. Methods and equipment would be used as necessary to suppress or prevent dust during these operations such as use of water trucks, covers on truck beds, attentiveness to dust creation on local gravel roads, or other dust management strategies.
Air-2	All construction equipment and vehicles will be maintained in efficient operating condition and comply with applicable state and federal emission standards. Engine idling time will be limited and equipment will be shut down when not in use. Vehicles and equipment that show excessive emissions or other inefficient conditions would not be operated until repairs or adjustments are made.

Air-3	All waste materials shall be disposed of at permitted waste disposal areas or landfills. Burning or burying waste materials on the right-of-way (ROW) would not be permitted. Tree and grubbing residue may be buried on site or in the ROW with landowner approval.
Air-4	Nuisance to persons, dwellings, or crops resulting from dust originating from construction would be minimized. Oil and other petroleum derivatives would not be used for dust control. Speed limits on local gravel roads would be enforced to reduce dust.
Water Resources	
Water-1	Construction activities would comply with the requirements of North Dakota permits for stormwater discharges for construction activities, which specify appropriate best management practices, erosion and sediment control measures, and disposal practices. Best management practices (BMPs) will be included in a Stormwater Pollution Prevention Plan. Construction activities adjacent to or encroaching on streams or waterways, including work within ROWs, construction of access roads on hillsides, and dewatering work for structure foundations, or earthwork operations would be conducted to prevent disturbed soils, muddy water, and eroded materials from entering streams or waterways by construction of intercepting ditches, bypass channels, barriers, settling ponds, or by other approved means.
Water-2	Construction activities would be conducted to prevent the accidental spillage of solid matter contaminants, debris, hazardous liquids, or other pollutants into streams, waterways, lakes, land, and underground aquifers. Such pollutants and waste include, but are not restricted to, refuse, garbage, cement, concrete, sanitary waste, industrial waste, oil, and other petroleum products, aggregate processing tailing, mineral salts, and thermal pollution. A hazardous materials management and spill prevention plan would be developed for construction that addresses storage, use, transportation, and disposal of hazardous materials, and an emergency response plan would be in place in the event of an accidental spill.
Water-3	Excavated material or construction materials would not be stockpiled or deposited near or on stream banks, lake shorelines, or other waterway perimeters unless protected from high water or storm runoff or encroachment upon the actual waterway itself.

Water-4	Wastewater discharge from any construction operations would not enter streams, waterways, or other surface waters without the appropriate permit(s).
Water-5	Equipment washing, storage of petroleum products, lubricants, solvents and hazardous materials, structure sites, and other disturbed areas would be located at least 100 feet, where practical, from rivers, streams (including ephemeral streams), ponds, lakes, and reservoirs. This includes construction vehicles and heavy equipment when parked overnight or longer.
Water-6	ROW access roads would be located at least 100 feet, where practical, from rivers, ponds, lakes, and reservoirs.
Water-7	All stream crossings considered jurisdictional by the U.S. Army Corps of Engineers (USACE) would be crossed by permit only. Where required, culverts of adequate size to accommodate the estimated peak flow of the stream would be installed. Disturbance of the stream banks and beds during construction would be minimized and temporary during the construction period. Disturbed areas would be revegetated in accordance with mitigation measures listed for soil/vegetation resources and USACE policy regarding the removal of vegetation.
Water-8	If the banks of ephemeral stream crossings are sufficiently high and steep that breaking them down for a crossing would cause excessive disturbance, culverts would be installed using the same measures as for culverts on perennial streams.
Water-9	Heavy equipment movement near streams and other surface waters would be minimized, to the extent practical.
Water-10	Narrow flood-prone areas would be spanned.
Geology and Minerals, Paleontology, and Soils	
Geo-1	Removed topsoil would be used as engineered fill, as appropriate, or stockpiled and re-spread subsequent to construction where allowed.
Geo-2	Access roads would generally follow the contour of the land to the greatest extent practical rather than a straight line along the ROW where steep features would result in a higher erosion potential.

Geo-3	To the extent practical, excavated areas would be re-contoured so that large volumes of water would not collect and stand therein. Before being abandoned, the sides of excavations would be brought to stable slopes, giving a natural appearance, and revegetated. Waste soil piles would be shaped to provide a natural appearance.
Biological Resources	
Bio-1	Prior to construction, potentially-impacted wetland areas would be identified and marked. Wetland and riparian areas would be avoided to the extent practical by spanning of the wetlands and the placement of structures outside of wetland areas. If wetland or riparian areas are unavoidable, impacts would be minimized or mitigated. Jurisdictional waters that are impacted as a result of implementing the proposed project would be mitigated in accordance with USACE requirements.
Bio-2	Care would be used in preserving the natural landscape and vegetation. Construction operations would be conducted to prevent, to the extent practical, any unnecessary destruction, scarring, or defacing of the natural surroundings, vegetation, trees, and native shrubbery in the vicinity of the work. Vegetation would be replaced at landowner's request, provided mitigation complying with North American Electric Reliability Council (NERC) requirements.
Bio-3	Basin Electric would implement BMP's to address the potential spread of noxious weeds during construction activities. Example measures will include the washing of construction vehicles prior to use at construction work sites, revegetation with a native seed mix, and control of noxious weeds during right-of-way maintenance activities.
Bio-4	Upon completion of work, all non-agricultural disturbed areas and construction staging areas not needed for maintenance access would be re-graded so that all surfaces drain naturally, blend with the natural terrain, and are reseeded to blend with native vegetation with a seed mixture certified as free of noxious or invasive weeds. All destruction, scarring, damage, or defacing of the landscape resulting from construction would be repaired as appropriate.

