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CHARLIE CREEK - BELFIELD
TRANSMISSION LINE PROJECT
NORTH DAKOTA

Final Environmental Impact Statement
U.S. Department of Energy
1989

FINAL

ENVIRONMENTAL IMPACT STATEMENT

CHARLIE CREEK - BELFIELD TRANSMISSION LINE PROJECT

U.S. DEPARTMENT OF ENERGY

WESTERN AREA POWER ADMINISTRATION

1989

FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS)

CHARLIE CREEK-BELFIELD TRANSMISSION LINE PROJECT
BILLINGS, STARK, MCKENZIE, & DUNN COUNTIES, NORTH DAKOTA

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ABSTRACT

The Western Area Power Administration (Western) proposes to construct, operate, and maintain approximately 40.9 miles of new 345-kV transmission line between Charlie Creek and Belfield, North Dakota. The area is presently served by a single 345-kV transmission line from the Antelope Valley Station and several 115-kV transmission lines from Garrison, Tioga, Wolf Point, and Richland. This system is in need of added transmission capacity to correct low voltages, overloaded facilities, and loss of service that has been experienced and which will worsen as loads grow in the area. The proposed action would provide improved service to area loads and system reliability, contribute to energy conservation, and provide additional flexibility for future expansion when and if it becomes necessary. Alternatives considered include no action, energy conservation, other transmission systems and technologies, and the proposed action with routing and design alternatives. Unavoidable adverse effects of the proposed action would be construction related impacts on agricultural, visual, and cultural resources.

PREFACE

The Environmental Impact Statement (EIS) prepared for the Charlie Creek-Belfield Transmission Line Project consists of the Draft Environmental Impact Statement (DEIS) (U.S. Department of Energy, 1988) and this document, the Final Environmental Impact Statement (FEIS). The two documents are intended to be reviewed together.

The DEIS, issued in June 1988, contains a statement of need and purpose for the proposed project, a discussion of the scoping process and project-related studies, a discussion of alternative actions, and an analysis of the affected environment and environmental consequences of the proposed action for routing alternatives studied. The DEIS underwent extensive public review by government agencies, organizations, and individuals during an official comment period that included public hearings in the project area.

This document, the FEIS, contains:

1. A comprehensive summary of the DEIS and FEIS.

2. A description of additional route studies performed subsequent to the DEIS.

3. A description of the review process, comments from letters and hearings on the DEIS, and Western's responses to the comments (Chapter II).

4. Corrections and revisions of data in the DEIS (Chapter III)

Copies of the FEIS have been sent to all agencies, organizations, and individuals listed in Chapter VI of the DEIS, and to all agencies, organizations, and individuals who have since requested copies.

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SUMMARY

A. Introduction

The Western Area Power Administration (Western) is proposing to construct a high voltage transmission line project which would interconnect the existing Antelope Valley Station (AVS)-Charlie Creek 345-kV Transmission Line In southern McKenzie County and the Dawson County-Dickinson 230-kV Transmission Line near Belfield, Stark County, North Dakota. A new 345/230-kV substation would be constructed near Belfield and additions made to the existing Charlie Creek 345/115-kV Substation. This environmental impact statement (EIS) was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for the Implementation of the procedural requirements of NEPA, the Department of Energy guidelines for compliance with NEPA, and other applicable legislation.

B. Need and Purpose

The electrical needs of the Charlie Creek-Wiiiiston area in western North Dakota are presently served by a single 345-kV transmission line from the Antelope Valley Station (AVS) and several 115-kV transmission lines from Garrison, Tioga, Wolf Point, and Richland. Distribution service in the area is supported by a 69-kV system owned by McKenzie Electric Cooperative and a 41.6-kV system owned by West Plains Electric Cooperative.

Power system simulation studies and operational experience have demonstrated the need for added transmission capacity into the area. The Charlie Creek-Williston area cannot sustain an outage of the AVS-Charlie Creek 345-kV line without experiencing severe low voltages, overloaded facilities, and possible loss of electric service to customers. In the future, system voltages and facility loadings will be unacceptable during both outage and system intact conditions.

The proposed action would: 1) provide improved service to area loads, 2) improve system reliability, 3) contribute to energy conservation, and 4) provide flexibility for future system expansion.

C. Alternatives Including the Proposed Action

The categories of alternatives considered for meeting the stated need are no action, energy conservation, other existing or planned systems, other technologies, other alternating current overhead systems, and the proposed action with routing and design alternatives.

In this EIS, the no action alternative has been interpreted to mean that no new transmission facilities would be constructed by Western between Charlie Creek and Belfield. The consequences of the no action alternative would be: 1) The electrical loads served from the existing Charlie Creek-Williston 115-kV transmission system would be subject to low voltage and

possible loss of electric service during an outage of the AVS-Charlie Creek 345-kV Transmission Line., and 2) The existing Charlie Creek-Williston transmission system would not be able to support anticipated area electrical load growth under system-intact conditions when Lewis and Clark generation is off-line. Overloaded facilities, low voltage conditions, and associated service interruptions will increase in frequency and severity as time progresses.

Western could attempt to mitigate these adverse effects through mandatory load curtailments, rolling black-outs, and planned voltage reduction, but these measures are considered unacceptable in terms of normal utility practices.

Western encourages energy conservation, which refers to the elimination of wasteful or unnecessary uses of energy and has the advantage of reducing energy consumption with no documented adverse environmental impacts. While conservation measures employed by Western and its customers have resulted in some energy savings and reduction in loads, they have not reduced area loads or area load growth in amounts sufficient to eliminate the need to improve the system.

Another possible alternative for meeting the stated need would be for Western to provide support to the Charlie Creek area using existing or planned transmission systems. There are no existing or planned transmission facilities owned by others that Western could use to meet the need for the proposed action.

A direct current (dc) transmission system is a possible alternative to an alternating current (ac) system, but, because of the need for ac-dc conversion facilities, a dc system with the power transfer capability of a 345-kV ac line would cost approximately two to three times as much as an ac line, with no apparent environmental advantage. Underground systems were also evaluated but eliminated because of technical complications, economic and environmental costs, and accessibility, although some aesthetic impacts would be avoided. No other method is presently available for the economical bulk-power transmission of electric energy.

Overhead ac systems other than the proposed action were also considered. These included: 1) a Charlie Creek-Belfield 230-kV line, 2) a Charlie Creek-Dickinson 345-kV line, and 3) a Charlie Creek-Dickinson 230-kV line. A comparison of these options to the proposed action indicated that the proposed action offered the best combination of costs, savings in transmission line losses, improved system reliability, provision of an additional transmission source to area loads, and future expandibility.

After investigating the above alternatives, Western concluded that the most reasonable alternative for meeting the stated need and purpose would be a new overhead ac line constructed between Charlie Creek and Belfield. Design alternatives for voltage, structures, and conductor were considered. Results of design-alternative evaluations are incorporated in the following description of the proposed action and routing alternatives.

D. Proposed Action

Western proposes to construct, operate, and maintain a single-circuit overhead 345-kV ac transmission line to connect Basin Electric's existing 345/115-kV Charlie Creek Substation with Western's existing Dawson County-Dickinson 230-kV Transmission Line at a new 345/230-kV substation to be built near Belfield, North Dakota. The proposed project would consist of the construction of about 40.9 miles of new 345-kV transmission line on steel-lattice structures. The

proposed Belfield Substation would be built on approximately 5 acres of land 6 miles southeast of Belfield. A steel-lattice structure would be 60 to 90 feet tall and occupy approximately 1600 square feet at the base. Span lengths between structures would average 1,150 feet along a 165-foot wide right-of-way. The conductors would be nonspecular type to reduce light reflection.

Table II-5 in the DEIS identifies other generic and specific mitigation measures which are considered part of the proposed action. These measures were assumed when assessing residual impacts and environmental consequences.

Construction of the proposed project would begin in September 1989, and the line would be scheduled to be operational by December 1990. The expected life of the project is at least 50 years.

E. Alternative Corridor and Substation Comparison

The siting and impact assessment of the Charlie Creek to Belfield 345-kV Transmission Line Project was accomplished through a rigorous, systematic process involving six major phases: 1) determining the scope of the environmental studies and assessments to be conducted, 2) conducting resource sensitivity analyses to identify opportunities and constraints to transmission line siting, 3) selecting alternative corridors and substation sites for detailed study, 4) assessing the potential impact of constructing and operating the project at each alternative location and methods for avoiding or reducing those impacts, 5) identifying the "least impact" location and selecting a proposed or "preferred" route for the project, and 6) preparing the EIS for review and obtaining other required environmental reviews and approvals.

Environmental studies including regional-scale and corridor-scale studies were conducted for a number of alternative transmission line routes between Charlie Creek and Belfield and for four alternative substation sites south of Belfield. The principal studies, through which the environmental baseline for impact assessment and mitigation planning was developed, inventoried existing conditions for land use, agricultural, visual, and socioeconomic resources in the human environment; archaeological, historic, and Native American resources in the cultural environment; and air, geologic, paleontologic, hydrologic, soils, vegetation, and wildlife resources in the natural environment. In addition, potential electrical, biological, health, and safety effects from the proposed project were assessed.

F. Public Involvement And Review Process

An extensive public involvement program was conducted which began early in the planning process with scoping meetings and agency contacts to provide information on the proposed project and solicit early input regarding environmental issues. Further public workshops were held at critical points in the planning process to obtain data for the environmental studies and solicit input on alternative routes and substation sites.

The public review process for the DEIS consisted of soliciting comments from approximately 100 government agencies, institutions, organizations, and individuals to whom the document was sent. Comments were received in the form of letters and remarks made during the public hearings conducted by Western in Belfield and Grassy Butte, North Dakota.

In response, 61 letters were received commenting on the DEIS. A total of 25 people presented oral comments for the record at the public hearings. Responses to specific comments are provided in Chapter II of this FEIS.

G. Affected Environment

1. Human Environment

The majority of lands within the study area are in private ownership. Publicly owned lands fall under the jurisdiction of the Forest Service, the North Dakota Department of State Lands, Billings, Stark, McKenzie, and Dunn Counties, and the city of Belfield. The Little Missouri National Grasslands are administered by the U.S. Forest Service as part of the Custer National Forest and are managed primarily for livestock grazing purposes, implementation of intensive range management systems, and the facilitation of minerals and energy development

Regionally significant existing and planned land use features within the study area consist primarily of ranching-based agricultural activities. Over 90 percent of the land within the study area is devoted to non-irrigated crop and livestock production which is maintained on large farmsteads. There is no irrigated cropland in the study area. Prime farmlands are present to a very limited extent within the study area.

The City of Belfield (population 1,300) is the only municipality within the study area. There are numerous oil and gas production facilities concentrated primarily in the northeastern portion of the study area. A Department of Defense Ground Wave Emergency Network (GWEN) tower is located 4 miles west of Belfield.

Two major transportation corridors are located in the study area: 1) Interstate 94 runs east-west through the southern portion of the study area, and 2) U.S. Highway 85 runs north to south through the western portion of the study area.

The study area is a homogeneous visual setting that is common to the physiographic region. Scenic quality for the study area is rated as Class C, characterized by upland rolling plains that are generally uniform, expressing little variety in form, line, color, or texture.

Key Observation Points (KOPs) within the study area include residential and highway views. The Forest Service considers views from Interstate 94 to be particularly sensitive in relationship to the Theodore Roosevelt National Park (TRNP), the eastern boundary of which is one mile west of the project area (Forest Service, 1974).

KOPs outside of the study area which have significance include a number of viewpoints from the TRNP which are located from 1.5 to 5 miles from the western boundary of the study area. Vistas from these viewpoints encompass areas along the southwestern portion of the study area.

2. Cultural Environment

There are no known cultural resources in the study area listed in or determined eligible for the National Register of Historic Places (NRHP). Sites representing most prehistoric periods

have been recorded. These sites include cultural material scatters and quarries. Historic sites recorded in the study area include homestead/farmsteads, granaries, houses, dumps, and mines.

No Native American resources of contemporary or historical significance were identified in the study area.

Portions of a 200-foot-wide corridor along the proposed route were surveyed for cultural resources in October 1988, and two prehistoric cultural material scatters were identified. The remainder of the corridor will be surveyed in the spring of 1989. After completion of the survey, NRHP eligibility and mitigation measures (if required) for any cultural resources discovered will be determined in consultation with the State Historic Preservation Officer.

3. Natural Environment

The climate in the study area is semi-arid and continental, characterized by long cold winters and short warm summers. The mean annual temperature at Watford City (located approximately 30 miles north of the study area) for 1971-80 was 43.1 °F; ranging from an average of 70 °F in July and August to 13.9 °F in January. The mean annual precipitation recorded at Watford City (located approximately 60 miles north of Belfield) for 1971-80 was 15.9 inches, with approximately 70 percent of total precipitation occurring during the growing season. The overall ambient air quality is good.

The study area is located in the unglaciated Missouri Plateau Section of the Great Plains Physiographic Province in southwestern North Dakota. Only minor damage would be expected from seismic activity within the area. The area is characterized by low relief and gentle slopes interrupted by hills, buttes, and ridges. The near-surface strata are relatively flat-lying. The dominant lithologic unit is the Sentinel Butte Formation consisting of thin lignite, interbedded gray siltstone, silty claystone, mudstone, and gray-to-yellowish-gray, fine-to-medium channel sand. Significant mineral resources and economically valuable materials occurring within the study area include oil and gas, lignite, uranium, and scoria. The eight soil map units in the study area exhibit some potential water and wind erosion, compaction, reclamation sensitivity, and engineering problems. Although fossiliferous strata occur within the study area, the potential for disturbing significant paleontological resources is low.

A north-south drainage divide is located in the western portion of the study area. Drainages located west of the divide flow into the Little Missouri River, while drainages that flow in an easterly direction drain into the Heart, Green, and Knife Rivers. These are low-gradient intermittent streams that normally flow in direct response to snowmelt or precipitation. Ground water supplies for domestic and livestock use are generally found in the upper Hell Creek-lower Ludlow aquifer system, aquifers in the upper part of the Ludlow, Tongue River, and Sentinel Butte Formations, and alluvial deposits.

Vegetation in the area is dominated by prairie grassland, except on slopes and along drainages. Much of the natural vegetation on the rolling uplands has been replaced by non-irrigated cultivation of small grains and fodder crops. The Little Missouri National Grasslands are Federally owned lands managed as grazing rangeland similar to private holdings of native grassland. Limited hardwood forest stands occur in upper drainages and draws and limited wetland communities exist along larger stream channels, in poorly drained depressions, and adjacent to stock ponds and reservoirs. There are no permanent lakes or large areas of wetlands in the study area. The U.S. Fish and Wildlife Service has verified that no plant species

currently on the Federal or state threatened or endangered species lists have been identified within the study area.

Cropland, grassland, wetland, aquatic, and hardwood are the five wildlife habitat types occurring within the study area. Big game species include mule deer, white-tailed deer, and pronghorn antelope. Common upland game birds include pheasant, partridge, grouse, and wild turkey. Waterfowl include geese and ducks. Four species listed as endangered by the U.S. Fish and Wildlife Service may occur in the study area. The peregrine falcon, bald eagle, and whooping crane are potential migrants through the area. The black-footed ferret is a potential resident of prairie dog towns. State species of concern which likely are present are long-billed curlew, Baird's sparrow, and Sprague's pipit.

There are no extensive floodplains in the study area. Wetlands are limited and have been significantly impacted by agriculture. The only wetland systems present are riverine and palustrine. Riverine systems along the small streams include all the wetlands and shallow water habitats contained within a channel, with the exception of wetlands dominated by trees, shrubs, and persistent emergents. Palustrine systems include floodplains, and all other ponds, depressions, marshes, and seepage zones throughout the area. Lacustrine systems, which are bodies of water greater than 20 acres, are notably missing from the study area.

H. Environmental Consequences

1. Impact Assessment/Mitigation Planning Process

Environmental consequences from the proposed action and alternatives are the residual impacts derived through a process that first identified, and subsequently evaluated and integrated, initial impacts and appropriate mitigation measures. The process involved assessing impacts by: 1) comparing the proposed project with the pre-project environment, 2) determining mitigation that would avoid, effectively reduce, or eliminate impacts, and 3) identifying "residual" impacts, or impacts remaining after the application of mitigation.

Study area-specific impact types and levels as well as mitigation measures (see Table II-5 in DEIS) were first identified for each resource. Impacts were then evaluated using "reference centerline" routes which were located within each of the alternative corridors such that they occupied areas which had been identified to be less environmentally sensitive. Initial and residual impacts were established on a resource by resource basis for each of the alternative routes. Routes were then compared to identify the "environmentally preferred route".

2. Impacts to the Human Environment

Land use concerns expressed by Billings, Stark, McKenzie, and Dunn Counties, interested agencies, and the public during the project scoping process centered on the effects on agricultural practices, the proximity to occupied rural residences and farm complexes, and the potential for closely paralleling other linear features such as roads.

Land use impacts are primarily to agriculture, since it is the principal land use in the study area. Most other types of land uses, and associated impacts, can be avoided through

facility siting. Short-term impacts on agriculture include temporary loss of cropland in construction areas and reduced crop yields in construction areas due to soil compaction.

Long-term land use impacts include reduction in available land by displacement of the area required for structures and reduction in crop yields due to soil compaction resulting from maneuvering farm equipment around structures. Transmission structures hinder the operation of farm equipment, and additional time is required to farm and maneuver around these structures. The proposed project may interfere with crop dusting operations. Weed control is a major concern of farmers in areas where transmission lines are located. Additional time may be required to hand-spray or cut weeds around transmission structures. Mature weeds may spread seeds into fields, and provide cover for harmful insects.

The socioeconomic impact assessment focuses on issues, concerns, and questions raised by landowners, elected officials, and agency representatives in meetings and conversations conducted as part of the environmental study process. Such comments are taken to be representative of the social and economic issues that are important to local people in relation to this project. These issues are evaluated in light of project construction and operation requirements in order to determine potential effects on community economies and social structures.

Local residents would benefit from increased reliability of electric service delivery. Effects of the project on the local economy of the study area are considered, overall, to be positive, but short-term. This is particularly true in Stark County, where most of the construction-related revenues would be spent.

From an economic perspective, agricultural impacts would likely be minimal and restricted mainly to cultivated areas. Potential economic impacts to agriculture including crop loss and damages, would be compensated through payments by Western for acquired right-of-way. Right-of-way (ROW) acquisition would be accomplished through negotiations with each affected landowner. These negotiations are expected to result in some economic benefit to the property owner, particularly in light of the fact that agricultural operators could continue to use most of the acquired ROW for farming purposes. This economic benefit may be partially offset by the inconvenience and potential crop yield reduction associated with the presence of transmission structures in cultivated fields on a long-term basis.

The primary siting issues associated with visual resources were foreground and middleground views from major travel routes, individual residences, and communities, as well as views from Theodore Roosevelt National Park.

Visual intrusion of the transmission line would continue throughout the life of the proposed project. Nonspecular (not-shiny) conductors would be used for the proposed project, reducing conductor visibility as much as possible. Structures would be placed in a manner which allows sensitive features to be avoided or spanned, wherever possible. These mitigation measures would reduce site-specific visual impacts to some degree, but would not effectively reduce initial impacts to lower levels (e.g., high impacts would not be reduced to moderate). In assessing the visual impacts of the proposed project, it was determined that the minimum impact incurred would be low rather than none, since the line would always have some visual presence.

3. Impacts to the Cultural Environment

Impacts to cultural resources, which are nonrenewable, could be adverse and permanent. Construction and operation of the proposed project could result in impacts affecting cultural resources physically and/or visually, directly and/or indirectly, and could affect criteria that makes a resource eligible for inclusion in the National Register of Historic Places. Direct impacts are primarily limited to the location of structure footings, guy wire anchors, access trails/roads, and areas of heavy equipment movement along the right-of-way. Direct impacts could also include visual impacts, especially to historic sites. Indirect Impacts could result from increased access to previously isolated sites, heightening the potential for vandalism.

Sites may be avoidable through spanning and/or establishment of avoidance (e.g., non-trespass) areas for construction, inspection, and other project-related personnel and equipment. Western will confer with the State Historic Preservation Officer to determine mitigation of adverse impacts to significant cultural resources, should any be discovered.

4. Impacts to the Natural Environment

Primary types of impacts on air resources are increased total suspended particulate levels from construction activities and increased emission of nitrogen oxide, hydrocarbons, carbon monoxide and sulfur dioxide from construction and maintenance vehicles. Dust impacts could result from grading structure sites and access trails, clearing of brush and tree debris, and vehicle movement during construction.

Air resource impacts anticipated during construction and maintenance of the proposed transmission line are highly transient in nature and of a very short duration. The impacts are therefore considered to be low in magnitude and should not prevent the maintenance of air quality standards.

The principal geologic and hydrologic environmental impacts and construction constraints assessed for the proposed project were: 1) soil erosion on steep slopes, 2) construction of structure foundations In unconsolidated deposits (alluvium and colluvium), areas with high water tables, and areas subject to periodic flooding, and 3) small scale subsidence from burning lignite beds resulting in collapse of overburden. Potential soil related hazards were determined to be water erosion, wind erosion, compaction sensitivity, reclamation sensitivity, and engineering constraints. Spanning or rerouting to avoid sensitive features and upgrading structure foundations to insure stability in areas of soft subsurface conditions, high water tables, or flooding potential would effectively reduce geologic and hydrologic impacts and overcome construction constraints.

High impact levels to vegetation were not encountered in the study area owing to the lack of large, critically sensitive areas of vegetation. No unique, threatened, or endangered plant species have been identified. The wetlands associated with reservoirs, marshes, and streams are small and will be avoided by careful routing. Other areas that could support wetlands vegetation, such as small potholes and surface depressions, are not present in the study area.

Short-term impacts to wildlife would occur during the construction phase. They include disturbance of animals by noise and the presence of humans as well as temporary loss of habitat owing to construction activities. Long-term impacts are those that result from the long-term presence of the transmission line such as permanent loss or alteration of habitat owing to construction of the line. The removal of grassland and cropland wildlife habitat for structure sites

would not result in significant long-term biological impacts. All hardwood and wetland habitats would be avoided or spanned. No impacts to threatened, endangered, or special-status species have been identified.

I. Electrical Effects

The electrical effects of the proposed project would be those resulting from corona and electric/magnetic fields. Corona is the electrical breakdown of the air into charged particles. Effects of corona, which are greatest during wet weather, include audible noise, visible light, photochemical oxidants, and radio and television interference. No significant adverse effects from audible noise, visible light, or photochemical oxidants are anticipated. Impacts from radio and television interference, if they occur, are expected to be minimal and would be mitigated by Western on a case by case basis.

Field effects from electrical and magnetic fields created by the proposed transmission line include induced currents and voltages. The induced short-circuit current to the largest anticipated vehicle under the proposed line would be less than the National Electric Safety Code criterion of 5 milliampere (mA).

Primary shocks from steady-state current would not be possible from the induced currents because of the relatively low field strengths and grounding practices of Western. Secondary shocks are not likely to occur very often; when they do, they would represent a nuisance rather than a hazard. Spark discharges from Induced voltages could occur on objects inadequately grounded under the proposed line; however, shock of this type would be rare.

Whether long-term direct exposure to electric fields from transmission lines causes biological or health effects in humans is controversial. Research results are contradictory and inconclusive. The electric-field levels of the proposed line would be less than levels at which effects have been reported and below the perception levels for humans. No adverse health or biological effects are anticipated.

Adverse electrical effects on agriculture are not anticipated because the electrical fields from the proposed transmission line would be below levels where most effects have been observed on honeybees or crops.

Magnetically Induced currents and voltages from the proposed transmission line would be minimized because of grounding practices of Western and available mitigating techniques that would be applied. It is highly unlikely that exposures to the magnetic fields from the proposed line would have adverse biological or health effects because of the low levels generated, which are equal to or less than those of appliances in the home. The proposed line would not be located in close proximity to occupied residences.

Reversion of pacemakers is the most substantial effect noted to wearers of pacemakers and is not considered a serious problem. To date, no evidence that a transmission line has caused a serious problem to the wearer of a pacemaker has been found.

J. Environmentally Preferred Route

The least potential impact or "environmentally preferred" route was identified through an assessment of the environmental data and public input. Included in the preferred route selection was a review of the impact characterizations, significant unavoidable adverse impacts, individual routing preferences, and agency/public comments regarding the locations and cumulative environmental consequences of each alternative route.

A total of 28 different routes were compared for the DEIS. Summaries of assessment criteria, corridor selection issues, and impact assessment issues are presented in Table II-4 of the DEIS. A comparison of impacts for the final list of alternative routes Is shown on Table II-7 of the DEIS. A quantitative comparison of final routes is shown on Table II-8 of the DEIS. The locations of the alternative corridors and routes, and the alternative Belfield Substation siting areas are shown in Figure II-8 of the DEIS. The environmentally preferred route is also shown In Figure II-9 of the DEIS.

In the DEIS, two routes, an eastern route (E4-1) and a western route (W1-1), were found to be clearly preferred over all other alternatives. Route E4-1 was found to be superior to W1-1 for visual resources but less desirable in terms of agricultural land use resources. Because the visual preference for the E4-1 was stronger than the agricultural land use preference for W1-1 (i.e., a wider discrepancy within the given resource) and because visual impacts ranged into the high category while all land use impacts were moderate or lower, route E4-1 was determined to be the least-potential-impact or "environmentally preferred" route in the DEIS.

Given that the eastern and western routes were very similar in overall environmental ranking, it was considered Important to evaluate other factors such as miles of transmission line construction, available access, potential construction problems, and project costs before selecting the agency-preferred route. Consideration of these other factors lead to the selection of the western route (W1-1) as the agency-preferred route in the DEIS. As a result of refinements made to this route in the course of a centerline survey, W1-1 was re-designated W1-1R In the DEIS.

A significant portion of the written and verbal comments received on the DEIS expressed concerns for the visibility, from the Theodore Roosevelt National Park (TRNP), of the proposed transmission line if constructed in the agency-preferred route (W1-1R). In addition, a number of the comments either specifically favored or opposed construction in the environmentally preferred route (E4-1). To further address these concerns, Western subsequently performed additional route studies involving: 1) local modifications to the southern portion of route W1-1R to reduce visibility from the TRNP, and 2) a surveyed environmentally preferred route (E4-1R) which would provide a basis for comparison to route W1-1R at an equivalent level of detail.

As was the case for the unsurveyed eastern and western routes compared In the DEIS, the surveyed routes (and local modifications) were found to be closely ranked environmentally. The western route (with a modification to its alignment at the southern end) was found to have substantially fewer agricultural land use impacts than the eastern route. The eastern route was preferable from a visual resources standpoint with fewer open views from residences and no visibility from TRNP. Because the visual preference for the eastern route was greater than the agricultural land use preference for the western route, and because visual impacts ranged into the high category while land use impacts were low to moderate, the eastern route (E4-1R) was found environmentally preferable to the other alternatives studied subsequent to the DEIS. Route E4-1R is essentially equivalent to the environmentally preferred route (E4-1) presented in

the DEIS with the exception of localized refinements made primarily to reduce site specific land use and visual impacts.

K. Agency-Preferred Route

In selecting the agency-preferred route for the DEIS, it was recognized that the final two routes considered (W1-1 and E4-1) had very similar environmental rankings and that other cost and engineering factors needed to be considered. Route W1-1 was selected as the agency-preferred route in the DEIS because it was shorter in length (by approximately 4 miles), had better access, and presented fewer construction constraints than E4-1. These same factors were considered in re-evaluating the agency-preferred route during studies made subsequent to the DEIS. In addition, comments received on the DEIS were also considered in the decision-making process.

As a result of the on-the-ground surveys performed along both the western and eastern routes, it was found that the difference in distance between them had been reduced from approximately 4 to approximately 2.7 miles. The survey work, as well as additional evaluation on the ground and through overflights, also indicated that access to the eastern route was not as limited as originally perceived and that construction constraints were of the same order of magnitude as those along the western route. Through public comment, it was determined that visibility of the line from residences, local urban areas, and TRNP was of significant importance. In particular, a large number of the comments expressed concern for the visibility of the proposed line from TRNP (see Tables II-1, II-2, and II-3 in Chapter II of this FEIS). It was determined that the agency-preferred route would be changed from W1-1, as specified in the DEIS, to E4-1R (the environmentally preferred route).

Based on the corridor selection process and adjustments made to the agency-preferred route, no significant unavoidable adverse impacts would remain for earth resources, biological resources, or floodplains and wetlands. Remaining significant (or potentially significant) unavoidable adverse impacts were identified for land use, visual, and cultural resources.

1. Land Use

Several long-term impacts to land use may result from the construction of the proposed line. Impacts associated with line construction may include hindrance of farm equipment operation, reduced crop yields, and removal of cropland from production. The construction of steel-lattice structures would remove approximately 3.2 acres of cropland from production for the life of the project. An additional 6 acres of land would be occupied by the Belfield Substation.

2. Visual Resources

High visual impacts would occur along the proposed transmission line corridor where 17 residences with open views are located within 1 mile of the agency-preferred route. The proposed Belfield Substation, southeast of Belfield, would create high visual Impacts to 1 residence with an open view and moderate impacts to 4 to 6 residences with partially screened views within 1 to 3 miles of the Substation.

3. Cultural Resources

Although there is potential for significant impacts to archaeological and historic resources, there are known NRHP-eligible sites In the study area and a large number of significant archaeological sites are not expected to be encountered, since most of the area has been cultivated for many years. Potential adverse impacts to archaeological and historic resources cannot be identified until results of the Intensive cultural resources survey are assessed and consultation for eligibility and effect between Western and the State Historic Preservation Officer is completed.

Final NRHP eligibility determinations must be made before the level of Impact to each resource can be assessed. Finalized construction plans will determine which resources can be avoided.

I. IMPACT ASSESSMENT AND COMPARISON OF ADDITIONAL REFINED AND MODIFIED ROUTES

A. Introduction

A significant portion of the written and verbal comments received on the DEIS expressed concerns for the visibility of the proposed transmission line from the Theodore Roosevelt National Park (TRNP) if constructed in the agency-preferred route (W1-1R). In addition, a number of the comments either specifically favored or opposed construction in the environmentally preferred route (E4-1). To further address these concerns, Western subsequently performed additional route studies involving: 1) local modifications to the southern portion of route W1-1R to reduce visibility from the TRNP, and 2) a surveyed environmentally preferred route (E4-1R) which would provide a basis for comparison to route W1-1R at an equivalent level of detail.

Following is a resource-by-resource assessment and comparison of Impacts for this final set of refined (surveyed) and modified routes in the eastern-most and western-most alternative corridors. This comparison includes a synopsized review of the resources in the study area and associated issues and impacts resulting from the proposed project. For a complete discussion of resources, issues, and impacts, please refer to the DEIS.

The routes compared are shown on Figure I-1 and impacts are summarized in Table I-1. The original agency-preferred and environmentally preferred routes as evaluated for the DEIS were routes W1-1 and E4-1. These routes were refined as a result of centerline surveys. The refined versions are designated W1-1R and E4-1R. Routes WM1 and WM2 are local modifications to the refined agency-preferred route (W1-1R) which have been proposed to reduce impacts to views from TRNP.

B. Land Use and Agricultural Resources

1. Affected Environment

The majority of lands within the study area are in private ownership. The Federally-owned Little Missouri National Grasslands are administered by the U.S. Forest Service as part of the Custer National Forest and are managed primarily for livestock grazing purposes, implementation of intensive range management systems, recreation,and the facilitation of minerals and energy development.

Regionally significant existing and planned land use features within the study area consist primarily of ranching-based agricultural activities. Over 90 percent of the land within the study area is devoted to non-irrigated crop and livestock production which is maintained on large farmsteads. There is no irrigated cropland in the study area.

The City of Belfield (population 1,300) is the only municipality within the study area. There are numerous oil and gas production facilities concentrated primarily in the northeastern portion of the study area.

Two major transportation corridors are located in the study area: 1) Interstate 94 runs east-west through the southern portion of the study area, and 2) U.S. Highway 85 runs north to south through the western portion of the study area.

2. Issues and Impacts

Land use impacts are primarily to agriculture, since it is the principal land use in the study area. Most other types of land uses, and associated impacts, can be avoided through facility siting. Short-term impacts on agriculture include temporary loss of cropland in construction areas and reduced crop yields in construction areas due to soil compaction.

Long-term land use impacts include reduction in available land by displacement of the area required for structures and reduction in crop yields due to soil compaction resulting from maneuvering farm equipment around structures. Using the size of the base of a typical steel-lattice structure and assuming 5 structures per mile, it is estimated that approximately 0.17 acre would be taken out of production for each mile of non-irrigated cropland crossed. Transmission line structures also hinder the operation of farm equipment, and additional time is required to farm and maneuver around these structures. The proposed project may interfere with crop dusting operations. Weed control is a major concern of farmers and ranchers in areas where transmission lines are located, both in cultivated lands and grazing lands.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. Route W1-1R and associated alternatives (WM1 and WM2) would minimize land use and agricultural impacts. W1-1R crosses approximately 14.2 miles of cropland (2.4 acres taken out of production) and 24.0 miles of grassland, of which 5.5 are Little Missouri National Grasslands.

W1-1R avoids any direct land use conflicts. Residual impacts to agriculture would result in 0.8 mile of potentially moderate-to-high impacts due to diagonal field crossings.

Moderate residual impacts associated with crossing non-irrigated cropland at midfield or along field edges would occur for 13.3 miles along W1-1R. The remainder of W1-1R consists primarily of rangeland and would be characterized by low-to-moderate and low impacts. All highways, railroads, and pipelines would be spanned.

The first western modified route (WM1) crosses approximately 4.4 miles of cropland (0.75 acres taken out of production) and 10.1 miles of grassland, of which 3.5 are Little Missouri National Grasslands. WM1 avoids any other direct land use conflicts. Residual impacts associated with agriculture would result in 0.5 miles of potentially moderate-to-high impacts due to diagonal field crossings and 3.9 miles of moderate impacts related to midfield and field edge locations in cropland. The remainder of WM1 crosses grasslands, where impacts would be low.

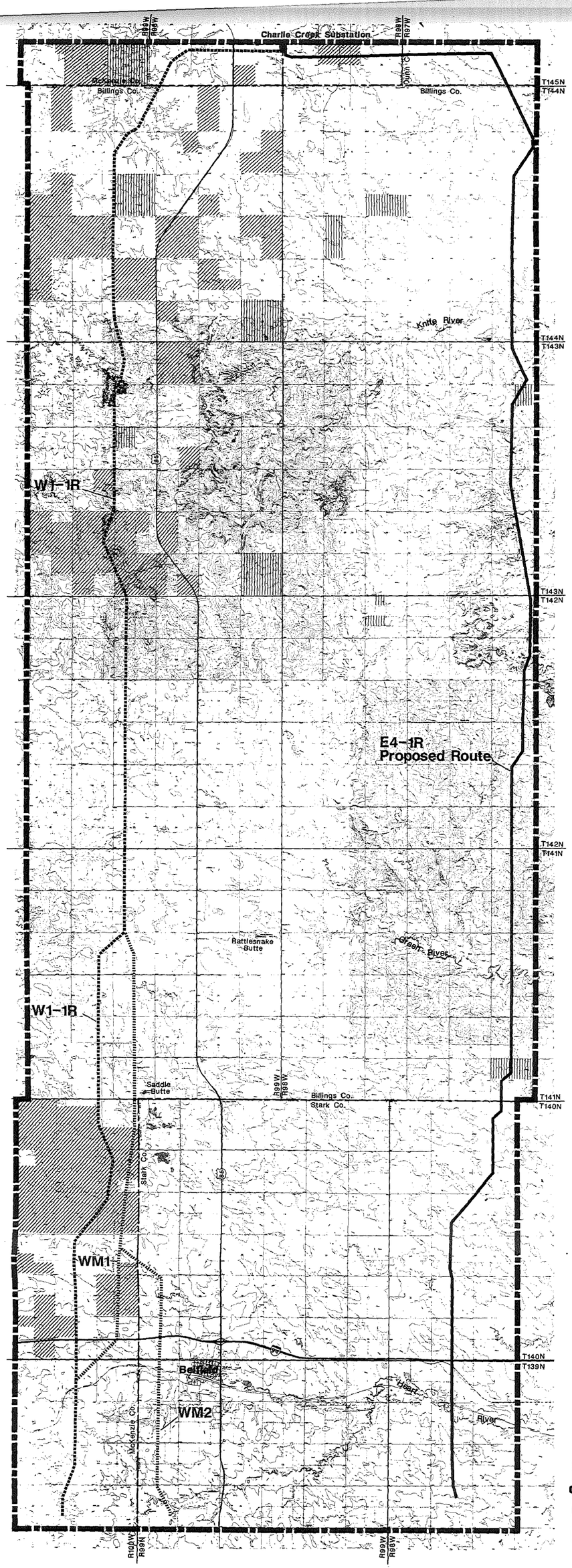


FIGURE 1-1

REVISED FINAL ROUTING ALTERNATIVES

CHARLIE CREEK TO BELFIELD

TRANSMISSION LINE ENVIRONMENTAL STUDY

APRIL 1989
WESTERN AREA POWER ADMINISTRATION

TABLE I-1. QUANTITATIVE ROUTE COMPARISON

		ALTERNATIVE ROUTES			
		W1-1R	WM1	WM2	E4-1R
CONSTRUCTION CONSTRAINTS (miles)	Highly Erosive Soil	9.3	9.9	9.6	10.1
	High Salinity Soil	0.3	0.1	0.0	0.1
	Floodplains	0.3	0.3	0.4	1.5
AGRICULTURAL IMPACTS	Non-irrigated cropland (miles/acres)	14.2/2.4	11.6/2.0	12.6/2.1	19.1/3.2
	Mid-field Angle Structures (number)	0	1	0	3
LAND USE IMPACTS (number)	Pipelines Crossed	2	2	3	3
	Oil & Gas Wells w/in 500 ft.	4	3	5	9
	Scoria Pits and Uranium Mines	0	0	0	0
VISUAL IMPACTS (miles/number)	Res. w/in 1 Mile w/ Open Views	32	35	38	17
	Res. w/in 1 Mile w/ Screened or Mod. View	8	9	10	17
	Total Number of Res. w/in 1 Mile	40	44	48	34
	Total Number of Res. w/in 1-3 Miles	96	97	91	88
	Highway Foreground Views (miles of line visible)	12.0	12.4	12.0	6.9
	Painted Canyon Overlook (miles of line visible)	7.5-8.5	6-9.5	7-10	NS*
	Buck Hill (miles of line visible)	6-7	6-7	6-7	NS
	Talkington Trail (miles of line visible)	3	4	4-5	NS
	Belfield (miles of line visible)	3	3	1	5.5
	South Heart (miles of line visible)	13	13	11	4
CULTURAL ** RESOURCES	High Prehistoric Sensitivity (miles)	0	0	0	1.0
	Known Historic & Native Am. Resources (number)	0	0	0	0
EFFECTS ON TERRESTRIAL ECOSYSTEMS (miles)	Prairie Grassland Vegetation	21.6	22.9	23.4	18.4
	Hardwood Draws/Shrubland Vegetation	0.9	0.9	0.9	1.7
	Riparian Wetland Vegetation	0.3	0.3	0.4	0.7
	Areas w/in 0.5 Miles of Known Raptor Nests	0.0	0.0	2.0	2.5
EFFECTS ON AQUATIC ECOSYSTEMS (miles/number)	Heart River	1	1	1	1
	Green River	1	1	1	1
	Knife River	1	1	1	1
	Intermittent Stream Crossings	39	39	37	38
	Wetland Vegetation (miles)	0.3	0.3	0.4	0.7
LAND *** OWNERSHIP (miles)	Private	32.2	31.7	33.0	38.8
	State	0.5	0.5	0.5	1.1
	Federal	5.5	5.8	4.5	1.0
	Length in Miles	38.2	37.8	37.8	40.9

*NS = Not Seen **Based on pre-existing information (no survey results) ***Not a siting criteria

The second western modified route (WM2) crosses approximately 5.4 miles of cropland (0.92 acres taken out of production) and 9.1 miles of grassland, of which 2.2 miles are in the Little Missouri National Grasslands. There are no other direct land use impacts identified along WM2. Residual impacts to agriculture would result in 0.4 mile of potentially moderate-to-high impacts to croplands due to diagonal field crossings. An additional 5.0 miles of moderate impacts were identified along WM2, owing to midfield or field edge locations.

Agricultural impacts along WM1 and WM2 would be lower than the corresponding segment of W1-1R, which crosses 7.0 miles of cropland where impacts would be moderate. WM2 would be less preferable than WM1 due to increased distance across cropland.

b. Route E4-1R. Route E4-1R crosses approximately 19.1 miles of cropland (3.25 acres taken out of production) and 21.0 miles of grassland, which includes 1.0 mile of Little Missouri National Grassland. E4-1R avoids any other direct land use conflicts and has no associated high residual impacts.

Moderate-to-high residual impacts would occur along E4-1R where non-irrigated cropland is crossed diagonally for 1.2 miles. Moderate residual impacts would make up a majority of E4-1R, totalling 19.1 miles where the route crosses non-irrigated cropland at midfield, or along field edges. Low-to-moderate and low impacts would make up the remainder of E4-1R where residual impacts for rangeland areas would be considered low. All highways, railroads, and pipelines would be spanned.

4. Summary

The western routes (W1-1R, WM1, and WM2) would have somewhat lower impacts on land use and agricultural resources than would the eastern route (E4-1R). This is primarily because less cropland is crossed by the western routes. Of the western routes, WM1 would result in the least agricultural impact.

C. Visual Resources

1. Affected Environment

The study area is a homogeneous visual setting that is common to the physiographic region. Scenic quality for the study area is rated as Class C, characterized by upland rolling plains that are generally uniform, expressing little variety in form, line, color, or texture.

Key Observation Points (KOPs) within the study area include residential and highway views. KOPs outside of the study area which have significance include a number of viewpoints from the TRNP, whose vistas encompass areas along the western portion of the study area.

2. Issues and Impacts

The principal visual resource issues include foreground and middleground views from residences, the communities of Belfield and South Heart, Interstate 94 (I-94), U.S. Highway 85, and State Highway 200, as well as views from the TRNP.

Visual intrusion of the transmission line would continue throughout the life of the proposed project. Mitigation measures would reduce site-specific visual impacts to some degree, but would not effectively reduce initial impacts to lower levels (e.g., high impacts would not be reduced to moderate). In assessing the visual impacts of the proposed project, it was determined that the minimum impact incurred would be low rather than none, since the line would always have some visual presence.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. High visual impacts would occur to the views from 32 of the 40 residences within one mile of W1-1R. W1-1R would also be visible from the western portion of Belfield, which is approximately 3 miles away. High-to-moderate visual impacts would result at the I-94 crossing (2.0 miles) and where W1-1R is within 1 mile of U.S. 85 or State Highway 200. W1-1R would be within highway foreground views for 12 miles.