<p>Bio-5</p>	<p>Construction staging areas would be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. Unless otherwise agreed upon by the landowner, all storage and construction materials and debris would be removed from the construction staging areas once construction is complete, and the areas returned to original use or re-graded and seeded as for nonagricultural disturbed areas.</p>
<p>Bio-6</p>	<p>Native shrubs that would not interfere with access or the safe operation of the transmission line would be allowed to reestablish in the ROW. Areas with native shrubs that would be disturbed would be replanted with regionally-native species following the disturbance.</p>
<p>Bio-7</p>	<p>Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds, shall be inventoried before cutting. The inventory shall record the location, number, and species of trees and shrubs. In windbreaks, shelterbelts, and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, shall be inventoried for replacement. In native growth areas, trees anticipated to be cleared that are 1-inch diameter at breast height (dbh) or greater shall be inventoried for replacement, as well as all shrubs in the permanent ROW.</p>
<p>Bio-8</p>	<p>In native growth areas outside the permanent ROW, shrubs shall be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil shall be preserved and replaced after construction is completed. Shrubs shall be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared shall be inventoried for replacement.</p>
<p>Bio-9</p>	<p>In native growth areas, trees and shrubs would be replaced according to Basin Electric’s Tree Management Plan. This plan, filed and approved with the North Dakota Public Service Commission (NDPSC), provides for the identification and re-establishment of appropriate numbers and types of trees and shrubs removed as part of right-of-way clearing and maintenance.</p>
<p>Bio-10</p>	<p>Trees and shrubs shall be selectively cleared, leaving mature trees and shrubs intact where practical. The width of clear cuts through windbreaks, shelterbelts and all other wooded areas shall be limited to 50 feet or less unless otherwise approved by the NDPSC. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced shall be noted on the inventory.</p>

<p>Bio-11</p>	<p>Prior to replacement, documentation identifying the number and variety of trees removed as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings shall be filed with the NDPSC for approval. Replanting would use native tree species for the local area, and planting replacement trees in existing areas of native prairie would be avoided. Tree replacement shall be on a 2 to 1 basis with 2-year-old saplings. Shrub replacement shall be on a 2 to 1 basis with stem cuttings. Trees and shrubs shall be replaced by the same species or similar species, except in the case of invasive species or noxious weeds, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.</p>
<p>Bio-12</p>	<p>Landowners shall be given the option of having replacement trees or shrubs planted off the ROW on the landowner’s property or waiving that requirement in writing and allowing those replacement trees or shrubs to be planted at alternative locations.</p>
<p>Bio-13</p>	<p>At the conclusion of the project, documentation identifying the actual number, variety, type, location, and date of the replacement plantings shall be filed with the NDPSC. Tree and shrub replacements shall be inspected once a year for three years, on or about the anniversary of the plantings, and, on or shortly before October 1 of each year, a report shall be submitted to the Commission documenting the condition of replacement planting and any woodlands work completed. If after three years from the anniversary of the plantings the survival rate is less than 75 percent, the NDPSC may order additional planting(s).</p>
<p>Bio-14</p>	<p>Basin Electric’s system-wide Avian Protection Plan would be implemented to minimize impacts on nesting birds, as well as to minimize the electrocution and collision of migratory and resident bird species. The Avian Protection Plan includes design provisions for adequate distance between conductors and distances between conductors and grounded surfaces to minimize electrocution risk. It also includes methods for minimizing bird collisions, such as line marking techniques, developed in accordance with recommendations contained in the most recent Avian Power Line Interaction Committee publication “Reducing Avian Collisions with Power Lines, State of Art in 2012”. The Avian Protection Plan follows guidelines described at www.aplic.org.</p>