Visual impacts to views from the TRNP were assessed from three viewpoints using computer simulations: Painted Canyon Overlook, Buck Hill, and Talkington Trail (horseback riding trail). Although the simulations produced perspective plots showing relative apparent sizes of structures visible from the various viewpoints, the true effect of distance on structure appearance is difficult to evaluate using computer-generated simulations alone. Field observations of existing transmission lines at similar distances to the alternative routes assisted In the assessment of impacts.

The three viewpoints within TRNP (Talkington Trail, Painted Canyon Overlook, and Buck Hill) are located approximately 3, 7, and 8 miles, respectively, from W1-1R. Within the assessed field of view, 12 structures would be visible along W1-1R from Painted Canyon Overlook. All of the structures within the assessed field of view would be visible from both Buck Hill and Talkington Trail.

High visual impacts would occur to views from 21 residences along WM1, compared to high visual impacts to at least 24 residences along WM2. WM2 would also be highly visible from the western portion of Belfield. Each route would result in high-to-moderate impacts at the I-94 crossing. WM1 would be within the highway foreground for 2.4 miles, and WM2 for 2.0 miles.

No structures along WM1 or WM2 would be visible within the assessed field of view from Painted Canyon Overlook. Approximately 87 percent of the WM1 structures and approximately 61 percent of the WM2 structures would be visible from within the field of view assessed for the Buck Hill viewpoint. The simulations indicate that all structures for both WM1 and WM2 would be visible for the assessed field of view from Talkington Trail.

For all three TRNP viewpoints, the average viewing distance to WM1 and WM2 is significantly increased over the average viewing distances to W1-1R. Approximately 11 miles of WM1 is from 0.75 to 1 mile further from the TRNP than corresponding portions of W1-1R. For WM2, approximately 8 miles are 0.75 to 1 mile further away and approximately 6.5 miles are from 1 to 1.5 miles further away than equivalent portions of W1-1R. However, WM1 and WM2 are an

equivalent distance closer to views from Belfield; with portions of WM2 coming within 1 mile of the western edge of Belfield.

The visual impacts to viewpoints within the TRNP would be minimized for WM2 and reduced for WM1 when compared to W1-1R. WM1 would be preferable to WM2 with regard to minimizing significant visual impacts to residences (including Belfield). The difference in visual impacts between WM1 and WM2 is less for views from the TRNP than for views from residences.

b. Route E4-1R. Route E4-1R would have high visual impacts on views from 18 of 35 residences within 1 mile of the route. High-to-moderate impacts would occur for 6.9 miles along E4-1R at the I-94 crossing and where the route is in the foreground of State Highway 200. All TRNP viewpoints are at least 12 miles from E4-1R and would not be affected.

4. Summary

The eastern route (E4-1R) is visually preferable to the western routes (W1-1R, WM1, and WM2). Route E4-1R minimizes visual impacts to residences, communities, and highway views, and avoids visual impacts to TRNP.

D. Cultural Resources

1. Affected Environment

There are no known cultural resources in the study area listed in or determined eligible for the National Register of Historic Places (NRHP). Sites representing most prehistoric periods have been recorded in the study area. These sites include cultural material scatters and quarries. Historic sites recorded in the study area include homestead/farmsteads, granaries, houses, dumps, and mines.

No Native American resources of contemporary or historical significance were identified in the study area.

2. Issues and Impacts

Construction and operation of the proposed project could result in impacts affecting cultural resources physically and/or visually, directly and/or indirectly, and could affect criteria that makes a resource eligible for inclusion in the NRHP. Direct impacts are primarily limited to the location of structure footings, guy wire anchors, access trails/roads, and areas of heavy equipment movement along the right-of-way. Direct impacts could also include visual impacts, especially to historic sites. Indirect impacts could result from increased access to previously isolated sites, heightening the potential for vandalism.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. Based on the sensitivity criteria established for the original environmental assessment, expected impacts to cultural resources from routes WM1

and WM2 would not be significantly different from those evaluated for W1-1R. Both WM1 and WM2 include slightly higher percentages of medium sensitivity than W1-1R. This is due to an increase in miles of uncultivated Little Missouri National Grasslands that are within 0.31 mile of intermittent water sources. None of the western routes cross high sensitivity areas, or resources listed in or determined eligible for the NRHP.

b. Route E4-1R. Route E4-1R crosses approximately 1.25 miles of high sensitivity areas and does not encounter resources listed in or determined to be eligible for the NRHP. However, actual impacts cannot be determined until results of the cultural resources survey is completed. After completion of the survey, all identified sites will be evaluated. If necessary, avoidance through rerouting on structure placement will be evaluated at that time.

E. Geology and Hydrology

1. Affected Environment

The study area is located in the unglaciated Missouri Plateau Section of the Great Plains Physiographic Province and is characterized by low relief and gentle slopes interrupted by hills, buttes, and ridges. The near-surface strata are relatively flat-lying. The dominant lithologic unit is the Sentinel Butte Formation consisting of thin lignite, interbedded gray siltstone, silty claystone, mudstone, and gray-to-yellowish-gray, fine-to-medium channel sand. Significant mineral resources and economically valuable materials occurring within the study area include oil and gas, lignite, uranium, and scoria.

A north-south drainage divide is located in the western portion of the study area. Drainages located west of the divide flow into the Little Missouri River, while drainages that flow in an easterly direction drain into the Heart, Green, and Knife Rivers. These are low-gradient intermittent streams that normally flow in direct response to snowmelt or precipitation. Ground water supplies for domestic and livestock use are generally found in the upper Hell Creek-lower Ludlow aquifer system, aquifers in the upper part of the Ludlow, Tongue River, and Sentinel Butte Formations, and alluvial deposits.

There are no extensive floodplains in the study area. Wetlands are limited and have been significantly impacted by agriculture.

2. Issues and Impacts

The principal geologic and hydrologic environmental impacts and construction constraints assessed for the proposed project were: 1) soil erosion on steep slopes, 2) construction of structure foundations in unconsolidated deposits (alluvium and colluvium), areas with high water tables, and areas subject to periodic flooding, and 3) small scale subsidence from burning lignite beds resulting in collapse of overburden.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. Impacts affecting geologic and hydrologic resources along WM1 and WM2 would not significantly vary from W1-1R. The common portion

of the western routes impacts a scoria pit. WM2 crosses an abandoned mining operation and a small scoria pit. Slight realignment of the centerline and judicious placement of structures would reduce impacts associated with these operations.

b. Route E4-1R. A Portion of E4-1R crosses approximately 10.6 miles of the Little Knife Oil Field in the northeast corner of the study area. Discussions with oil company representatives indicate that construction of the line along this route would not significantly affect oil field operations. No other mineral resources are significantly affected by this route.

F. Paleontology

1. Affected Environment

The study area contains fossiliferous and potentially fossiliferous strata of the Paleocene and Eocene Epochs. Within the project area a total of nine localities containing fossils have been identified in the Sentinel Butte and Golden Valley Formations.

2. Issues and Impacts

Although fossiliferous strata occur within the study area, the potential for disturbing significant paleontological resources is low.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. WM1 and WM2 do not significantly vary from W1-1R. No previously recorded sites are crossed.

b. Route E4-1R. Route E4-1R does not cross any previously recorded paleontological sites.

G. Soils

1. Affected Environment

The 126 mapped soil units in the study area have been compiled into eight general map units based upon such factors as slope, landscape position, and erodibility. Prime farmland is very limited in the study area.

2. Issues and Impacts

The eight soil map units in the study area exhibit some potential water and wind erosion, compaction, reclamation sensitivity, and engineering problems. Generally, where routes cross steep slopes on buttes and escarpments, and alluviated valley bottomlands, impacts become

more significant. Mitigative construction practices (e.g., larger or deeper foundations) and spanning or avoidance of bottomlands and escarpments effectively reduces all soil resources impacts to moderate or low.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. Impacts associated with WM1 and WM2 vary only slightly from W1-1R. The percentage of moderate impacts slightly increases where WM1 and WM2 cross alluvial soils of the Heart River and Norwegian Creek. Impacts would be avoided by spanning and structure placement.

b. Route E4-1R. Route E4-1R crosses approximately 10.1 miles of erosive soils. Moderate residual impacts occur where the route crosses steep slopes, valley bottoms, or alluviated areas.

H. Vegetation/Floodplains and Wetlands

1. Affected Environment

Vegetation in the area is dominated by prairie grassland, except on slopes and along drainages. Much of the natural vegetation on the rolling uplands has been replaced by non-irrigated cultivation of small grains and fodder crops. Limited hardwood forest stands occur in upper drainages and draws and limited wetland communities exist along larger stream channels, in poorly drained depressions, and adjacent to stock ponds and reservoirs. There are no permanent lakes or large areas of wetlands in the study area. Because the streams in the study area are near their headwaters, all of them are listed as intermittent and have narrow floodplains. No plant species currently on the Federal or state threatened or endangered species lists have been identified within the study area.

2. Issues and Impacts

High impact levels to vegetation were not encountered in the study area owing to the lack of large, critically sensitive areas of vegetation. No unique, threatened, or endangered plant species has been identified. The wetlands associated with reservoirs, marshes, and streams are small and will be easily avoided by careful routing. Other areas that could support wetlands vegetation, such as small potholes and surface depressions, are not present in the study area. No structures will be placed in floodplains or areas where frequent flooding could occur.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. WM1 and WM2 vary only slightly from W1-1R. WM1 and WM2 cross wetlands at the Heart River, but impacts to this vegetation type would be reduced to low by spanning and structure placement.

b. Routes E4-1R. This route crosses a total of 1.7 miles of hardwood draws and 0.7 mile of riparian vegetation. Spanning of these areas will reduce residual impacts to low.

I. Wildlife

1. Affected Environment

Cropland, grassland, wetland, aquatic, and hardwood are the five wildlife habitat types occurring within the study area. Big game species include mule deer, white-tailed deer, and pronghorn antelope. Common upland game birds include pheasant, partridge, grouse, and wild turkey. Waterfowl include geese and ducks. Four species listed as endangered by the U.S. Fish and Wildlife Service may occur in the study area. The peregrine falcon, bald eagle, and whooping crane are potential migrants through the area. The black-footed ferret is a potential resident of prairie dog towns. State species of concern which likely are present are long-billed curlew, Baird's sparrow, and Sprague's pipit.

2. Issues and Impacts

Short-term impacts to wildlife would occur during the construction phase. They include disturbance of animals by noise and the presence of humans as well as temporary loss of habitat owing to construction activities. The removal of grassland and cropland wildlife habitat for structure sites would not result in significant long-term biological impacts. All hardwood and wetland habitats would be avoided or spanned. No impacts to threatened, endangered, or special-status species have been identified, this finding is supported by the U.S. Fish and Wildlife Service, as stated in letter No. 30, comment C, of Table II-3. A biological assessment, Appendix A, provides additional information on the presence of federal and state endangered species in the study area.

3. Route Comparisons

a. Routes W1-1R, WM1, and WM2. Impacts associated with WM1 and WM2 would vary slightly from W1-1R. Potential impacts occur along WM2 where prairie dog towns and/or raptor nesting areas have been observed. Significant impacts would be avoided through spanning, avoidance, and/or construction timing.

b. Route E4-1R. Route E4-1R crosses some hardwood and wetland habitats. Significant impacts would be avoided through spanning. The route does not cross any known raptor nesting areas or prairie dog towns and would not impact any threatened or endangered species or species of concern.

J. Conclusions

A. Environmentally Preferred Route

During preparation of the DEIS, it was found that the natural (i.e., geology, soils, vegetation, and wildlife) and cultural (i.e., prehistoric, historic, and Native American) resources in the study area did not vary greatly between corridors and were not highly sensitive to the presence of a transmission line. Because land use (agricultural) and visual resources exhibited

significant variation and/or were more sensitive to construction of the proposed line, these resources were determined to be the most critical in the study area and provided the best basis for identifying the environmentally preferred route. Of these, visual resources were found to have a somewhat higher sensitivity to transmission line construction (levels of Impact for visual ranged from moderate to high versus impact levels from low to moderate for land use) and exhibited more variation across the study area than did land use.

As was the case for the unsurveyed eastern and western routes compared in the DEIS, the surveyed routes (and local modifications) compared herein were found to be closely ranked environmentally. Of the western routes, WM1 was judged to be preferable because it crossed the fewest miles of non-irrigated cropland and provided the best balance of impacts to views from residences, TRNP, and Belfield. The western route offers somewhat fewer land use-related impacts than the eastern route (11.6 miles of non-irrigated cropland crossed along WM1 versus 19.1 miles along E4-1R). The eastern route is preferable from a visual resources standpoint (e.g., E4-1R is not visible from TRNP and has 17 residences with open views within one mile versus 35 residences along WM1). Because the visual preference for E4-1R was greater than the land use preference for WM1, and because visual impacts ranged into the high category while land use impacts did not, route E4-1R was found environmentally preferable to the other alternatives compared herein.

B. Agency-Preferred Route

In selecting the agency-preferred route for the DEIS, it was recognized that the final two routes considered (W1-1 and E4-1) had very similar environmental rankings and that other factors such as miles of transmission line construction, available access, potential construction problems, and project costs needed to be considered. Route W1-1 was selected as the agency-preferred route because it was shorter in length (by approximately 4 miles), had better access, and presented fewer construction constraints than E4-1. These same factors were considered in re-evaluating the agency-preferred route herein. In addition, comments received on the DEIS were also considered in the decision-making process.

As a result of the on-the-ground surveys performed along both the western and eastern routes, it was found that the difference in distance between them had been reduced from 4 to 2.7 miles. The survey work, as well as additional evaluation on the ground and through overflights, also indicated that access to the eastern route was not as limited as originally perceived and that construction constraints were of the same order of magnitude as those along the western route. Through public comment, it was determined that visibility of the line from residences, local urban areas, and TRNP was of significant importance. In particular, a large number of the comments expressed concern for the visibility of the proposed line from TRNP (see Tables II-1, II-2, and II-3 in Chapter II).

In consideration of the above factors, it was determined that the agency-preferred route would be changed from W1-1, as specified in the DEIS, to E4-1R (the previously identified environmentally preferred route).

II. PUBLIC COMMENTS AND RESPONSES

A. Introduction

This chapter describes the public review process for the Draft Environmental Impact Statement (DEIS) for the Charlie Creek-Belfield Transmission Line Project. Public comments were solicited from agencies, organizations, and Individuals, and were received in the form of letters and statements at public hearings. Tables II-1 and II-2 provide an index to comments and responses.

B. Public Review Process

The Environmental Protection Agency (EPA) published a Notice of Availability of the DEIS on June 8, 1988. Western distributed press releases to all news media in its marketing area in North Dakota and published a notice of the filing, and dates and locations of public hearings in local newspapers in the project area during the week preceeding the public hearings. Letters announcing the availability of the DEIS and public hearings schedule were mailed to affected landowners and others in the project study area. The public comment period ended on August 8, 1988.

Copies of the DEIS were sent to approximately 100 Federal, state, and local government agencies, institutions, organizations, and individuals for review and comment. In response, a total of 61 letters were received by Western, and are listed in Table II-1 of this document.

Western reviewed and carefully considered all comments, and responded to those substantive comments that presented new data, questioned findings and analyses, or raised questions or issues relevant to the potential environmental impacts of the proposed project and alternatives, as required by the National Environmental Policy Act and related regulations.

As a result of comments received on the DEIS, an additional two sets of public meetings were held to discuss comments and to inform the local public and solicit comments on the results of supplementary route studies and the selection of the revised agency-preferred route. Meetings were held in Belfield, North Dakota on August 22 and November 29, 1988 and in Grassy Butte, North Dakota on August 23 and November 30, 1988.

Formal public hearings on the DEIS were conducted by Western in Grassy Butte and Belfield on July 26th and 27th, 1988. A summary of formal comments and Western's responses is presented as Table II-2. Hearing transcripts are available for review at the following locations:

Western Area Power Administration
Billings Area Office
2525 4th Avenue North
Billings, MT 59101

Western Area Power Administration
Office of Environmental Affairs, A0420
1627 Cole Boulevard, Building 18
Golden, CO 80401

Western Area Power Administration
Bismarck District Office
707 Centennial Road
Bismarck, ND 58502

Table II-1

SUMMARY OF WRITTEN COMMENTS AND RESPONSES
(Letters are listed in the order received)

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
1	U.S. Department of the Interior Bureau of Indian Affairs Billings Area Office	The Billings Area Office of the Bureau of Indian Affairs had no comments on the project.	Reproduced and responded to in table II-3.
2	U.S. Department of the Interior Bureau of Indian Affairs Aberdeen Area Office	The Aberdeen Area Office of the Bureau of Indian Affairs advised that the project did not involve any Indian trust lands.	Reproduced and responded to in table II-3.
3	U.S. Department of Housing and Urban Development Denver Regional Office, Region VIII	The Department of Housing and Urban Development advised that the DEIS was adequate for purposes of housing and community development.	Reproduced and responded to in table II-3.
4	Department of Health and Human Services, Office of the Regional Director, Region VIII	The Department of Health and Human Services advised they had no comment concerning affects on their regional programs.	Reproduced and responded to in table II-3.
5	National Parks and Conservation Association	NPCA is concerned with the visual impacts of the proposed route (W1-R1) on views from Theodore Roosevelt National Park (TRNP) and encourage route E4-1.	Reproduced and responded to in table II-3.
6	North Dakota State Water Commission	The SWC has provided general specifications to be used in waterway crossings to minimize project impacts.	Reproduced and responded to in table II-3.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
7	U.S. Department of Transportation Federal Aviation Administration	The proposed transmission line will have no adverse effect on any Federal Aviation Administration (FAA) facilities.	Reproduced and responded to in table II-3.
8	Dan Koeck	Visual impact of route W1-1 on views from TRNP.	Please refer to chapter I for route comparisons and modified decision.
9	Dacotah Chapter Sierra Club	The concerns of the Sierra Club center on the visual and potential economic impacts of route W1-R1 on TRNP.	Reproduced and responded to in table II-3.
10	Theodore Roosevelt Nature and History Association	The Theodore Roosevelt Nature and History Association's comments center on concerns for the visual impact of route W1-R1 on TRNP, and potential cumulative impacts from future transmission lines.	Reproduced and responded to in table II-3.
11	Earle Campbell	Concerns are expressed for the visual impact of the proposed route (W1-R1) on views from TRNP.	Please refer to chapter I for route comparisons and modified decision.
12	Phyllis M. Pearl-Lak	This letter is in support of the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
13	Lili Stewart-Wheeler	This letter is in opposition to the agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
14	West Plains Electric Cooperative, Inc.	West Plains Electric's comments are in support of the proposed route (W1-R1), emphasizing the importance of economic savings.	Reproduced and responded to in table II-3.
15	Jay V. Brovold	Concerns are expressed for the visual impacts of agency preferred route (W1-R1) on views from TRNP, and potential impacts on tourism and the North Dakota economy.	Please refer to chapter I for route comparisons and modified decision.
16	Jack Stewart	Opposed to proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
17	Janice Tower	Opposed to proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
18	Linda Gerry	Opposed to proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
19	Mark Rodney	Opposed to proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
20	Margaret Krogh	Opposed to relocating the Charlie Creek to Belfield transmission line to the east of Highway 85.	Please refer to chapter I for route comparisons and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
21	U.S. Department of Agriculture, Forest Service, Medora Ranger District	Concerns raised by the Forest Service include: * adequate assessment of all resource concerns * weight given to visual impacts * support for the selection of the refined agency preferred route (W1-R1) * consideration for all reasonable alternatives	Reproduced and responded to in table II-3.
22	Department of the Army Corps of Engineers, Omaha District	Completed project plans should be provided to COE for review of permit requirements.	Reproduced and responded to in table II-3.
23	Robert W. Seabloom	Opposed to agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
24	Paul M. Bultsma	Opposed to agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
25	Patti Holm	Opposed to agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
26	Charles J. Peterson	Opposed to agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
27	Jon F. Kroke	Opposed to agency preferred route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
28	U.S. Department of Agriculture, Soil Conservation Service	The SCS provides comments concerning revegetation, and future flood control projects.	Reproduced and responded to in table II-3.
29	U.S. Environmental Protection Agency Region VIII	The EPA review has resulted in a lack of objections rating category. More detail is requested regarding impacts to wetlands in the final EIS.	Reproduced and responded to in table II-3.
30	U.S. Department of the Interior Office of Environmental Project Review	The range of concerns addressed by the Department of Interior include impacts to TRNP views and related economic impacts to tourism in North Dakota, potential raptor conflicts and proximity to mining activity associated with the agency proposed route (W1-R1). DOI recommends the environmentally preferred route, (E4-1), be selected.	Reproduced and responded to in table II-3.
31	State of North Dakota Office of the Governor	Concerns focus on the visual impacts of the proposed route (W1-R1) to views from TRNP and associated impacts to North Dakota tourism.	Reproduced and responded to in table II-3.
32	Bruce M. Kaye	Opposed to proposed route (W1-R1) due to visual impacts to TRNP.	Please refer to chapter I for final comparison and modified decision.
33	Julie Powell	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Please refer to chapter I for final route comparison and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
34	Don Burda	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Please refer to chapter I for final route comparison and modified decision.
35	Brian Dudley	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Please refer to chapter I for final route comparison and modified decision.
36	Thelma and Jack Vantine	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Please refer to chapter I for final route comparison and modified decision.
37	Medora Chamber of Commerce	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Reproduced and responded to in table II-3.
38	Peaceful Valley Trailrides, Inc. Wally Owen	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP.	Reproduced and responded to in table II-3.
39	James Kasper	Supports proposed route (W1-R1).	Please refer to chapter I for final route comparison and modified decision.
40	Sy Somanysky	Supports proposed route (W1-R1).	Please refer to chapter I for final route comparison and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
41	William Klym	Supports proposed route (W1-R1).	Please refer to chapter I for final route comparison and modified decision.
42	Bill Zarak	Supports proposed route (W1-R1).	Please refer to chapter I for final route comparison and modified decision.
43	Keith W. Welsh	Concerns are expressed for the visual impact of the proposed route (W1-R1) on views from TRNP.	Please refer to chapter I for route comparisons and modified decision.
44	Arlene Wilhelm	Concerns expressed for the visual impact of the proposed route (W1-R1) on views from TRNP and possible negative affects on tourism.	Please refer to chapter I for route comparisons and modified decision.
45	North Dakota Game & Fish Department	The NDGFD review finds that the DEIS is generally adequate in addressing wildlife needs. Remaining generic concerns require confirmation from Western.	Reproduced and responded to in table II-3.
46	Laudie Jilek	Opposes construction of the line across his property.	Please refer to chapter I for route comparisons and modified decision.
47	Michael Obach	Favors the proposed route (W1-R1) with local modifications to the southern portion to minimize visual impacts to the TRNP. Suggests use of H-frame structures to minimize visibility.	Please refer to chapter I for route comparisons and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
48	Virginia Wock	Favors proposed route (W1-R1) with local modifications to the southern portion to minimize impact to views from TRNP. Opposes construction in the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
49	Wallace Wock	Favors proposed route (W1-R1) with local modifications to the southern portion to minimize impact to views from TRNP. Opposes construction in the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
50	Casmer Duletski	Opposed to proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
51	Theresa Frank	Supports the proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
52	Carol Frank	Supports proposed route (W1-R1). Opposes construction in the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
53	Rep. Byron L. Dorgan	Concerns expressed regarding the visual impacts of the proposed route (W1-R1) to views from TRNP. Remaining visual impacts after local modifications are made to the proposed route are still unacceptable. Favors the environmentally preferred route (E4-1).	Reproduced and responded to in table II-3.
54	George Andreas	Opposed to proposed route (W1-R1) due to visual impacts to TRNP. Favors the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
55	John A. Heiser	Opposed to proposed route (W1-R1) due to visual impacts to TRNP. Favors the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
56	John V. & Mary Smith	Opposed to construction of the route on their property.	Please refer to chapter I for route comparisons and modified decision.
57	Kirt A. Sabrosky	Supports proposed route (W1-R1). Expresses concerns for increases in power costs and that oil development in the Little Knife Oil Field would be curtailed if construction took place in the environmentally preferred route (E4-1).	Reproduced and responded to in table II-3.
58	Gary P. & Jan A. Houghton	Supports proposed route (W1-R1). Expresses concerns for increases in power costs and that oil development in the Little Knife Oil Field would be curtailed if construction took place in the environmentally preferred route (E4-1).	Please refer to chapter I for final route comparison and modified decision and to responses to comments A & B of letter 57.
59	Marion Hurinenko	Supports proposed route (W1-R1). Expresses concerns for increases in power costs and that oil development in the Little Knife Oil Field would be curtailed if construction took place in the environmentally preferred route (E4-1).	Please refer to chapter I for final route comparison and modified decision and to responses to comments A & B of letter 57.

Table II-1 (Continued)

SUMMARY OF WRITTEN COMMENTS AND RESPONSES

LETTER NO.	FROM	ISSUE/CONCERN	RESPONSE
60	Anne & Steven C. Lian	Opposed to proposed route (W1-R1) due to visual impacts to TRNP. Favors the environmentally preferred route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
61	Sen. Quentin N. Burdick	Expresses the views of concerned citizens, the North Dakota Tourism Office, and the State Highway Department that the proposed route (W1-R1) will have long-term negative impacts on TRNP.	Reproduced and responded to in table II-3.

Table II-2

SUMMARY OF ORAL COMMENTS AND RESPONSES

SPEAKER NO.	NAME	ISSUE/CONCERN	RESPONSE
Grassy Butte, North Dakota July 26, 1988			
1	Tracy Potter North Dakota Tourism Dept.	Represents division of ND State Government charged with enhancing the tourism industry. States concerns for the potential economic impact to the tourist industry by locating the proposed line in view of TRNP. With the support of both Senator Conrad and Congressman Dorgan, states that the position of tourism is to select the eastern route (ER-1).	Please refer to responses to comment L of letter no. 21.
2	Myron Freeman Theodore Roosevelt Nature and History Association	Concerned about visual impacts on views from Painted Canyon, Buck Hill and Talkington horseback trail in TRNP. Opposed to the proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.
3	Marion Hurinenko Manning, North Dakota	Landowner who supports the proposed route (W1-R1). Lives in the eastern corridor (E4-1), and objects to visual impacts of a transmission line within .5 mile of residence.	Please refer to chapter I for route comparisons and modified decision.
4	Robert Powell Chief Ranger, TRNP	The proposed route (W1-R1) presents unacceptable visual impacts to visitors at TRNP. There is no attempt in the DEIS to analyze impacts on ND tourism industry due to the visual intrusion of the line into vistas adjacent to TRNP. The DEIS does not accurately or adequately analyze vista impacts to visitors to TRNP, and chooses a preferred route based on economic considerations. Modifications to the western route (W1-R1/M) are also not acceptable. Any line that is visible from the 3 identified viewpoints in TRNP is not acceptable to the National Park Service.	Please refer to responses to comments D-L of letter no. 21, and refer to chapter I for the route comparisons and modified decision.

Table II-2 (Continued)

SUMMARY OF ORAL COMMENTS AND RESPONSES

SPEAKER NO.	NAME	ISSUE/CONCERN	RESPONSE
5	Ed Sahlstrom National Parks and Conservation Association	The visual scene is the first priority within the TRNP and should be protected whenever possible. Preference is for the environmentally preferred route (E4-1), in order to avoid visual impacts to TRNP. Suggest utilizing steel H-frame structures as opposed to steel-lattice structures to reduce damage to the landscape.	Please refer to responses to comments F-L of letter no. 21, and refer to chapter I for the route comparisons and modified decision.
6	Marjo Hurinenko Manning, North Dakota	Landowner opposed to the eastern route (E4-1). Feels that the year-round impacts to people in the cattle industry is more important than impacts to tourists associated with views from TRNP.	Please refer to chapter I for route comparisons and modified decision.
7	Hattie Tedrow	Landowner opposed to eastern route (E4-1). Feels that the line will destroy the land and scenery where she lives.	Please refer to chapter I for route comparisons and modified decision.
8	Kirt Sabrosky Killdeer, North Dakota	Requested clarification from the National Park Service regarding modifications to western route.	Please refer to chapter I for route comparisons and modified decision.
9	Wayne Retzlaff McKenzie Rural Electric Cooperative	The proposed project is very important to members of McKenzie Electric. There is a recognized visual impact, no matter where the line is located. The project should be built in a cost-effective manner.	Please refer to chapter I for route comparisons and modified decision.
10	Kirt Sabrosky Killdeer, North Dakota	Landowner who supports the proposed route (W1-R1).	Please refer to chapter I for route comparisons and modified decision.

Table II-2 (Continued)

SUMMARY OF ORAL COMMENTS AND RESPONSES

SPEAKER NO.	NAME	ISSUE/CONCERN	RESPONSE
11	Elmer Glovatsky Grassy Butte, North Dakota Belfield, North Dakota July 27, 1988	Landowner who currently has power lines crossing his land, and is opposed to another route (E4-1).	Please refer to chapter I for route comparisons and modified decision.
12	Leonard Marx	Landowner who is concerned about impacts to agricultural lands. Questioned why the "longer" route was considered environmentally preferable (E4-1).	Please refer to chapter I for route comparisons and modified decision.
13	Mike Obach Belfield, North Dakota	Points out that there are several existing visual impacts to TRNP from man-made structures. Also questions why the visual impacts have to be on private property.	Please refer to chapter I for route comparisons and modified decision.
14	Garry Redmann North Dakota State Highway Department	Speaking on behalf of the Highway Commissioner, Walter Hjelle, the State Highway Department is in opposition to the western route (W1-R1) due to the existing visual impacts that have already occurred to TRNP. The Highway Department supports the eastern corridor (E4-1).	Please refer to chapter I for route comparisons and modified decision.
15	Tracy Potter North Dakota State Tourism Office	Pointed out that there are more landowners who will be visually effected by the western corridor. He quoted Congressman Dorgan and Senator Conrad's opposition to the proposed route (W1-R1). The major reason people visit TRNP is to experience the scenery. Visible towers "will place a boundary on the boundless" (views). He reiterated the concern for potential economic impacts to tourism, and support for the eastern route (E4-1).	Please refer to responses to comment F-L of letter no. 21 and comment I, L, and AA of letter no. 30.

Table II-2 (Continued)

SUMMARY OF ORAL COMMENTS AND RESPONSES

SPEAKER NO.	NAME	ISSUE/CONCERN	RESPONSE
16	Carol Frank Route One, Dickinson	Landowner who objects to eastern corridor (E4-1), and argues that tourists only stop for a short time, while landowners must look at them 365 days a year, and farm around them for the next 50 years. "The impact on farming and local people is just as important as the tourism industry, except that we have to live with them; the tourists go on their way without a backward glance."	Please refer to chapter I for route comparisons and modified decision.
17	Andy Kuylen South Heart	Landowner who farms around 8 existing transmission towers describes problems with cultivation and weed control. Towers in pasture land are not a problem. Opposes the eastern corridor.	Please refer to chapter I for route comparisons and modified decision.
18	Virginia Wock	Landowner who opposes the eastern corridor (E4-1), and argues that tourists will not be aware of the proposed route (W1-R1) from TRNP viewpoints, nor would its presence diminish tourism in North Dakota.	Please refer to chapter I for route comparisons and modified decision.
19	Ed Sahlstrom TRNP	Representing the TRNP, the completeness of the studies and final route decisions were questioned.	Please refer to chapter I for route comparisons and modified decision.
20	Ray Jilek West Plains Electric Cooperative	Membership goals include the lowest cost power with good service. West Plains supports the proposed route (W1-R1) as the most cost-effective routing solution for the project.	Please refer to chapter I for route comparisons and modified decision.
21	Rod Tjaden Mayor of Medora	Concerned about the visual intrusion of the proposed route on TRNP and the potential economic impact on Medora.	Please refer to chapter I for route comparisons and modified decision.

Table II-2 (Continued)

SUMMARY OF ORAL COMMENTS AND RESPONSES

SPEAKER NO.	NAME	ISSUE/CONCERN	RESPONSE
22	Merv Wike	Questions the need and economic benefit of the proposed project.	Please refer to the Executive Summary, Purpose and Need section.
23	Wally Owen Medora	Described the importance of the park as a resource to North Dakota, and its growing recognition in the United States.	Please refer to chapter I for route comparisons and modified decision.
24	David Kuehn Belfield	Supports the environmentally preferred route (E4-1) due to the importance of TRNP.	Please refer to chapter I for route comparisons and modified decision.
25	Lowell Blikre Belfield	Concerned for visual impacts to TRNP as a significant issue to North Dakota and the United States. Favors the eastern route (E4-1).	Please refer to chapter I for route comparisons and modified decision.

TABLE II-3. COMPLETE LETTERS AND RESPONSES

LETTER 1

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
BILLINGS AREA OFFICE
316 North 26th St.
BILLINGS, MONTANA 59101

JUN 23 1988

IN REPLY REFER TO
Division of Programs
Branch of Water Resources
Code 380

JUN 21 1988

Jim Davies
Area Manager
Western Area Power Administration
Attention: B2000
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Davies:

A [We have reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Charlie Creek-Belfield Transmission Line Project and we have no comments.

Sincerely,

Area Director

A [Thank you for your review and comment.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 2

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
ABERDEEN AREA OFFICE
115 FOURTH AVENUE S.E.
ABERDEEN, SOUTH DAKOTA 57401

CIRL FILE COPY
JUN 27'88

IN REPLY REFER TO:
Agriculture Management

JUN 23 1988

B2000	Kat	6/27
B2000	Jan	6/29
B2004		

James Davis, Area Manager
Western Area Power Administration
Attention: B2000, P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Davis:

A We checked with our Agency Realty Officer at Fort Berthold Agency, New Town, North Dakota, to determine if the Charlie Creek-Belfield 345 Kilovolt (KV) Transmission Line crossed any trust lands. Upon being informed that the line does not involve any Indian trust land, we are providing a negative response regarding the Draft Environment Impact Statement.

Sincerely,

L. W. Collins Jr.
Assistant Area Director
Indian Programs

A [Thank you for your review and comment.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 3

U.S. Department of Housing and Urban Development
Denver Regional Office, Region VIII
Executive Tower
1405 Curtis Street
Denver, Colorado 80202-2349

OFFICIAL FILE COPY
JUN 29'88

B2200	Kat	6/29
B2200	Jan	6/29
B2204		

June 24, 1988

Mr. James D. Davies, Area Manager
Western Area Power Administration
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Davies:

A This is in response to your letter of June 8, 1988, requesting comments on the Draft Environmental Impact Statement (DEIS) for Charlie Creek-Belfield Transmission Line Project, North Dakota.

Your DEIS has been reviewed with consideration for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). This review considered the project's impacts on housing and community development. Within these parameters, we find this DEIS adequate for our purposes.

If you may be of further assistance, please contact Mr. Howard Kutzer, Regional Environmental Officer, at FTS 564-3102.

Very sincerely yours,

Robert J. Matuschek
Director
Office of Community
Planning and Development

A [Thank you for your review and comment.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 4

DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the Regional Director

Region VIII
Federal Office Building
1961 Stout Street
Denver CO 80294

July 6, 1988

Area Manager
Western Area Power Administration
Attention: B2000
P.O. Box 35800
Billings, MT. 59107-5800

Dear Sir:

A The various Operating Divisions of the Regional Office have reviewed the Draft Environmental Impact Statement for the proposed Charlie Creek-Belfield 345-kilovolt Transmission Line Project in western North Dakota.

We have no specific comments concerning any affects on our regional programs. Thank you for the opportunity to review the Statement.

Elwyn Holtrop
Regional Special Programs Coordinator

A Thank you for your review and comment.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 5

OFFICIAL FILE COPY
JUL 14 '88

July 8, 1988

James D. Davies
Area Manager
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. Davies:

A The National Parks and Conservation Association (NPCA) appreciates the opportunity to comment on the Draft Environmental Impact Statement for the Charlie Creek - Belfield transmission line project.

B NPCA understands the necessity for a transmission line to provide continued adequate service to area residents, but we are concerned with the visual impacts of such a lengthy overhead powerline. Theodore Roosevelt National Park (TRNP) lies only one mile outside the southwestern corner of the study area. As the DEIS states, "Maintenance of the visual scene is a first priority within the Park," and should be protected whenever possible.

C The proposed area for construction is situated in "the colorful North Dakota badlands [that] comprise the primary scenic attraction of the park." All consideration should be given to protect this valuable resource. Of the four proposed routes, W1-1, W2-1, W3-4, and E4-1, we strongly encourage the selection of the environmentally preferred alternative, E4-1. We understand that Western Area Power would be interested in choosing the most cost effective means possible, but we maintain that the environment must not be sacrificed to save a few dollars. The environmental impact statement identifies key observation points (KOP's) within the study area of which a large portion are within TRNP. Only corridor E4-1 is not visible from Painted Canyon Overlook, Buck Hill, and the horseback riding trails. This alternative is also only in the foreground of I-94 for 0.5 mile while the agency preferred and refined agency preferred corridors are both visible from all KOP's within and approaching the park.

D For the area that is observable approaching the park, we agree with Western Area Power's decision to use non-specular conductors to minimize the intrusion.

E To minimize the impact of the structures on the land, we suggest that Western Area Power utilize steel H-frame structures as opposed to steel-lattice structures. This would result in less land being jeopardized to build the transmission line.

F We also encourage the use of all mitigation measures to reduce any damage to the landscape. Although the area is outside the national park we do support actions that would limit damage to any natural and cultural resources.

National Parks and Conservation Association
1015 Thirty-First Street, N.W., Washington, D.C. 20007
Telephone (202) 944-8530

A Comment noted.

B The sensitivity of views from TRNP are addressed in the DEIS, and potential impacts were identified.

C As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

D Comment noted. Nonspecular conductors would be used for the entire route.

E Western is evaluating steel H-frame structures as an alternative to steel-lattice structures, as discussed in chapters I and II of the DEIS (see DEIS pages I-1 and II-7).

F The mitigation program identified in the DEIS is intended to minimize environmental impacts to all human, natural and cultural resources.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 5

G Overall, we are pleased with Western Area Power's attempt to cover all possible areas of impact and willingness to consider every option. While the need for a new transmission line is inevitable we do encourage the continued use of energy conservation alternatives to prevent any expansion in the future.

Thank you for considering NPCA's comments on this project.

Sincerely

T. Destry Jarvis

T. Destry Jarvis
Vice President

G Comment noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 6

North Dakota State Water Commission

JUL 15'88

GOVERNOR GEORGE A. SINNER
CHAIRMAN

VERNON FAHY
SECRETARY & STATE ENGINEER

July 13, 1988

James D. Davies, Area Manager
Department of Energy
Billings Area Office
P.O. Box 35800
Billings, MT 59107-5800

RE: SWC Project #1373
DEIS Charlie Creek - Belfield

Dear Mr. Davies:

Our review of the DEIS for Western Area Power Administration's proposed 345-kV Transmission Line project in western North Dakota (DOE/EIS-0134-D) has been completed. We foresee no problems with the proposed construction from the information provided, with the requirement that the following general specifications shall be used in the waterway crossings to minimize the project impacts.

A
1. In transversing the river valley with the power line, care must be taken to avoid disturbing the banks of the waterway. If the banks are disturbed, they shall be restored to their original condition by compacting soil and establishing protection. Bank protection for channel side slopes 6:1 and flatter is provided by establishing a vegetative cover. For channel side slopes between 3:1 and 5:1, the bank should be seeded and covered with a woven matting material or an acceptable substitute. Permanent slope protection, such as rock riprap, should be provided on slopes steeper than 3:1.

2. There shall be no structures placed within the waterway or within 50 feet of the stream bank. Structures shall include among other things, fence posts, utility poles, and support wire.

B It should be noted that this letter is concerned with the crossings involving waterways, and that this project may have various impacts in other areas, and that continued cooperation with the various agenices involved in the review will minimize them.

Should you have any questions, please feel free to contact this office.

Sincerely yours,

Jeffrey Mattern

Jeffrey Mattern
Water Resource Engineer

JM:dm

A Western will comply with the general specification contained in the comment.

B Comment noted.

900 East Boulevard-Bismarck, North Dakota-58505 0187/224-2750

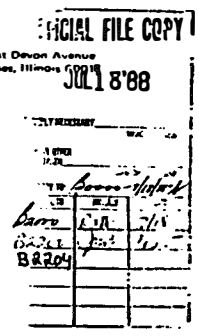
TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 7

US Department of Transportation
Federal Aviation Administration

Great Lakes Region
Illinois, Indiana, Michigan, Minnesota, North Dakota, Ohio, South Dakota, Wisconsin

2300 East Devon Avenue
Des Plaines, Illinois 60018



JUL 14 1988

Mr. James D. Davies
Area Manager, Billings Area Office
Department of Energy
2525 4th Avenue North, P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Davies:

A [Thank you for the opportunity to review your Draft Environmental Impact Statement for the Western Area Power Administration's proposed Charlie Creek-Belfield 345-kilovolt Transmission Line Project. Our review has been completed and it has been determined that the proposed transmission line will have no adverse effect on any Federal Aviation Administration (FAA) facilities.

Sincerely,

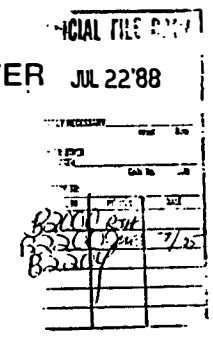
William H. Pollard
Regional Administrator, Great Lakes Region

A [Comment noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 9

DACOTAH CHAPTER
SIERRA CLUB



July 19, 1988
Mr. James W. Davies, Area Manager
Western Area Power Administration
Billings Area Office
2525 4th Ave. N.
PO Box 35800
Billings, MT 59107

Dear Mr. Davies,

Enclosed are some comments on the DEIS for the WAPA proposed Charlie Creek-Belfield Transmission Line Project in western North Dakota.

These comments are from the Dacotah Chapter of the Sierra Club. The chapter includes several groups in North Dakota, and you may be getting comments from the individual groups as well.

Sincerely,

Dr. Dexter Perkins

Perkins 1112 Cottonwood St Grand Forks ND 58201

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 9

Comments on Draft Environmental Impact Statement
Charlie Creek-Belfield Transmission Line
DOE/EIS-0134-D

by

Dr. Dexter Perkins
for
The Dacotah Chapter of the Sierra Club

A The Charlie Creek Belfield Transmission Line DEIS has been reviewed by the Executive Committee of the Dacotah Chapter of the Sierra Club. It is our conclusion that the DEIS is deficient because it fails to deal adequately with what we consider to be the most important issue in this matter : the impact of the transmission line on the visual environment in and around the South Unit of Theodore Roosevelt National Park. This failure is due in part to incomplete assessment of the problem, but even more so to a bias which has led the DEIS prepares to discount the impacts prior to making a comprehensive analysis.

B Throughout the DEIS it is clear that the emphasis has been placed on the economics of the project. Yet, this statement is supposed to be an "environmental" impact statement, not an "economic" impact statement.

C By the reports own language, however, it is made clear that the difference in costs between the various alternatives is negligible (10%). In addition, the impacts that the proposed project would have on tourists and other visitors to Teddy Roosevelt Park and the surrounding portions of North Dakota's grasslands have all but been ignored. It seems highly likely that such economic impacts could be the most significant. Yet in the DEIS (see table II-8, for example) the visual impacts on Park and Grassland visitors has been left out. Such omission occur time and time again in the DEIS.