Bio-15	Holes drilled or excavated for pole placement or foundation construction and left unattended overnight would be marked and secured with temporary fencing to reduce the potential for livestock and wildlife to enter the holes, and for public safety.
Cultural Resources	
CR-1	In accordance with 36 CFR Section 800.14(6)(1), the Agencies will execute a Programmatic Agreement which establishes procedures for the identification of historic properties and the assessment and mitigation of adverse effects. Thus, mitigation of impacts of the AVS Transmission Project on historic properties will be governed by the PA.
CR-2	To prevent damage to cultural resources a professional archeologist will flag and monitor areas of potential disturbance to cultural resources during construction of the AVS-Neset Project components. In addition, all sites identified during construction will be marked as a sensitive location on operation and maintenance maps.
CR-3	During construction, if any paleontological resources are discovered on federal lands, work would cease within a 50-foot radius of the discovery. Any fossils discovered would not be disturbed and RUS, Western, USFS and NDSHPO would be notified of the discovery immediately. Appropriate action to avoid or minimize any impact to the discovery would be identified and implemented.
Land Use	
Land-1	The minimum area necessary would be used for access roads during project construction.
Land-2	When practical, transmission structures would be located and designed to conform to the terrain. Leveling and benching of the structure sites would be the minimum necessary to allow structure assembly and erection.
Land-3	Transmission structures would be located, where practical, to span sensitive land uses. Where practical, construction access roads would be located to avoid sensitive conditions.
Land-4	The precise location of all structure sites, ROW, and other disturbed areas would be determined with landowners' or land management agencies' input.

Land-5	The movement of crews and equipment would be limited to the ROW and areas surveyed for cultural, historical, and biological resources, including access routes. To the extent practicable, the contractor would limit movement on the ROW to minimize damage to grazing land, crops, or property and would avoid marring the land.
Land-6	Where practical, construction activities would be scheduled during periods when agricultural activities would be minimally affected or the landowner would be compensated accordingly.
Land-7	Fences, gates, and similar improvements that are removed or damaged would be promptly repaired or replaced.
Land-8	Transmission structure design and placement would be selected to reduce potential conflicts with agricultural practices and to reduce the amount of land required for transmission lines.
Land-9	ROW would be purchased through negotiations with each landowner affected by the proposed project. Payment would be made of full value for crop damages or other property damage during construction or maintenance.
Land-10	Any ruts would be leveled, filled, and graded, or otherwise eliminated in an approved manner. Ruts, scars, and compacted soils from construction activities in productive hay or crop lands would be loosened and leveled by scarifying, harrowing, disking, or other appropriate methods. Damage to ditches, tile drains, terraces, roads, and other land features would be corrected. Land contours and facilities would be restored as nearly as practical to their original conditions.
Public Health and Safety	
PH-1	When appropriate, pilot vehicles would accompany the movement of heavy equipment. Traffic control barriers and warning devices would be used when appropriate.

PH-2	All necessary provisions would be made to conform to safety requirements for maintaining the flow of public traffic and avoiding congestion at critical locations. Construction operations would be conducted to offer the least possible obstruction and inconvenience to public traffic, such as by the use of pilot cars to accompany trucks with oversized loads and slow-moving vehicles, scheduling heavy equipment transport to avoid high traffic periods, and where feasible, use of existing rail facilities. Construction workers will be encouraged to carpool to the construction site.
PH-3	Design would include reasonable mitigation measures to reduce problems of induced currents into conductive objects within the ROW. Problems of induced currents during construction and operation would be resolved, to the mutual satisfaction of the parties involved.
PH-4	Complaints of radio or television interference generated by the transmission line would be investigated and appropriate mitigation measures would be implemented.
PH-5	Audible noise construction and operation of the proposed project would be addressed as necessary on a case-by-case basis.
PH-6	Transmission line materials would be designed to minimize corona. Tension would be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution would be exercised during construction to avoid nicking the conductor surface, which may provide points for corona to occur.
PH-7	The construction contractor would establish a health and safety program that incorporates Occupational Safety and Health Administration (OSHA) standards such as requirements for hearing protection, personal protective equipment, site access, chemical exposure limits, safe work practices, training program, and emergency procedures. The program would be reviewed with fire department personnel and emergency services personnel to reduce risk of construction and operation activities interfering with emergency response or evacuation plans and procedures.
PH-8	At the end of every work day, contractors would secure all construction areas to protect equipment and materials and discourage public access. Fueling of vehicles would be conducted in compliance with established procedures designed to minimize fire risks and fuel spills.

Visual Resources	
Vis-1	Structure types (designs) would be uniform, to the extent practical.
Vis-2	Structures would be setback from roadways an appropriate distance to reduce potential visual impacts at highway and trail crossings while still enabling over-road clearances to be maintained.
Vis-3	Construction areas would be maintained in a neat and orderly manner, free of trash and debris.
Noise	
Noise-1	An adequate buffer would be maintained around the proposed substation sites to minimize construction and operational noise impacts on area residents.
Noise-2	Power lines would be designed to minimize noise from energized conductors.
Noise-3	To avoid nuisance noise conditions, transmission line construction within 1,000 feet of a residence would be limited to daytime hours whenever practical.
Noise-4	To avoid nuisance conditions due to construction noise, all internal combustion engines used in connection with construction activity would be fitted with an approved muffler and spark arrester.