D Given the importance that tourism has on North Dakota's economy, and the expansion in tourism that is planned, we find it unacceptable that the agency should chose the one potential route that would have major impacts on North Dakota's most often visited tourist attraction.

Specific comments :

E 1. The computer and photo simulations of part IV of the DEIS are basically of no use to the reviewers, and provide little information as to the true visual impacts of the project. Anyone who has been to the Painted Canyon Overlook, for example, can tell you that the presently visible towers are much more obvious than appears in the simulations. The reason is that

A The visual impacts to views from TRNP were assessed on the basis of close communication with representatives of TRNP, extensive field studies, state-of-the-art computer generated simulations, and best available data on impacts to tourism.

B To determine an environmentally preferred route all routing alternatives were compared soley on an environmental basis. While an eastern route was environmentally preferred, it was recognized that two of the routes were very similar in overall environmental ranking. Accordingly, it was considered important to evaluate other factors such as access, construction constraints, and costs in selecting an agency-prefered route.

C Considerable attention to visual impacts to TRNP has been given in the DEIS: please refer to section III B, IV B, table IV-1, and figures III-2, IV-2 through 11. While the quality of the printed simulations is unfortunate, color simulations have been on display at TRNP, and are available for review at the North Dakota Office of Tourism Promotion and Western's Billings Area Office through the review process. Visual impacts are also fully treated in this FEIS.

D The proposed route, as described in chapter I of the FEIS is a modification of E4-1, which will avoid impacts to TRNP, and thus to tourism.

E The computer simulation analysis utilized New Perspective software, the most current simulation program developed by the Forest Service. This is the most accurate means of establishing the scale and apparent size of transmission structures at distances beyond 1 mile. The photo simulations were reviewed by the TRNP to incorporate on-site experience at the park. We regret the poor

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 9

E foreign objects that interfere with a magnificent vista such as that provided at Painted Canyon have great impacts, while such objects in (very poorly) reproduced photographs have little. This whole portion of the DEIS represents an exercise in computer futility. There is no way such simulations can mimic the human eye.

In addition, the approach used in the DEIS -- to take three locations and consider the visual impacts on them -- suggests that there are few places that would be impacted in such a way. This is clearly not the case. Visual impacts will occur in many parts of Teddy Roosevelt Park, and in portions of the Little Missouri National Grasslands outside of the Park.

F 2. Along the same lines, on page vii it is made clear that long distance visual impacts were being considered secondary issues. This is clearly not appropriate in as much as the distant views of the horizon are one of the major spectacular features of the area.

G 3. Furthermore, on the same page, mitigation measures are discussed that would lessen the impact. We challenge the contention that measures such as painting the towers a different color will have any major lessening effect. Either the towers are there or they are not. Either we have a clean natural sky line or we don't. The term "mitigation" is misused in this context, just as it is when oil developers offer to paint their pumpers green.

H 4. One alternative that would have nearly zero visual impact has been left out of the DEIS (except for casual mention) altogether. What about routing the power line along Highway 85 where a line already exists ? This area has already been disturbed, and an additional small right-of-way would have minimal effect. This is a serious omission and one that should cause the DEIS to be remanded for further consideration.

I 5. On page II-21 of the DEIS, designate viewpoints are indicated as being "low avoidance." Yet, tourism is North Dakota's 3rd largest industry and such viewpoints are very important to tourism. These viewpoints should be designated as "exclusion" areas. This designation, once again, shows the bias in the authors of the DEIS.

J 6. Along the same lines, where is an economic analysis of the impacts that choice of the agency preferred route would have on North Dakota's tourist industry ? It seems absolutely clear that the preferred alternative would have negative impacts on visitors to Teddy Roosevelt Park, yet such impacts are brushed aside with a few sentences. For example, see page xi.

K 7. The DEIS also fails to note that the area under consideration is the number one tourist attraction in the entire state. Thus impacts there will more significantly affect North

E quality of the reproduced photographs in the DEIS, however, the use of photosimulations is a recognized technique and was suggested by the Forest Service and Park Service. The few points within TRNP were selected by park management. Visual impacts to the Little Missouri National Grasslands are addressed in sections III-B and IV-B.

F Views from TRNP were included as primary siting issues (page vii).

G The National Environmental Policy Act requires that mitigation measures be analyzed to reduce impacts. The mitigation measures identified on page vii are those available to reduce visual impacts to TRNP. As acknowledged on page vii, these measures would reduce site specific impacts to some degree, but would not effectively eliminate significant impacts. Painting towers was not proposed because dull grey was considered an appropriate color for structures in the prairie landscape when viewed from distances beyond 3 miles.

H There is an existing single-woodpole 115 kV transmission line that directly parallels Highway 85 for approximately 3 miles south of the Charlie Creek Substation. Highway 85 is indirectly paralleled by this line for an additional 1.5 miles. There are no other high voltage powerlines along Highway 85 south to Belfield. The Highway 85 corridor was not selected as a corridor for the Charlie Creek to Belfield transmission line because 1) it would not be possible to directly parallel the road due to adjacent residential and commercial development, a school, church, and historic monument; 2) the towers would still be located in cultivated cropland; 3) local visual impacts to both motorists and local residents would be greater than along other alternative routes; and 4) the highway is directed toward and through the town of Belfield, requiring a departure from the corridor in order to connect with alternative substations to the south. The purpose of establishing alternative routes is to minimize environmental impacts and to take advantage of existing utility corridors. The Highway 85 corridor did not offer any of these advantages for a 345 kV transmission line right-of-way.

I Viewpoints within TRNP were identified as low and moderate avoidance on table II-4 due to distances of 3 to 8 miles from viewpoints to the alternative routes.

J As discussed on page IV-9, the issue of impacts of the route on tourism is a recognized issue. There is, however, no available data that supports or quantifies the assumption that route W1-R1 would result in a negative economic impact on the North Dakota tourist industry.

K Potential impacts to tourism are recognized on page IV-19.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 9

K Dakota's tourist industry than they would if they occurred elsewhere. The impacts will not only be on Teddy Roosevelt Park, but on the surrounding grasslands as well.

L 8. In several places in the DEIS, such as page vi and x and in Table II-7, the visual impacts are played down in preference to the impacts on agriculture. Yet, the impacts on agriculture would be about the same no matter what corridor was chosen, while the environmental impacts are much greater if the western corridor is chosen. In addition, no matter which corridor is chosen, the impacts on agriculture will be negligible -- perhaps such impacts should be the ones disregarded ? Yet such impacts are cited as decision rationale in several places in the DEIS.

M 9. On page IV-38, the cumulative impacts are considered, but absolutely no mention is made of the potential for further expansion of electrical systems. This is a serious omission, and there is plenty of legal precedent to suggest that in constitutes a fatal omission.

N In conclusion, it is our opinion that the DEIS is seriously lacking and should be redone and distributed for further comment prior to preparation of a final EIS.

L Land use and agricultural impacts are direct and potentially the most serious types of impacts that are caused by a transmission line project. These are also impacts that can often be mitigated through facility siting and design. Visual impacts are also a significant issue with regard to a transmission line, and very difficult to mitigate. This is reflected on table II-7, where, on a qualitative scale of most to least, land use and agriculture was rated the most important resource consideration, and visual resources a close second. It should also be noted that the interpretation of the impact data is also presented on table II-7, and that the environmentally preferred route, E4-1, was selected, because this route minimizes visual impacts. Route W1-1 minimized agricultural impacts. Because of the similarity in overall impact, and the difference in line miles between these routes, economics came into the decision process, and W1-1 was selected. As indicated in chapter I of the FEIS, further comparative studies have been performed, and the proposed route is now a modified version of E4-1.

M Western has no plans for expansion of the electrical transmission system resulting from the proposed project. As stated in the DEIS, if a need arises in the future, the Belfield Substation would provide a logical point from which the 345-kV system could be extended into eastern Montana or northwestern South Dakota.

N The DEIS represents a credible analysis of alternative routes and an assessment of the appropriate issues. The FEIS provides a final comparison and proposed route, which was identified as the environmentally preferred route in the DEIS.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 10

Theodore Roosevelt Nature & History Association
P.O. Box 167 • Medora, North Dakota 58645
Telephone (701) 623-4466, Ext. 27

July 22, 1988

James D. Davies, Area Manager
Western Area Power Administration
Attention: B2000
PO Box 35800
Billings, MT 59107-5800

Dear Mr. Davies:

A Members of Theodore Roosevelt Nature and History Association (Association) have recently reviewed the Draft Environmental Impact Statement (DEIS) on the Charlie Creek-Belfield Transmission Line. We continue to be opposed to the route chosen by Western Area Power Administration (WAPA) WI-RI, we prefer the route recommended by your environmental consultant, E4-1.

B The extremely poor quality of the photo-stimulations provided in the DEIS do not adequately show the visual impacts that will occur. Color photo-simulations provided earlier to the administration of Theodore Roosevelt National Park, and which this Association's board members reviewed, are much more reflective of the true impact.

This association is opposed to your agency preferred route for a number of reasons:

C 1. It is our concern that if this line is built in your agency preferred corridor, that this same route will become the preferred route for future development. The obvious conclusion is that we will not only be looking at the WAPA transmission line in the future, but several other transmission lines as well which will add to the visual impacts from the three key observation points in Theodore Roosevelt National Park (i.e. Painted Canyon, Buck Hill, and the horseback riding trail along the eastern boundary).

D 2. The DEIS on page III-10 indicates that 10 miles of this 38 mile line will be visible from three key observation points at Theodore Roosevelt National Park. This is totally unacceptable. Historically, Theodore Roosevelt National Park has been an embattled national park with energy development occurring on all sides of its boundaries. The beauty of this unique prairie eco-system is being gradually eroded away and encroached upon by this development. Many visitors, North Dakotans, and particularly members of this Association which numbers 400 plus, value

A As discussed in chapter I, Western has made a final comparison of alternative routes, and currently proposes a eastern route which will avoid impacts to TRNP.

B Western regrets the poor quality of the photosimulations in the DEIS.

C Western has no plans for expansion of the electrical transmission system resulting from the proposed project. As stated in the DEIS, if a need arises in the future, the Belfield Substation would provide a logical point from which the 345-kV system could be extended into eastern Montana or northwestern South Dakota.

D Viewpoints within TRNP were identified as low and moderate avoidance on table II-4 due to distances of 3 to 8 miles from viewpoints to the alternative routes. Western recognizes the NPS's position regarding "zero impact" to TRNP. As indicated in chapter I, the sensitivity of the views from TRNP were a factor in our final decision.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 10

D Theodore Roosevelt National Park for its natural and historical resources, as well as its unobstructed and beautiful views. We disagree strongly with the criteria used for lov avoidance selection, Table II-4, page II-31. We believe this table misrepresents the extent of visual impacts of the proposed line from key observation points in TRNP. We believe that unobstructed scenic views are an important reason that people visit our National parks. National park management policies dated March 1988 state that scenic views are to be protected.

E WAPA's proposed choice of corridor will clearly take away from the most beautiful and scenic views in western North Dakota. One that many of us cherish.

F 3. WAPA's choice of construction for this line in its agency preferred corridor, appears solely motivated on an economic basis rather than for any concern of environmental issues. You have clearly ignored the environmentally preferred route of your consultants. It goes without saying that the future of our environment, and keeping it intact and viable for future generations, will cost the citizens of this country additional dollars. Economics should not win out over the environment.

G 4. Many Association members are frequent visitors to Theodore Roosevelt National Park and the surrounding national grasslands. Over the years we have seen many favorite areas spoiled by energy development. It is disheartening to read this document and realize that visual resources of the Little Missouri National Grasslands were not addressed in the tables or text. These are scenic and recreational resources to us as well. The United States Forest Service admits, in their management policies, that a major use/resource of the Grasslands is recreation. The DEIS does not address this even though the agency preferred line crosses six miles of National Grasslands.

H Theodore Roosevelt's comments in one of his speeches about a particular national park could well apply to Theodore Roosevelt National Park. He states, "I hope you will not have a building of any kind, not a summer cottage, a hotel, or anything else, to mar the wonderful grandeur, the sublimity, the great loneliness and beauty of the canyon. Leave it as it is. You cannot improve on it. The ages have been at work on it, and man can only mar it. What you can do is to keep it for your children, your children's children, and for all who come after you, as one of the great sights which every American if he can travel at all should see. We have gotten past the stage, my fellow citizens, when we are to be pardoned if we treat any part of our country as something to be skinned for two or three years for the use of the present generation, whether it is the forest, the water, the scenery. Whatever it is, handle it so that your children's children will get the benefit of it."

I We trust that all federal agencies involved in this project will work

E Please refer to our response to comment A of your letter.

F Please refer to our response to comment A of your letter

G Please refer to chapters III and IV, sections A and B of the DEIS for discussions regarding the visual and recreation resources of the Little Missouri National Grasslands (NG), as well as, responses to letter no. 21. Table II-8 of the DEIS indicates that 5.5 miles of route W1-1R cross federal lands (Little Missouri NG).

H Comment noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 10

I together to follow the letter of the federal environmental laws and protect the natural and scenic resources of our federal lands, as set out in their management policies.

Thank you for giving this Association the opportunity to review and comment on this Draft Environmental Impact Statement.

I Comment noted.

Sincerely,

Tim McLaughlin, President
Theodore Roosevelt Nature and History Association

x: Governor Sinner
Supt. of Theodore Roosevelt National Park
U.S. Senator Quentin Burdick
U.S. Senator Kent Conrad
U.S. Representative Byron Dorgan

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 14

West Plains Electric Cooperative, Incorporated
P.O. BOX 1038
PHONE 701-225-5111
DICKINSON, NORTH DAKOTA 58602-1038

July 26, 1988

Area Manager
Western Area Power Administration
Attention B2000
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. Davies:

A [I am writing on behalf of the Board of Directors of West Plains Electric Cooperative, Inc. of Dickinson, North Dakota. West Plains serves 3,258 members at 5,467 metering points in Stark, Billings, and Dunn Counties. Our concern regarding the Draft Environmental Impact Statement (DEIS) for the Charlie Creek-Belfield transmission line project are based on discussions with concerned members living in the various areas considered for this line. One of the membership approved goals are "Lowest cost power consistent with good service."

At the outset I commend you for the thoroughness of the report. The public was encouraged to become involved since November 1986, through a series of scoping meetings and alternative corridor workshops in 1987 and public hearings at this time.

West Plains primary interest is having the line constructed. The line is necessary to not only serve our members loads but to provide back up to our system loads served by the Charlie Creek substation and those loads along the south line from Medora to Richardton.

Although the line routing is secondary to its purpose we as rate payers appreciate the WAPA selecting the most cost effective route as the agency preferred. In this day and age when most federal agencies are accused of a lack of concern for costs you have demonstrated a responsible concern.

We appreciate your efforts to route the line in a way that will minimize impacts on croplands. Maneuvering farm equipment around power lines and controlling the weeds within the area, coupled with the loss of time and value of crops can have a considerable financial impact.

We also commend you for your concern for the visual impact on the Theodore Roosevelt National Park. This, North Dakota's only National Park, is very important to the members of West Plains. Removing the visual impact from Painted Canyon was very important. The view from Buck Hill spanning a distance of 7½ miles to the power line is rather insignificant considering the fact that not all tourists to the Park drive the loop and of those that do, many will not drive up Buck Hill and walk to its summit. The view from the horseback riding trail possibly bears the least importance due to the privacy of access from the riding club area.

A [Thank you for your interest, your comments are noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 14

A [Lastly the $1 million dollars saved by building the line along the agency preferred route is very consistent with West Plains goals of serving our consumers with the "Lowest cost power consistent with good service."

The importance of million dollar decisions should not be dismissed because of unsubstantiated concern for unmeasurable economic impacts of the line on tourism. Conversely, the million dollars should not be made less important because the impact will be spread over a multi-state rate base. Such rationale would enable any federal agency to justify any expense. This kind of decision making is in no ones best interest.

Sincerely,

Ray R. Jilek
President

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

United States Department of Agriculture — Forest Service — Medora Ranger District — Route 6 Box 1313 Dickinson ND 58601

Reply to: 2720

Date: July 28, 1988

JUL 29'88

James D. Davies
Department of Energy
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. Davies:

Our office has received and reviewed the Draft Environmental Impact Statement (DEIS) for Western Area Power Administration's proposed Charlie Creek - Belfield transmission line. I have some serious concerns that this document does not:

1. Adequately address all of the pertinent resource concerns.
2. Give sufficient weight to visual impacts, especially from key observation points (KOP's) within Theodore Roosevelt National Park (TRNP).
3. Reasonably support the selection of the refined agency preferred route (W1-1R) as the proposed action.
4. Sufficiently explore all reasonable alternatives.

Specific comments addressing each of these concerns follow:

Concern #1 - Adequate Assessment of All Resource Concerns:

A Discussion of existing uses and possible impacts to recreation and range resources on the Little Missouri National Grasslands (LMNG) is extremely limited under the Affected Environment section and non-existent under Environmental Consequences. The amount of irrigated cropland removed from production or affected by the proposal and considered alternatives is emphasized throughout the report. The amount of grazing land so affected and possible impacts to users and their allotment management plans on the LMNG is nowhere discussed or presented in Tables II-4 or II-8.

B Likewise, there is no discussion or tabulation of effects on the various recreation uses on the LMNG either in terms of visual impacts or access.

In general, the resources identified and discussed under Land Uses are of a very limited scope and confined to agricultural, residential, and commercial developments. I would suggest including a discussion of range and recreation resources under this heading and data inclusion in Tables II-4 and II-8.

FS-6200-28(7-82)

A During scoping for the EIS, the level of concern expressed by resource experts, landowners and others was greatest for cultivated cropland and visual effects. No concern was expressed for impacts to grazing allotments or recreation on the Little Missouri National Grasslands (LMNG), rather, grasslands were identified as an opportunity for the project. The Forest Service further indicated that the LMNG should not be considered any more sensitive or important than private grassland. For these reasons, grasslands were not key resource issues on tables II-4 or II-8. The proposed route (see chapter I of the FEIS) crosses approximately 21 miles of grassland, including one mile of LMNG. The base area of the steel lattice structure occupies approximately 0.17 acre per mile of line (see table IV-4, DEIS). Under the assumption that grazing will not occur under the lattice structure, a total of approximately 3.6 acres of grazing land would be taken out of production along the entire currently proposed eastern route, while approximately .2 acres would be removed from grazing in LMNG. If cattle do choose to graze under the structures, the loss of grassland is negligible. Aside from the potential for undesirable weeds to develop at structure sites, the proposed route should have a negligible impact on any grazing land, and associated livestock operators and their allotment management plans. The following mitigation measures listed on table II-5 of the DEIS will minimize weed control problems:

4. In construction areas where recontouring is not required, the original contour will be maintained by matting down vegetation cover. This will prevent excessive root damage and allow for resprouting.
5. In construction areas where recontouring is required, revegetation, and/or reseeding will be performed after the final grade has been established and as required.

B Forest Service data indicates that recreation use on LMNG is dispersed and is generally in the form of deer, turkey, pheasant and grouse hunting in the fall. The typical recreation use period extends from May through November. Spring and summer recreation tends to be associated with rock hunting, nature walks and photography.

The Forest Service estimates that over a typical recreation season, recreation use amounts to approximately 1/2 (.57) person-at-one-time (PAOT) per acre (or 1 person every 2 days), (personal communication with Davis and Turner, U.S. Forest Service).

The portion of LMNG crossed by the eastern route is south of the existing Basin Electric 345 kV transmission line and Highway 2. This is the northern half of section 35 east of the Charlie Creek substation. There are less than 300 acres of LMNG in section 35 south of the existing line. The visual quality of this portion of LMNG has been significantly modified by the presence of the existing line. The area south of the existing Basin Electric line would receive approximately 170 PAOT during the recreation season. The presence of the proposed route would not result in significant recreation impacts to the LMNG due to the small amount of land crossed, the isolated location and current existing conditions.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

There are also some deficiencies of discussion and conclusions regarding cultural resources. My 5/31/88 letter to you which reviewed the preliminary archeological survey report listed several concerns. In addition to these earlier comments, I have the following concerns from reviewing the DEIS:

C
1. Discussion of cultural resources is limited to the agency preferred alternative. There is no data for comparison of alternative routes and therefore no support for selection of the agency preferred alternative from the perspective of cultural resources.
2. The DEIS is misleading concerning surveyed routes. It should be made clear that only the agency preferred route was surveyed for cultural resources.
3. A survey width of 30' for right-of-way clearance for access roads is not adequate for the LMNG. Any cultural resource management task and compliance procedures must meet the Custer National Forest requirements and standards.
4. Preliminary research appears insufficient in certain respects: The model does not seem adequate for the area; it does not appear that historical documents relative to the LMNG were examined; the review of archeological sites found is sketchy and does not place the sites in an overall context; there is no indication of the surface visibility for areas where isolated finds (IF's) were located.

Concern #2 - Insufficient Weight Given to Visual Impacts:

D Throughout the DEIS, the visual impacts of the proposal are substantially downplayed. Yet during the entire scoping process, this was a key concern of the State and Federal government agencies involved. It is noticeably lacking in the description of land use concerns expressed by interested agencies (among others) in the DEIS on p. vi, 2. para. 1 and p. IV-1, 1. para. 1.

E Visual impacts relative to various recreation uses in the LMNG are not discussed and are not shown on Table II-4, p. II-31. Visual impacts from viewpoints along I-94 and US 85 are also not shown in the Table.

F I seriously question the rating of low avoidance given to designated viewpoints from TRNP in Table II-4. Given the sheer number of visitors to the Park (500,000 per year according to TRNP statistics) with the added weight of public agency concern regarding this issue, I would have expected these KOP's to rate high avoidance. Particularly in light of the fact that residential foreground impacts which affect only 32 private residences with open views (p. xi, 1. 2. and p. II-45, Table II-8) rated high avoidance.

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C
1. As with all resources, each of the 41 route links was individually assessed for cultural resource sensitivity. This data was then used to evaluate each alternative route during the corridor selection process. Cultural resource sensitivity information concerning the Environmentally Preferred Route, Agency-Preferred Route and Refined Agency-Preferred Route are listed in the DEIS on pp. III-15 and III-16. Tables including sensitivity information for all links and alternative routes are very lengthy and were not included in the published document.
2. The phrase "of the Agency-Preferred Route" can be added to page F-2, paragraph 4, sentence 1, to clarify this information.
3. The intensive cultural resources survey of the Agency-Preferred Route was conducted October 15-23, 1987. Nearly two months later, on December 9, 1987, Goodson & Associates, Inc. received a letter from Mr. David A. Filius, Forest Supervisor of the Custer National Forest, detailing the new Forest Plan including survey requirements of a minimum of a 150 foot-wide corridor for linear projects. Therefore, the cultural resources survey was in compliance with existing Custer National Forests requirements and standards.
4. a) A "model" was not required for this project. The Western statement of work (SOW), Section 4.5.1.2, required "a predictive statement concerning the number and significance of sites likely to be located in the study area," and stated that "A comprehensive statistically defensible model is not being solicited for this SOW."
   b) A detailed historic overview of the study area, 13 pages long, single-spaced, is included in the cultural resources report. It contains information on the history of the Little Missouri National Grasslands and a complete list of References Cited. Due to space limitations, this entire overview was not included in the DEIS.
   c) Detailed analysis and evaluation (in terms of the overall cultural resource context data base) of sites located during the survey are included in the cultural resources report.
   d) North Dakota State Cultural Resource Survey (NDCRS) Forms do not require information concerning the surface visibility of isolated Find Locations.

D Please refer to the DEIS, chapters III and IV, part B for a discussion of visual resource issues and impacts.

E As described in response to comment B, the portion of the LMNG crossed by the proposed eastern route has been modified by the existing Basin Electric 345-kV line, resulting in minimal additional visual impact.

F The rating of low and moderate avoidance associated with views from TRNP are based on distance. A moderate level of avoidance is assigned to the Talkington Trail which is approximately 3 miles from the western route. This distance represents a moderated-to-low level of visual threshold based on field observation and previous studies (Dames & Moore 1986, Jones & Jones, 1975). Low levels of avoidance were assigned to views from the Painted Canyon overlook and Bucks Point, where the western route is 6 to 8 miles from the viewpoints. A transmission line from these distances is detectable, but will not attract attention. The modified western route would be screened from Painted Canyon overlook due to topographic screening.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

F For the same reasons I question the assessment that visual impacts from the proposal on TRNP KOP's will be low as stated on p. IV-6, 2. para. 6 and p. IV-7, b.(3). This assessment of low avoidance and low impact for TRNP KOP's also conflicts with the description of visual sensitivity on p. III-8, c. which states "Views from KOP's within TRNP, including the Painted Canyon Overlook, Buck Hill, and the horseback riding trails along the eastern edge of the Park were also assigned high sensitivity levels."

F The sensitivity of the views from TRNP are recognized as highly sensitive, and it is primarily due to the distances involved that low and moderate levels of impact have been assigned. These impact ratings are also consistent with the criteria established by the Forest Service for visual quality objectives of partial retention within foreground and middleground views from TRNP out to 5 miles and modification for views beyond 5 miles.

G There is no tabulation of visual impacts within the LMNG or from viewpoints within TRNP in Table II-8, p. II-45 comparing impacts of alternative routes. Once again, the main emphasis on visual impacts is from a residential viewpoint. This bias is reinforced on p. II-44, 5.c. para. 3 in a sentence (needing some further editing) which intends to state that visual impacts concerns showed "a strong preference for E4-1, primarily because of fewer residences with open views within one mile of the line" (emphasis added). Visual impacts within LMNG, as seen from TRNP, or from I-94 or US 85 were not even mentioned in this context.

G Visual impacts to residences within one mile of the proposed project with open, unrestricted views will be most significant due to the high level of dominance from the proposed facility. (Dames & Moore 1986, Jones & Jones 1975).

H The mitigation measures described in Table II-5, p. II-41 include the provision that "The line will be routed to avoid sensitive features. This would eliminate or reduce visual or physical conflict with features." If these statements were true, route E4-1 would have been the selected alternative. They are not true of the agency preferred route in relation to KOP's from within TRNP.

These statements also contradict earlier findings on p. vii, 2. para. 8, to wit: "These mitigation measures would reduce site-specific visual impacts to some degree, but would not effectively reduce initial impacts to lower levels (e.g., high impacts would not be reduced to moderate)." Unless read very carefully with emphasis on the word "minimum", the next sentence appears to draw an illogical and misleading conclusion: "In assessing the visual impacts of the proposed project, it was determined that the minimum impacts incurred would be low, since the line would always have some visual presence" (emphasis added). What should logically follow, but does not, is a discussion of the actual anticipated impacts, some of which will undoubtedly be high as is stated on p. x, I. para. 5 and elsewhere within the report.

H As explained on page II-37 of the DEIS, Western has developed a mitigation plan which is presented on table II-5. The plan includes "generic" mitigation, which Western has committed to undertake on a non-specific basis as a part of constructing, operating and maintaining the project. In addition, several "selective" mitigation measures have been developed, to which Western has committed on a case-by-case basis where possible, to reduce impacts of the proposed route. Western made attempts to do so along the route (W1-R1) proposed in the DEIS (see chapter I of the FEIS). Some of the impacts (i.e Painted Canyon viewpoint) in TRNP were avoided, however, others were not. The proposed route has been changed to conform with the environmentally preferred route (E4), as discussed in chapter I.

The discussion in the DEIS summary (p. vii, 2. para-8) acknowledges that visual impacts are very difficult to reduce or mitigate, short of re-routing, and also recognizes that some level (minimum) of visual impact will occur, regardless of where the line is located.

I The visual quality objectives and visual management policies developed for the LMNG, particularly as to activities viewed from TRNP, cannot be transcribed to TRNP management objectives or considerations as is inferred in the discussion on p. III-7. The respective standards and objectives of these two agencies should be discussed independently within the context of their jurisdictional perspectives.

I Western recognizes the differing management objectives associated with the LMNG and TRNP, however, the Visual Analysis Report for the Government Creek Planning Area (Moore, 1984) identifies viewpoints within TRNP which are the basis for a partial retention visual quality objective (VQO) on the LMNG.

J As a general comment, I found those portions of the DEIS dealing with visual resources to be particularly confusing, incomplete or contradictory. The discussion is so scattered throughout the report as to make a clear and consistent assessment especially difficult.

J Visual resources are addressed in the summary, Alternative Corridor Comparison (chapter II), Affected Environment (chapter III) and Environmental Consequences (chapter IV) along with other environmental resources, as required by the National Environmental Policy Act (NEPA).

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

Concern #3 - DEIS Does Not Reasonably Support the Selection of the Refined Agency Preferred Route (W1-1R) as the Proposed Action:

K The decision to select the refined agency preferred route (W1-1R) over the environmentally preferred route (E4-1) appears to have been made on the basis of economics alone. Essentially, route E4-1 was 2.8 miles longer and would have cost up to one million dollars more than the ten million dollar, 38.2 mile proposal (W1-1R).

Incidentally, it is never quite clear whether W1-1R or W1-1 was finally selected and which route is being referred to in all cases. Also, please note a discrepancy in mileage: p. III-2, 1.c. describes the agency preferred route W1-1 as 37 miles long and p. II-45, Table II-8 shows route W1-1 as 35.5 miles long.

There is no detailed discussion of the economic factors involved, including the reduced access and additional engineering/construction constraints for route E4-1 alluded to on p. x, J. para. 2. In fact, the wording of the preceding paragraph (p. x, J. para. 1) leads one to suspect that the selection of route W1-1R (or W1-1?) was a pre-determined conclusion and justification for its selection is being sought. "Because it was recognized that the eastern and western routes were very similar in overall environmental ranking, it was considered important to evaluate other factors such as miles of transmission line construction, available access, potential construction problems, and project costs before selecting the agency-preferred route (emphasis added).

Considering the economic aspect alone, I find the scope discussed within the DEIS to be very limited. Only the economic impact to non-irrigated cropland appears to have been considered. 4.6 miles more of non-irrigated cropland would be affected under route E4-1 than the 14.2 miles under W1-1R according to Table II-8. Under the proposal, private landowners would be partially compensated for this loss through the purchase of rights-of-way at fair market value.

K Please refer to chapter I of the FEIS for the final comparison of routes and selection of the eastern corridor as the preferred route.

L There is no analysis of potential economic impacts relative to other land uses, such as recreation or range related uses on the LMNG. Likewise, there is no economic analysis of the potential effects on the tourism industry as a result of visual impacts from KOP's within TRNP or from I-94. It would seem that a more complete analysis of all the economic aspects of the proposal and considered alternatives is needed before concluding that W1-1R is economically preferred.

L There is no conclusive data that suggests there will be economic impacts to tourism as a result of the proposed project. Preliminary results of a pilot study entitled "The Impacts of External Development in the Economic and Aesthetic Values of Theodore Roosevelt National Park" conducted by Colorado State University (1988), document the types of activities most enjoyed by visitors, the importance of a badlands park environment, perceived importance of a 1 mile buffer zone, and attractiveness ratings of current (as-is) and modified vistas from TRNP. In addition, estimated expenditures by 1988 TRNP visitors. Preliminary summaries of the survey of 255 on-site interviews and 110 mailback questionnaires provide the following insight into visitor concern for visual impacts external to the TRNP:

- Viewing the landscape, wildlife, and scenic vistas, as well as taking photographs are the most popular activities for TRNP. This highlights the visual experience as the most important to visitors.
- A mixed grass prairie/badlands environment is not seen as less valuable than other park environments, and almost 30% recognized the value of its uniqueness over other parks.
- There is strong support for the park from external impacts from both regional and local visitors.
- When powerlines are added to views from Painted Canyon through photosimulations, the attractiveness to viewers decreased by about 40%.

This data documents the visual sensitivity and importance of retaining the integrity of external views from TRNP. At this time, there is not a quantified correlation with loss of revenue to TRNP or the region as a result of external impacts.

M Moving away from the economics issue to consider overall environmental/resource impacts, I seriously question the finding that "the eastern (E4-1) and western (W1-1) routes were very similar in overall environmental ranking" (p. x, J. para. 1 and P. II-44, d. para. 1). The report also states (p. x) that "land use showed a preference for the western route and visual showed a preference for the eastern route". However, "because the visual preference for the eastern route was stronger than the land use preference for the western route and because visual impacts ranged into the high category while all land use impacts were moderate or lower, the eastern route was determined to be the environmentally preferred route" (p. x).

M As discussed in responses to comment A, the impacts to grazing activities will be minimal. The Forest Service has indicated that recreation impacts to the LMNG could be moderate along the western route (Davis, 1988). When all factors are compared in chapter I (FEIS), the eastern route is environmentally preferred and the proposed route.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

M I think that some of these conclusions may have been erroneously drawn from an overly limited consideration of "land uses" and from some assessed impacts having been rated too low. As mentioned earlier, I believe land uses other than cropland, residences, and commercial developments should have been considered in the analysis, particularly recreation and range related uses on the LMNG. Had such additional uses been analyzed and rated, it is possible that the eastern alternative would have been preferred from a land uses perspective as well as a visuals perspective.

N Concerning the factors that were assessed and rated in Table II-4 some of the ratings appear to be too low. I have already mentioned that the visual resource categories under TRNP should be rated higher, especially since the tabulated ratings are all lower than the visual sensitivity levels described for these sites on p. III-8, 2.c.

O Under cultural resources, I question why the sensitivity levels of high and medium for prehistoric and historic resources did not receive corresponding ratings of high or moderate avoidance. (The ratings were one level lower.)

P I also question why under paleontology, known fossil sites, and fossil bearing formations and groups received ratings of low avoidance. This seems particularly contradictory in view of the fact that the report states that "the key terrain features associated with potential fossil-bearing strata are exposed soils, steep slopes and outcrops." In other words, soils with high erosion potential (over 20% slopes) which rated high avoidance in the same Table II-4.

Q It also seems contradictory that under vegetation and wildlife, hardwood habitat should receive a rating of low avoidance while hardwood draw vegetation merits moderate avoidance. I fail to see the distinction.

R Another issue which needs further clarification is the ranking of the relative importance of each evaluated resource as discussed in the last two paragraphs of p. II-37 and as shown on Table II-7, p. II-43. What exactly were the criteria used for this ranking? The analysis process referred to in Appendix A is unclear on this point. How was it determined that (developed) land use and agricultural was considered to be the most important resource? In addition, as stated earlier, it is my opinion that not all the pertinent resources were evaluated or ranked for this final route comparison.

S One point of consideration that needs to be emphasized is the fact that power to the area to be serviced by the proposal already exists. This will essentially be a supplemental system to improve the existing service and provide a back-up system in case of a substantial power failure. With this in mind the need to further jeopardize resource values in relation to TRNP by routing the proposal within viewing distance of the Park becomes less apparent - as does the need to impact more public lands than necessary on the LMNG.

T Another critical consideration is that future expansion of the proposal is anticipated "from the coalfields area to Miles City" (p. II-7, 1. para. 3). Exactly where this expansion might occur is not discussed in the DEIS. But it is an important consideration in order to properly assess the possible

N Comment is noted.

O Sensitivity levels and avoidance recommendations may share common criteria but are two entirely separate concerns for cultural resources. As stated in section III-14, sensitivity levels for cultural resources reflect the probability of locating specific site types, and the probable percentage of those resources being considered "significant." Avoidance rating criteria includes the practicality, applicability and success of impact mitigation. As described in section IV-21, 22, initial impacts to the majority of cultural resources can be relatively easily mitigated, and residual impacts would be low to non-existent. In addition, sensitivity and impacts are tied to the presence of a site. If no sites are present, or none are eligible, then no impacts result. The probability of significant sites over much of the study area is remote, as much of it has been repeatedly cultivated.

P The probability of finding significant paleontological specimens throughout the study area is low, whether at likely fossil locations (i.e. outcrops or steep slopes) or not. Site specific investigations will be conducted prior to construction activities should significant fossil occurrences be identified. On the other hand, soils with high erosion potential were rated as high avoidance due to their direct association with construction related hazards, engineering constraints, and reclamation sensitivities.

Q Avoidance levels and environmental impacts associated with transmission line construction were evaluated on a resource by resource basis, and are not directly comparable between resources. Relative avoidance levels were assigned based on specific concerns within each resource. Impacts to hardwood draws, for instance, were evaluated with respect to other vegetation types in the area (i.e. grasslands, wetlands, and croplands), and warranted a moderate avoidance. Assessment of impacts to wildlife resources hinged on the presence of humans and temporary loss of habitat. Since the primary impacts to wildlife are short-term and little hardwood draw habitat is to be disturbed, hardwood habitat received a low avoidance.

R The criteria used to compare alternative routes are identified as resource considerations on table II-7 (land use and agriculture, visual, cultural, vegetation and wetlands, wildlife, geology and soils). Land use (including recreation) and agriculture are shown to have the greatest relative importance over other resources considerations due to the potential for significant unavoidable adverse impacts. This has been Western's experience on numerous transmission siting studies.

S The need for the proposed line is explained in Chapter I of the DEIS. The purpose of the line was not a consideration in evaluating environmental impacts.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

T cumulative effects of the current proposal. It is possible that adverse visual impacts as seen from TRNP and I-94, and from within the LMNG could be compounded in the future. This makes selection of route W1-1R for the current proposal even less desirable.

U In conclusion regarding Concern #3, I fail to see sufficient justification within the DEIS for selection of route W1-1R as an economically preferred alternative. And as the DEIS itself concludes, route E4-1 is the environmentally preferred alternative which "Minimizes impacts to residences and views from TRNP. May consolidate with existing utility corridor. (Has) greater agricultural impacts; however, reduced visual impacts offset agricutural impacts" (p. II-43, Table II-7). All of which would appear to be sufficient justification for its selection as the final proposal, particularly in light of the strong agency and public concern generated by the western routes's proximity to TRNP. As has been expressed throughout the scoping process, route E4-1 is this agency's prefered alternative.

Concern #4 - Not All of the Reasonable Alternatives Were Considered:

V The DEIS briefly mentions but does not discuss or analyze a possible alternative adjacent to US 85. On p. II-27, b. par. 2, the report states "A US Highway 85 corridor was not included owing to the level of development along the highway". Without further clarification of this apparent objection, this would seem to be a factor in favor of this alternative. It would appear better from a resource perspective to consolidate as many developments as possible into one corridor as opposed to creating a new surface and visual disturbance.

The unsupported statement on p. IV-36, 1. para. 1 that "Paralleling US 85 would result in significant impacts to adjacent residential and commercial land uses" summarily dismisses this alternative from further consideration. Those purported impacts along with other potential resource impacts should be further evaluated as comprising a viable alternative to those discussed more fully in the DEIS.

W In addition to my four primary concerns discussed above, I have several miscellaneous comments as follows:

1. The verbage on p. II-7, 2. a and Table II-1, p. II-11 describe the steel lattice structures as being 60 to 90 feet tall. The typical design on p. II-8 shows this structure being 110 feet tall.

2. The DEIS states that a 165 foot wide right-of-way will be obtained. The width of right-of-way required for the construction and operation of the powerline on the LMNG is two times the maximum height of the structures. Therefore, the required powerline right-of-way on the LMNG would be either 180 feet or 220 feet depending on the height of the steel lattice structures.

3. The DEIS describes a need for ancillary facilities including new access roads, wire-pulling sites, construction yard and batch plants. The specific locations for these developments were not identified. Are any, particularly new access roads, proposed on the LMNG? If so, additional right-of-way may be needed.

T If the need to extend the 345-kV system arises in the future, the Belfield Substation would be a logical starting point. Regardless of which corridor and substation site is selected, impacts to Theodore Roosevelt National Park could be possible because the new 345-kV line would need to pass south of the Park. Those potential impacts would be dealt with in a line-specific environmental/routing study.

U Please refer to chapter I of the FEIS.

V There are numerous developments scattered along the length of U.S. Highway 85. They include residences, schools, churches, cemeteries, cafes, and other business establishments. There are some low voltage distribution lines located along the highway and there is an existing single-woodpole (115-kV) distribution line that parallels highway 85 for approximately 3 miles south of Charlie Creek substation (see response H to letter 9). In addition, there is a large amount of cropland along either side of the highway. Siting a transmission line along either side of Highway 85 would result in high visual impacts to residents, businesses, and travelers. The National Park Service, in a July 15, 1987, letter to Western identified U.S. Highway 85 as "a primary route for tourism from Canada to North Dakota and other states." NPS goes on to state that scenic vistas west of Highway 85 should be maintained. Based on the criteria used in the visual assessment, a line on the east side of Highway 85 would still create high impacts if within one mile. It would seem nearly as detracting to tourists to have a 345-kV line located close to the east side of the Highway as the west side.

W Miscellaneous Comments:

1. typical heights for steel lattice structures would be 60 to 90 feet. Depending on terrain and other factors some structures could be as tall as 120 feet.

2. Western normally obtains only the necessary right-of-way for its projects. If Forest Service requirements are something greater than 165 feet, Western will comply.

3. As project planning reaches the appropriate level of definition, Western will coordinate with the Forest Service for any ancillary facilities which might be located outside of the transmission line right-of-way or access easements on LMNG.

4. Western has complied with the set-back requirements of the U.S. Air Force for the GWEN facility.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 21

W

4. The presence of the CWEF site on federal land in the SE1/4 of Section 27, T140N, R100W is mentioned in the report but there is no discussion as to possible electrical interference or other impacts, if any, from the proposal. Has this been considered? The same question might apply to the WAPA microwave tower on federal land in the S1/2 of Section 32, T140N, R100W and the microwave tower on private land in the N1/2 of Section 5, T139N, R100W, although they are further removed from the proposal.

5. p. IV-38, 1. para. 2 should say the "eastern" instead of "western" boundary of TRNP.

6. p. v, 3. para. 4 gives a misleadingly limited description of the LMNG and falsely narrows the multiple resource management concept down to a single resource management objective by stating that "The Little Missouri National Grasslands are federaly owned lands managed as grazing range land similar to private holdings of native grassland". I doubt that even our grazing permittees would agree with that description, let alone a varied host of other commodity and non-commodity users!

7. I am curious as to why the western route was staked on the ground many months before even the DEIS was released, let alone a final routing decision made. This appears to be putting the cart well before the horse under the normal NEPA process.

W

5. Comment noted. See chapter III of this FEIS.

6. The quote referred to is on p. III-29, para. 4 of the DEIS and is intended to characterize the vegetative quality of the LMNG as being similar to surrounding privately-owned rangeland. As stated in p. III-1, para. 6 of the DEIS, the LMNG are managed for livestock grazing. Implementation of intensive range management systems, facilitation minerals and energy development, and recreational use.

7. In order to keep the design process on schedule it is necessary to survey and stake the proposed route as expeditiously as possible. Staking is also necessary to perform the cultural resources survey. However, it is Western's policy to take no irreversible actions prior to the Record of Decision.

X I have seen the comments to the DEIS prepared by TRNP. I think their analysis was quite thorough and their conclusions and recommendations have my full support.

X Comments are noted.

Y I appreciate the opportunity to review and comment on this DEIS. I hope my comments and concerns will be helpful in further developing a proposal which all interested parties will find reasonably acceptable.

Y Comments are noted.

Sincerely,

RICHARD L. FARRAR
District Ranger

cc: C. Mack Shaver, Superintendent
Theodora Roosevelt National Park
Medora, ND 58645

Tim McLaughlin, President of the Board
Theodore Roosevelt Nature and History Association
P.O. Box 167
Medora, ND 58645

D-8

FS-6200-28(7-82)

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 22

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

July 25, 1988

REPLY TO ATTENTION OF
Planning Division

Mr. James D. Davies
Department of Energy
Western Area Power Administration
Billings Area Office
2525 4th Avenue North
Billings, Montana 59107-5800

Dear Mr. Davies:

We have reviewed the Draft Environmental Impact Statement for the Western Area Power Administration's proposed Charlie Creek-Belfield 345-Kilovolt Transmission Line Project in western North Dakota. We offer the following comments.

A Federal Flood Plain Management criterion basically states that construction which can be damaged by floodwaters or which can obstruct flood flows should not be located in the 100-year flood plain. If this is not practicable, residential construction which can be damaged by floodwater should be above the 100-year floodwater surface elevation and nonresidential construction, such as substations, which can be damaged by floodwater should be above or flood proofed to above the 100-year floodwater surface elevation and should be designed to minimize potential harm to or within the flood plain. If the operation of the constructed facilities is considered critical during flood periods, they should be protected from the 500-year flood. Flood plain construction should not increase the water surface elevation of the 100-year flood more than one foot relative to existing conditions.

A Comment noted.

B The proposed powerline construction crosses the flood plains of small drainageways and streams. Flood related problems should not occur with construction of the overhead powerlines if the supporting structures are located as far from the banks of drainageways and streams as possible to minimize the potential for erosion hazards and flood flow obstruction.

B Comment noted.

C If the construction involves placing fill material (permanent or temporary) into a waterway and/or adjacent wetland, a permit pursuant to Section 404 of the Clean Water Act may be required. When project plans are completed, they should

C Project plans will be forwarded to Mr. Winters as requested.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 22

C [be sent to the North Dakota Regulatory Field Office, Attn: Mr. Jim Winters, U.S. Army Corps of Engineers, P.O. Box 902, Bismarck, North Dakota 58502-0902, for detailed review of permit requirements.

D [The EIS for the Charlie Creek-Belfield Transmission Line Project in North Dakota should state that the necessary permits will be obtained from the Corps when final plans are complete.

Thank you for this review opportunity.

Sincerely,

Richard D. Gorton
Chief, Environmental
Analysis Branch
Planning Division

D [Western will comply with all applicable permitting requirements including Section 404 of the Clean Water Act.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 28

United States Department of Agriculture
Soil Conservation Service
P.O. Box 1458
Bismarck, ND
58502-1458

James D. Davies
Western Area Power Administration
ATTN: B2000
P.O. Box 35800
Billings, MT 59107-5800

Dear Mr. Davies:

The Soil Conservation Service (SCS) has reviewed the Draft Environmental Impact Statement for the Western Area Power Administrations (Western) proposed Charlie Creek-Belfield 345-Kilovolt (KV) Transmission Line project in Western North Dakota (DOE/EIS-0134-D).

We have the following comments:

A [1) In reference to II-38 (Table II-5. Mitigation Measures) - #5, we recommend native grasses/woodies, as related to range sites and woodland suitability groups, be planted. Local SCS field offices located in the affected counties should be consulted with for seeding rates, mixtures and recommendations.

B [2) SCS has authorization to plan flood reduction measures for the City of Belfield, ND. Preliminary investigations have been made on potential dam sites on the Heart River and a tributary above Belfield. Route Links 40 and 41 dissect the drainage areas of several of the dam sites under consideration.

At this time Route Link 41 would appear to have the least potential impact on future flood reduction measures. Actual impacts would depend on the final location of transmission line structures and the structural components of the flood reduction measures. Minor relocations of the features proposed for both projects may reduce or eliminate impacts. SCS will gladly coordinate planning activities with Western Area Power to ensure that future impacts to both projects are minimized.

We appreciate the opportunity to review and comment.

Sincerely,

Charles E. Nelson
RONNIE L. CLARK
ACTING State Conservationist

A [The District SCS Office in Dickinson will be consulted for appropriate revegetation requirements.

B [The District SCS Office in Dickinson will be contacted for further information on future flood reduction projects which might be affected along the proposed route.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

OFFICIAL FILE COPY
AUG 1 '88

JUL 28 1988

Ref: 8PM-EP

James D. Davies, Area Manager
Billings Area Office
P.O. Box 35800
Billings, Montana 59107-5800

RE: Draft Environmental Impact Statement (DEIS) for Charlie Creek-Belfield Transmission Line Project, North Dakota

Dear Mr. Davies:

In accordance with the National Environmental Policy Act (NEPA) and our responsibilities under Section 309 of the Clean Air Act, the Region VIII Office of the Environmental Protection Agency (EPA) has reviewed the referenced DEIS (DOE/EIS-0134-B).

A While it was stated that "all floodplains and wetlands would be spanned and no structures would be placed in them", we feel some additional information in the final EIs on mitigation of impacts to wetlands would improve the EIS. This information should be specific to the agency-preferred route and include runoff of sediments from tower construction sites, access trails, cleaning of brush, and vehicle movement during construction. A detailed depiction of how one of the most impacted wetlands in the route would be mitigated would suffice.

B Based on our review and the criteria EPA has established to rate adequacy of draft EISs, we have rated this draft EIS as Category LO (Lack of Objections). A summary of our EIS rating definitions is enclosed. If you have any questions please contact Henry C. Schroeder of my staff at (303) 293-1461 or FTS 564-1461.

Sincerely,

Robert R. DeSpain

Robert R. DeSpain, Chief
Environmental Policy Branch
Office of Policy & Management

A No wetlands would be lost owing to the proposed project. See Response A to the North Dakota State Water Commission comments (letter no. 6) concerning erosion control and mitigation.

B Comment noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
DENVER FEDERAL CENTER, BUILDING 67, ROOM 840
P.O. BOX 25007
DENVER, COLORADO 80225-0007

July 27, 1988

OFFICIAL

AUG 1 '88

ER 88/496

Mr. James D. Davies, Area Manager
Billings Area Office
Western Area Power Administration
P.O. Box 35800
Billings, Montana 59107-5800

Dear Mr. Davies:

The Department of the Interior has reviewed the Draft Environmental Impact Statement (DEIS) for the Proposed Charlie Creek-Belfield 345-kV Transmission Line Project (ER 88/496) and offers the following comments.

Theodore Roosevelt National Park

A The National Park Service (NPS) supports selection and implementation of the environmentally preferred alternative. NSP believes that the preferred alternative (Route W1-1R) would result in highly undesirable visual impacts to visitors using major view points and trails within Theodore Roosevelt National Park (TRNP). The proposed decision in favor of the preferred alternative appears to be based primarily on economics, since the environmentally preferable eastern Route E4-1 is slightly longer.

B However, the DEIS makes no analysis of the economic impacts on the North Dakota tourism industry as a result of the visual effects of the line on visitors in one of the State's principal tourist attractions. If the economics of line construction is considered as a factor in route selection, then tourism economics, as well as environmental effects, should also be considered as decision factors. Additional, page specific comments on the draft EIS relative to TRNP are enclosed.

Threatened and Endangered Species

C The U.S. Fish and Wildlife Service (FWS), under the authority of the Endangered Species Act (16 U.S.C., et seq), concurs with the "no effect" determination for threatened and endangered species and critical habitat. Further consultation is not needed unless project plans are altered.

Other Fish and Wildlife Resources

D The DEIS, including proposed mitigation measures, adequately addresses fish and wildlife concerns. None of the alternatives would appear to have significant unavoidable impacts

A Please refer to chapter I of the FEIS for the final comparison of the alternative routes and selection of route E4-1R.

B Please refer to response L of comment letter 21.

C Comment is noted.

D Comment is noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

D to important wildlife habitats. We note that the environmentally preferred route would be located farther from known raptor nests as well as being located beyond the viewshed of key observation points within Theodore Roosevelt National Park.

Mineral Resources

E The DEIS includes a good summary of geology, mineral resources, and mineral resource impacts. The analysis concludes that potential mineral rsource impacts are low and that no mineral resources in the area are of such unique nature as to warrant changes in the transmission line route. Although the Bureau of Mines (BOM) concurs that the overall mineral resource impact of each route is low, two alternative routes, including the preferred route, cross active or abandoned mining operations. Accordingly, BOM prefers selection of either the refined preferred route which bypasses all mining operations or selection of the environmentally preferred alternative which has no effect on developed mineral resources.

Ground Water

F The type of coolant(s) and dielectric(s) to be used in equipment for the new substation and in modification of the existing Charlie Creek Substation should be addressed. If liquid coolants are to be used, plans for prevention and containment of spills to protect ground water should be indicated.

Specific Comments

G Additional page specific comments on the DEIS are enclosed.

In conclusion, given the potential impacts to TRNP, raptors, and mineral resources, the Department of the Interior recommends that the environmentally preferred alternative be selected.

We appreciate the opportunity to comment on the proposed project.

Sincerely,

Barbara M. Skinner
for Robert F. Stewart
Regional Environmental Officer

Enclosure

E Comment is noted

F Western will evaluate the need for oil-containment equipment and develop Spill Prevention, Control and Countermeasure Plans, as required.

G Comment is noted, see response to comment A.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

Enclosure I

SPECIFIC COMMENTS
CHARLIE CREEK-BELFIELD DRAFT ENVIRONMENTAL IMPACT STATEMENT

H Page iii, paragraph 3, Item 5 states that "...identifying the least impact locations and selecting a proposed or preferred route for the project..." is one of the major phases of the project. This paragraph does not state that the economics of line construction is a primary criteria for route selection. While the document goes on to analyze environmental impacts, it selects the preferred route based on primarily economic concerns.

I Page iv, paragraph 5. The referenced scenic quality scale needs to be identified as to who developed it and what area of the country it was developed to measure or represent. The scale should be provided as an appendix. Class C, upland rolling plains, may "...express little variety in form, line, color or texture..." but when rolling plains provide a background to rugged, colorful badlands the resulting visual quality is by far the highest in North Dakota. These are the views currently enjoyed by nearly 500,000 people each year from Painted Canyon overlook, Buck Hill, and trails in the eastern part of TRNP. These views would be degraded by towers and power lines if constructed on the preferred route.

J Pages vi and vii, Section G.2. Impacts to the Human Environment. This section implies that very few concerns were expressed during the scoping process with respect to visual impacts on views from TRNP. To the contrary, park staff have provided numerous written comments, verbal testimony at a public meeting in Belfield on September 15, 1987, and verbal comments at several meetings with WAPA representatives throughout the scoping process. In addition, letters to WAPA from the Theodore Roosevelt Nature and History Association, the North Dakota Congressional Delegation, the North Dakota Tourism Promotion Department, the Governor of North Dakota, and the Sierra Club, all expressed grave concern over the western corridor and inadequate treatment of visual impairment issues by WAPA. Also, a large number of news stories on North Dakota television and in newspapers have made it obvious that many groups and individuals oppose any line which would impact viewsheds used by National Park visitors.

K The first paragraph in Section G.2 mentions a primary concern expressed by public comment as being effects on agricultural practices. While these impacts do appear minimal as stated, easily understood quantification should be provided to support the statement. Study of other parts of the document reveals only 6.4 acres of cropland would be encumbered by towers on the entire length of the line.

L Page vii, paragraph 5. Distant views should be considered in assessing visual resources from view points within the park because good air quality and expansive vistas are part of the visitor experience in North Dakota. To ignore the effects of this line on distant views from the park is to disregard an important environmental impact of the project.

H The environmentally preferred corridor was identified on the basis of least potential impacts. The agency preferred corridor was selected on the basis of engineering and economic factors, after it was recognized that the overall level of potential environmental impacts as well as impacts for the two routes were not significantly different. As indicated in chapter I of the FEIS, the proposed route now supports the environmental preference.

I Criteria for scenic quality are based on the Forest Service Visual Resource Management Vol. 2, (VMS) and are consistent to those applied to the LMNG. Also see response to comment L of letter 21.

J The cited section is in the Environmental Consequences section of the Executive Summary of the DEIS. This section does not imply that there were few concerns expressed. It simply provides a brief statement of the potential visual effects of the proposed project. TRNP has provided consistent input to Western regarding their concerns for visual impacts to the Park, and Western has worked with the Park to more clearly delineate just what those impacts could be. We have continued to seek a resolution that would be satisfactory to all concerned. Western consulted with Park personnel in determining that steel pole H-frame structures would be less visually intrusive than steel lattice. At the request of the TRNP, Western identified two local reroutes in the southern half of the western corridors and evaluated their potential visual impacts. Following the announcement of the agency preferred corridor in September 1987, Western received a number of letters as indicated in the comment. We will continue to coordinate with concerned agencies, groups, and individuals.

K Comment is noted.

L Western has gone to great lengths to assess the distant views from TRNP, as well as out to 3 miles from residential views, as discussed in chapter IV of the DEIS.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

Mr. James D. Davies 2

M The last sentence in C.2 is confusing and perhaps misleading. When considering a visual intrusion from a view point within a National Park where unobstructed, natural views are the purpose of visitor use at the view point, the minimum impact of any intrusion which "...would always have some visual presence" would be high to extreme, not low as stated in the document.

N On page x, the map referenced here (Figure II-6) and all fold-out maps (particularly II-8, II-9, III-1, IV-1, and IV-2) which deal with impacts affecting TRNP fail to show the park. This shortcoming has been pointed out to WAPA since early in the scoping process. This severly limits reviewers ability to understand and comment on visual impacts to park visitors.

O Page x, paragraphs 5, 6, and 7 state that the two primary routes being considered were nearly equal in environmental impact concern. Although environmental impacts to residences, croplands, and National Grasslands are nearly equal on the two routes, the visual intrusion to 500,000 National Park visitors each year as a result of using the western corridor make the eastern route (E4-1) preferable. These visual impacts on the park have been inadequately assessed and considered in the EIS. As a result, the decision favoring Route W1-1 is apparently based on economics (shorter line, less private land to cross, thus less right-of way costs and possibly slightly less difficult access and construction). There is no careful analysis made of actual cost increases which might be incurred on Route E4-1, but the estimated 10 percent, when considered throughout the life of the line (50 years minimum) seems inconsequential as compared to the potential economic impacts to the tourism industry of North Dakota.

P Page xi, 2, Visual Resources. No mention is made here of visual impacts on TRNP or visitors to the park. This impact is the primary environmental impact of the proposed line.

Q Page I-3, last paragraph. As noted in the EIS, there appears to be some potential for future expansion of the electrical transmission system in North Dakota. A major concern with the selection of the preferred corridor is that additional lines would be erected in the corridor, thus increasing the visual intrusions to view points within TRNP. Selecting the eastern most (environmentally preferred) corridor east of U.S. Highway 85 would be much more acceptable since no intrusion on TRNP would result from further line construction in that corridor.

R Page II-2. As was suggested during scoping, an additional alternative should be seriously considered. This suggested alternative would route the proposed line near U.S. Highway 85 where several transmission lines already exit. This proposed routing would eliminate both land use concerns and major environmental impacts.

S Page II-27, paragraph 3.b. Excluding a line corridor adjacent to U.S. Highway 85 because of "development" is not a logical conclusion since in other sections of the EIS, WAPA considers a 1/4 mile set back adequate to prevent significant intrusion. Along the highway, a set back of 1/4 mile or more is possible but not really necessary since power

M TRNP staff concurred with the impact characterizations while maintaining that any level of impact is unacceptable to the Park.

N In response to comments by TRNP personnel regarding this matter, Western appended maps providing coverage of the Park in relation to the study area to display maps for the planning workshops. The DEIS describes the relative location of the Park and study area and it is depicted in figures II-2, IV-3, IV-4, and IV-5. The Park would not fit on the large foldout maps without either reducing the scale of the maps or using wider paper.

O Please refer to chapter I of the FEIS.

P As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

Q There are no known plans nor any future projected needs for additional transmission lines in the area. The most likely speculation calls for expansion of the 345-kV system to the west into Montana or south into South Dakota. In either case, such a project would almost certainly begin at the Belfield Substation. A line into Montana could possibly parallel the existing Dickinson-Dawson County 230-kV transmission line which is routed south of TRNP.

R As was indicated in the DEIS, a Highway 85 corridor was considered during the early phases of the environmental study. Such a corridor would have greater land use and visual impacts than either of the two corridors to the east of the highway. In a July 15, 1987, letter to Western, TRNP indicated that U.S. Highway 85 is "a primary route for tourism from Canada to North Dakota and other states" and "it seems appropriate to maintain scenic vistas west of Highway 85 toward the badlands." If Highway 85 is a major route for tourists, it would seem that a large transmission line on either side of the road would create visual impacts and a negative influence on tourism.

S See response to comment L.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

Mr. James D. Davies 3

S lines already exist. A new line, adjacent to present lines, would provide minimal additional impact to the developed areas along the highway.

T Table II-4, page II-31. We question the low avoidance selection criteria established for designated view points within TRNP. By strict definition of that criteria, as per the table, low avoidance fits. However, when considering major visitors attractions (up to 500,000 visitors per year) where the primary visit purpose is unobstructed natural landscape viewing, any man-made visual intrusions should be considered high avoidance. For urban and residential visual resources, selection criteria should take into account existing visual intrusions. Where transmission lines, buildings, and other visual intrusions exist, the selection criteria for a new intrusion would be low if normal setback (1/4 mile) were used. This table misrepresents the visual impacts of the proposed line. In addition, the visual resources of the Little Missouri National Grasslands were not clearly considered in the table or text. The agency preferred route would cross 6 miles of the National Grassland while the environmentally preferred route would cross only 1.7 miles. One of the major uses/resources of the National Grasslands, according to the managing agency (U.S. Forest Service), is recreation. Impacts to visual resources and recreational uses should be fully analyzed and made a part of the assessment.

U Page II-43, Table II-7. While the environmental preference ranking in this table appears reasonable, the NPS questions whether land use and agriculture should receive higher consideration than visual resources. NPS believes that the degradation of economically and environmentally important viewsheds is the most significant impact of the proposed action.

V Page II-44, paragraph 3. The second to the last sentence should include a statement that E4-1 is also preferable because it has no visual impact on TRNP or the park's visitors' experience.

W Page II-44 and several tables compare routes using number of miles of cropland crossed by the proposed line. NPS recommends that these figures be replaced with the actual number of acres (about 6.4) taken out of production by the line.

X Page II-44, paragraph 6. This paragraph states that the decision to recommend Route W1-1R as the agency preferred route was made using strictly economic factors. Economic factors affecting the North Dakota tourism industry were not included in the EIS, were not considered, and apparently played no part in the decision. If the economics of line construction is to be considered as a factor in route selection, then so should tourism economics and environmental effects.

Y Page II-45, Table II-8. Many interested agencies and individuals have provided WAPA with written and oral testimony on concerns for visual impacts of this project on view points within TRNP. However, these impacts were not included in the "Visual impacts" section of the table. Their inclusion would show Route W1-1R the only corridor which impacts the park.

T Please refer to response F of comment letter 21.

U Please refer to response L of comment letter 21, as well as chapter I of the FEIS.

V As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

W Please refer to chapter I of the FEIS.

X Please refer to response L of comment letter 21 and chapter I of FEIS.

Y As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

Mr. James D. Davies 4

Z Page III-3, paragraph 3. This statement ignores the fact that three large power lines currently parallel U.S. Highway 85 within the study area. These lines make that area a "utility corridor" which should be seriously considered for all future line construction (including this project). If Route W1-1R is selected, it may become the utility corridor of the future, and any future transmission lines desired in the area will also become intrusions to views from the major view points in TRNP (thus resulting in cumulative impacts to the Park directly resulting from this action). These cumulative impacts should be clearly specified and analyzed in the EIS.

AA Page III-6, b. Key observation Points. This definition has two major problems from the National Park Service (NPS) perspective. First of all, it assumes that intrusions to visual resources become less significant as they move further away. This is true when distance results in the intrusion becoming invisible, but from view points where viewers desire unobstructued, sweping landscapes, any visual intrusion regardless of distance will degrade the view. Towers skylined or contrasted against landscape background should be considered just as intrusive at whatever range they may be visible. Secondly, distance zone No. 3 in that paragraph seems to assume that distant vistas are always "seldom-seen" and are not as susceptible to visual intrusions as are foreground or middle ground views. This is not true, particularly in areas where sweeping vistas, distant horizons, and clean air are the resource of major recreational/esthetic importance. Such is the case in North Dakota and particularly in TRNP.

BB Page III-7, paragraph d. Visual Objectives. Visual Quality Objectives (VQOs) are U.S. Forest Service standards and should not be applied to National Park Service visual resources or viewsheds of importance to National Park visitors. The objectives and mandates of the two agencies are different, thus the amount of acceptable degradation to any given resource cannot be defined or measured using the same set of standards for both agencies.

CC Page III-8, paragraph 4. 1987 Visitation for TRNP was 431,377 visits; 204,081 visited Painted Canyon.

DD Pages III-11 and 12, C. Socioeconomic Resources. More detail should be provided as to the importance of tourism (and, consequently, TRNP) to the economy of the region and state. Tourism now ranks in the top three industries in North Dakota. The Park is a significant part of that industry and one of the only areas in the state where visitors may experience landscapes reminiscent of the 18th and 19th century and truly get the feeling of open range and the old west. It is possible to construct this power line without impacting this industry at all. However, the agency-preferred route will seriously impact some of the resources important to tourism in North Dakota.

EE Page III-36, c., d., and e. Since all wetlands in all three routes are spannable, each paragraph should contain that statement. As written, it appears only the wetlands in the Refined Agency Preferred Route are spannable.

Z Please refer to response L of comment letter 30.

AA We recognize the concerns that the NPS has for impacts to TRNP. The criteria used in the visual assessment are consistent with Forest Service VMS criteria.

BB There is no intention of confusing NPS and Forest Service criteria or management objectives. It should be noted, however, that the Forest Service VQO of partial retention on LMNG was assigned to protect impacts to TRNP.

CC Comment is noted. Only 1986 data were available at the time the DEIS was prepared.

DD As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

EE Comment is noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

Mr. James D. Davies 5

FF Page IV-3. Residual Impact. The environmental comparisons here show no reason to choose one route over another — they are nearly equal in impact. However, beginning on page IV-4, the discussion of visual impacts make it obvious that the Agency Preferred Route has substantial impact on views from important overlooks in TRNP.

GG NPS questions the low to moderate assessment of these impacts. As discussed previously, because of the purpose and number of visits to the overlooks, because of the rolling terrain which will not screen or absorb towers visible from the overlooks, and because of the projected long life of this line, the visual impacts to TRNP visitors will be high to extreme.

HH Even if the low to moderate impact rating assigned to towers seen from the Park is considered accurate, there is significantly more environmental impact from the agency preferred route than there is from the environmentally preferred route.

II Page IV-6 and 7.3. Residual Impacts. The residual impacts of the power line on views from TRNP are understated. Since the entire purpose of visits to the Key Observation Points (KOPs) in TRNP is to view the natural landscape, every degradation is significant and every year degradation continues, the residual effect becomes greater. Assuming visitation remains static, in 50 years, 12 1/2 million people will be exposed to views of the power line from TRNP. Carrying this further and adding on economic factor, it will cost about $.08 per visitor to use the environmentally preferred route and prevent degradation of these views. This figure is based on EIS estimates of added construction costs of the longer route.

JJ The photo simulations showing potential views of the line from KOPs within TRNP are very poorly reproduced on pages IV-12 through 17 in the DEIS. The actual simulations are quite good and have been studied by many interested people. The comments received on the simulations strongly support use of the environmentally preferred route.

KK Page IV-19, paragraph 6 last line. If there is some outharitative or documentary evidence that the proposed degradation of visual resources will not affect the tourism economy of the region and the state, it should be cited. At the conclusion of the research currently underway on visitor expectations and contribution to the North Dakota economy, NPS should have evidence to support or refute such a statement. The National Park Service strongly believes, as a result of other research, that quality of experience can be translated into economic effect. High quality resource protection and full realization of visitor expectations translates directly to longer stays and/or repeat visits. Continued inroads on visual resources at TRNP will reduce the quality of visitors' experiences. Since viable alternatives to resource degradation exist in this case, it does not seem worth the risk to build the line on the agency preferred route.

LL Page IV-38, N. Cumulative Impacts. Third paragraph, first line, the word "western" should bechanged to "eastern."

FF Comment is noted. Please refer to chapter I of the FEIS.

GG Please refer to response F of comment letter 21.

HH As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

II Please refer to response L of comment letter 21 and chapter I of FEIS.

JJ Comment is noted. As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

KK Please refer to response L of comment letter 21.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 30

LL This section implies that since there are already some visual intrusions in the area, the cumulative effect of one more will not make much difference. A great deal of effort has been expended by the National Park Service, Bureau of Land Management, U.S. Forest Service, various oil companies, Basin Electric Cooperative, and others to minimize or eliminate visual and other intrusions on visitor experiences in TRNP. Use of natural screening, camouflage, restricting activity to low visitor use seasons, etc., have all greatly reduced resource and visitor experience impacts associated with TRNP. We know it is possible for agencies and industry to cooperate and successfully mitigate unacceptable environmental impacts because the current intrusions near the park are at an absolute minimum as compared to what could have occurred without work and cooperation. We are convinced the potential impact of this project can be eliminated without incurring unacceptable costs by selecting the environmentally preferred route.

MM Page IV-40, Table IV-4. A similar table should be prepared for the environmentally preferred route. Then a simple summary could compare the two routes.

NN Page IV-42, paragraph 1. This paragraph should be expanded to project the number of visitors who would be exposed to degraded views which include the proposed line over the projected line life. See NPS projected figures earlier in these comments.

OO Page IV-43, Table IV-5. Under Recreation and Preservation, there will be impacts associated with the line on the National Grasslands. Esthetic values will be reduced and there will be some habitat loss. The choice of the environmentally preferred route would reduce this impact since the amount of grasslands crossed will be reduced.

Also on the table, the Visual Resource category would receive substantially less degradation, particularly that associated with TRNP, by the selection of the environmentally preferred route.

LL As stated on page IV-38, there would be cumulative negative visual impacts to TRNP associated with route W1-R1. Selection of the environmentally preferred route as the agency-preferred route avoids these impacts.

MM Please refer to chapter I of the FEIS.

NN Please refer to chapter I of the FEIS.

OO Comment is noted.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 31

GEORGE A. SINNER
GOVERNOR

State of North Dakota
OFFICE OF THE GOVERNOR
BISMARCK, NORTH DAKOTA 58505
(701) 224-2200

JOINT STATEMENT BY GOVERNOR GEORGE A. SINNER
AND LIEUTENANT GOVERNOR LLOYD B. OMDAHL

ON THE PROPOSAL OF
WESTERN AREA POWER ADMINISTRATION
FOR THE CHARLIE CREEK-BELFIELD TRANSMISSION LINE

July 28, 1988

A First of all, we want to thank the Western Area Power Association and its staff for the excellent cooperation the State of North Dakota has received in the proceedings involving the proposed Charlie Creek-Belfield Transmission Line Project. We are especially appreciative of the responsiveness of the WAPA staff to all persons and groups interested in the Transmission Line. The staff has demonstrated true professionalism and sensitivity in its conduct.

The Theodore Roosevelt National Memorial Park has been the centerpiece of North Dakota's natural attractions since its creation. Through the years, the number of out-of-state visitors attracted to this scenic area has increased continuously as it has become one of the last unmarred scenic beauties in America. During this time, North Dakotans have jealously guarded the Badlands scenic areas from all avoidable intrusions. Consequently, the Park today still provides awesome views of natural beauty unmarred by artificial structures. Whether or not future generations will be able to share this beauty will be determined by this generation and the decisions it makes about development in the area.

Because decisions to erect artificial structures in the vicinity of these scenic points will have permanent impact on future generations, we must proceed cautiously in the consideration of proposals to change the landscape. Needless to say, we are concerned about the possible effects on the Park of the proposal to build a 345 kV power line from Charlie Creek to Belfield. Any route that would bring the line into primary scenic views of the Park warrants concern.

While safeguarding the natural beauty of the Park is of primary importance, this is not a question of aesthetics removed from the real world of dollars and cents. Spectacular scenery is a marketable commodity. The beauty of the Badlands is in its boundlessness, its untouched character, and its unspoiled nature. That beauty attracted

A Thank you for your comment. As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 31

more than 400,000 visitors to Theodore Roosevelt National Park last year. Those visitors spent money in North Dakota, making the National Park a valuable economic resource for our growing tourism industry. A

We are not oblivious to the economic ramifications involved in routing the line. A judicious balancing of the economic considerations and the permanent scenic beauty can result in a routing that will keep the Park's natural beauty intact without undue economic sacrifice. In our perspective, one of the more eastern corridors would protect the park while at the same time avoiding an onerous burden in a 50-year authorization program involving over one million people.

Sincerely,

George A. Sinner
Governor

Lloyd B. Omdahl
Lt. Governor

GAS:JSC:ksp

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 37

MEDORA
CHAMBER OF COMMERCE
BOX 186
MEDORA, NORTH DAKOTA 58645

Comments on Draft Environmental
Impact Statement DOE/EIS-0134-D
Charlie Creek To Belfield Transmission Line Project, North Dakota

Medora Chamber of Commerce
Box 186
Medora, North Dakota
58645

The Medora Chamber of Commerce supports the EIS and WAPA's environmentally preferred route, the eastern corridor, E4-1. The negative visual impact the other route would create would have an economic impact on the tourist industry, which would create a loss of jobs and create a threat to small business in the area. We do not believe the environmental impact statement adequaltely or accurately analyzes the full environmental impact. Specific answers to the questions and objections stated in the comments on the draft by the Superintendant of Theodore Roosevelt National Park need to be addressed. Any money saved by the route near the Park would be lost in economic impact to the tourist industry. A

A [Please refer to comment L of letter no. 21 and comments A-I of letter no. 10.

President Elect

Secretary-Treasurer

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 38

"Once upon a time in the West"

Peaceful Valley Trailrides, Inc.

P.O. Box 197
Medora, ND 58645
Phone (701) 623-4496

Comments on Draft Environmental Impact Statement
DOE/EIS-0134-D
Charlie Creek to Belfield Transmission Line Project, North Dakota

Wally Peaceful Valley Trailrides Inc.
Theodore Roosevelt National Park
Medora, North Dakota 58645

A The visual impact the Transmission Line Project would create, if allowed other than the eastern corridor, E4-1, would have a direct effect on my business. The guests who visit our ranch in Theodore Roosevelt National Park visit it for the environmental experience not available where they come from. They frequently comment on the view and are amazed by the visual splendor of Theddore Roosevelt National Park. Newspapers and writers visit us and take home stories of the area and its vast views, sunsets and sunrises. The visual impact of the Park is critical to the visitors enjoyment of the Park. One only has to view the park from Painted Canyon to appreciate the importance of the view and listen and watch the impact it has on visitors to our state. The eastern corridor, E4-1 is the only responsible corridor for the Transmission line. Any other route visible from any area of the park would be economic and morally irresponsible.

Sincerely

Wally Owen

A Please refer to our comments D-L of letter no. 21.

Happy Trails

Wally Owen and DeeAnn Baertsch
(Proprietors)

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 45

NORTH DAKOTA GAME & FISH DEPARTMENT
"Variety in Hunting and Fishing"

100 North Bismarck Expressway
Bismarck, North Dakota 58501-5095
Phone: (701) 221-6300

AUG 4 '88

August 1, 1988

James D. Davis
Billings Area Manager
Western Area Power Administration
P.O. Box 35800
Billings, MT 59107-5800

RE: Charlie Creek-Belfield Project DEIS

Dear Mr. Davis:

A This letter is in response to your request for comments regarding the Draft Environmental Impact Statement for the Charlie Creek-Belfield Transmission Line Project. We have reviewed the project DEIS and is generally adequate in addressing wildlife needs. As all the alternatives being considered are projected to have low initial and only modest longterm effects on wildlife resources our remaining concerns are relatively generic in nature.

B It is our current understanding that regardless of the final route selected the transmission line will wherever possible span all woody draws, riparian habitats, and wetlands: thus minimizing impacts to these significant wildlife habitats. It is further our understanding that no large wetland complexes or concentrations of pothole wetlands are crossed by any to the proposed alternatives. These are important wildlife concerns. Please inform us if we are incorrect in these matters.

We thank you for the opportunity to comment on the proposed project. If you have any questions please feel free to contact our Department.

Sincerely,

Dale L. Henegar
Commissioner

DLH/AD/cg

A Comment noted.

B This paragraph accurately portrays circumstances with respect to wildlife habitat along the proposed route (E4-1R).

Dale L. Henegar
COMMISSIONER

Charles H. Schroeder
DEPUTY COMMISSIONER

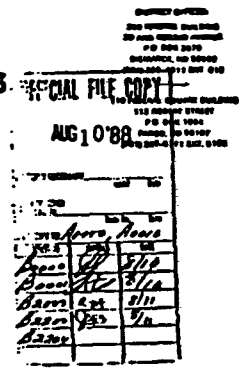
TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 53

BYRON L. DORGAN

Congress of the United States
House of Representatives
Washington, DC 20515

August 2, 1988



Mr. James D. Davies
Area Manager, Western Area Power Administration
P.O. Box 33800
Billings, Montana 59107-5000

Dear Mr. Davies:

A I am writing in regards to your recent proposal of two alternative routes for the planned powerline in western North Dakota. I understand that these alternative routes, which you proposed in a July 21, 1988 meeting in Bismarck, are essentially modifications of the agency preferred western most route.

Although your new alternative routes reduce somewhat the visual impact to the major viewing points and trails within the Theodore Roosevelt National Park, the visual impact is still unacceptable. The alternative routes still pollute the scenic beauty of the Park's famous expansive view. My position remains the same: I feel that the environmentally preferred route, which runs along the eastern corridor, is the only acceptable route.

There are a number of things at issue regarding the construction of this powerline. First is the priceless environmental beauty of the vast open badlands. One cannot attempt to put any price tag on the importance of maintaining, as best we can, the natural open beauty of the North Dakota badlands. Second, although we can only speculate at the potential economic cost of the impact the western route will have on tourism in the state, it does not make sense to threaten it unnecessarily. The environmentally preferred route along the eastern corridor is a legitimately possible route that will not threaten tourism to the most spectacular view in North Dakota.

Finally, the enviornmentally preferred route, which I support, will ultimately not result in a significant increase in customer rates. I understand that this route, which runs along the eastern corridor, is estimated to cost additional money. I think that we need to put this figure in perspective. The overall cost of the powerline will be distributed among four states and spread out over a long period of time. The additional cost, when put into context, is not significant enough to justify the environmentel damage and threat to North Dakota tourism that results form the western most route.

A Comments noted. As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 53

A I greatly appreciate your openness to public sentiment and your willingness to consider alternatives to accommodate all those who have interest in this matter. I hope you will hear the concerns of myself and of many others who are committed to protecting the natural, scenic beauty of the North Dakota Badlands.

Sincerely,

Byron L. Dorgan
Member of Congress

BLD:glr

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 57

OFFICIAL FILE COPY

August 8, 1988 AUG 10'88

Western Area Power Administration
James D. Davies, Area Manager
P.O. Box 35900
Billings, Montana 59107-5800

Dear Mr. Davies:

I agree with the Western Area Power Administration for selecting the "Western Corridor" (W1-1) for the "Charlie Creek-Belfield" Electrical Transmission Line. I have several points to make relative to the "Agency" route selection:

A 1). Obvious savings of about one tillion dollars in the selection of the "Western" route versus the "Eastern" route. I heard formal testimony in Grassy Butte, July 26, 1988, from the President of West Plains Electric Coop, that if the Eastern route were chosen a cost increase for power usage of between seven and ten percent would be charged.

B 2). If the Eastern route were chosen, further development of oil and gas in the Little Knife Oil Field would be reduced. I am sure that placing another transmission line next to Basin Electric's 345 KV existing line, you would find the power line near or possibly over the top of existing producing well sites. This would become a big problem if the corridor were placed in the "Window" of a drilling site. If there would be secondary and tertiary recovery of oil the "Eastern" route would be a hinderance to oil development in the Little Knife Oil Field.

3). Oil and gas production taxes and royalties might be curtailed if the "Eastern" route were chosen, because development of the Little Knife Oil Field will expand towards the east and south.

Please take these points into consideration relative to any deviation from the "Agency" preferred route.

Respectfully,
Kirt A. Sebrady
Little Knife Royalty owners Association director

cc: Representative Byron Dorgan
Senator Quentin Burdick
Senator Kent Conrad

A The costs for the proposed project would be distributed over a multi-state area and distributed over the life of the project. Resulting cost increases to users would not approach seven to ten percent.

B In discussions concerning future plans for the Little Knife Field, the oil field operator, Chevron Oil Company, indicated that construction of the line in the Environmentally Preferred Route would not impact plans for further development of the field.

TABLE II-3 (continued). COMPLETE LETTERS AND RESPONSES

LETTER 61

United States Senate
COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510-6025

OFFICIAL FILE COPY
AUG 18'88

August 15, 1988

Mr. James D. Davies
Area Manager
Western Area Power Administration
P.O. Box 35800
Billings, Montana 59107

Dear Mr. Davies:

I am writing regarding the proposed Charlie Creek-Belfield transmission line.

A In recent days, I have received a number of letters from concerned citizens who believe that the route recommended by the Western Area Power Administration (WAPA) will have long-term, negative effects on the Theodore Roosevelt National Park. As well, the North Dakota Tourism office and the State Highway Department have also expressed opposition to the recommended route.

It seems clear from the concerns raised by opponents that WAPA should reconsider its options and seek a more acceptable routing for the line. Granted, the additional one million dollars in construction costs must be an item of consideration. However, when viewed in the context, it seems the additional one million dollars is not too large a price to pay to protect such a national treasure as the Theodore Roosevelt Park.

Thank you for your consideration of my views on this matter.

With kind regards, I am

Sincerely,

Quentin N. Burdick

QNB:bmv

cc: Mr. William Clagget

A Comments noted. As indicated in chapter I, the proposed route has become a modified version of E4-1. The eastern route will avoid visual impacts to views from TRNP.

III. ERRATA AND CHANGES TO THE DEIS

Page	Paragraph/Line	Comments
Table of Contents	Section IV-D, #3	"Impacts" should read "Impact".
Table of Contents	Section VI.	"Organization" should read "Organizations".
List of Tables	Table III-2	"Soil" should be "Soils".
iv	1/7	Insert a period at the end of the sentence.
I-2	Figure	Insert "FIGURE I-1" In title.
II-15	Table II-2	"1 drum pullers" should read "1 drum puller".
II-39	Table II-5, #12-F/3	Insert a period at the end of the sentence.
II-41	Table II-5, #7/3	"feature" should read "features".
II-45	Table II-8	Route W2-1, State Land Ownership (miles) is "0", should read "1".
III-3	5/8	Make ".4 miles" read "0.4 mile".
III-3	6/6	Insert the word "mile" after the number "0.25".
III-29	1 and 2/ 6 and 11	"0.60 miles" should be "0.60 mile".
III-30	4/4	Change "Sandberg" to "Sandberg's".
IV-4	1/2	"0.5 miles" should read "0.5 mile".
IV-4	2/5	"route" should read "routes".
IV-8	2/3	"on Figures IV-3, IV-4, and IV-5." should read "on Figures IV-3, IV-4, and IV-5, respectively."
IV-22	1/7	"adn" should be "and".

Page	Paragraph/Line	Comments
IV-22	3	Delete, replace with "Application of committed mitigation measures would reduce residual impacts to cultural resources to low to non-existent.
IV-24	3/4	Delete "considered In reducing", replace with "committed to reduce".
IV-24	4/2	Delete "should", replace with "will".
IV-25	4/1	Delete "Recommended". Delete "would be to conduct", replace with "consists of".
IV-25	4/2	Delete "to modify", replace with "modification of".
IV-30	1/3	Delete the word "Initial" so the sentence begins with "Moderate impact levels...".
IV-32	3a/1	Delete the word "significant" so the sentence would read "All floodplains and wetlands . . .".
IV-38	6/1	Replace "western" with "eastern".
A-5	5/1	Rewrite the sentence to read "This sensitivity analysis was completed by using those..".
A-6	4/7	Replace "and" with "an".
B-7	U.S. Bureau of Reclamation	"Ealuation" should be of "Evaluation"
B-9	Bilbo, B.C.	"Californ+ls" should read "California"
B-12	U.S. Bureau of Reclamation	"Ealuation" should read "Evaluation".
B-13	Hoover, R.L.	Omit second reference.
E-3	Forbs	Omit "Phlox hoodi" or "Phlox".
E-7	Forbs	Separate "Virglnsbower" so it reads "Virgin's bower".
E-16	Rodents	"Hlspis pocket moust" should read "Hlspis pocket mouse".
E-17	Ungulates	"Prognhorn" should be "Pronghorn".

APPENDIX A - BIOLOGICAL ASSESSMENT

On March 31, 1987, Western's wildlife specialist telephoned the Bismarck office of the U.S. Fish and Wildlife Service to request resource information for the proposed Charlie Creek-Belfield 345kV Transmission Line Project. This initiated informal consultation pursuant to Section 7 of the Endangered Species Act of 1973 (P.L. 93205), as amended. A list of threatened and endangered species, which may occur in the project area, was provided by the U.S. Fish and Wildlife Service in an April 9, 1987, letter. Those species were: 1) Bald eagle (Haliaeetus leucocephalus) as a spring and fall migrant, 2) Peregrine falcon (Falco peregrinus) as a spring and fall migrant, 3) Whooping crane (Grus americana) as a spring and fall migrant, and 4) Black-footed ferret (Mustela nigripes) as a possible resident in association with prairie dog towns. The Ferruginous hawk (Buteo regalis) is known to nest In the study area and is considered a Category 2 candidate species under the Endangered Species Act. No threatened or endangered plant species have been officially listed for North Dakota.

Three species appearing on the list of species of concern published by the North Dakota Chapter of the Wildlife Society are likely to occur in the study area. These are the long-billed curlew (Numenius americanus), Baird's sparrow (Ammodramus bairdii), and Sprague's pipit (Anthus spragueii). All three species are associated with grassland habitat. The long-billed curlew is listed by the Society as threatened, while Baird's sparrow and Sprague's pipit are listed in the watch category (status is questioned for one reason or another).

A. Bald Eagle

Bald eagles occur as migrants In the study area during the spring and fall seasons. Faanes (1976) found that the distribution of wintering bald eagles was regulated by the availability of open water, and the presence of suitable roosting and perching trees. The selection of diurnal perch sites is influenced primarily by the proximity of a food source (U.S. Army Corps of Engineers (COE), 1979; Steenhof, 1976 and Stalmaster, 1976 in Steenhof, 1978). Open water Is an important factor, because fish Is the preferred dietary component of the bald eagle (COE, 1979). Roosting sites are not regulated by the proximity of a food source. Bald eagles will commute considerable distances between roosting and feeding sites (Swisher, 1964 in COE, 1979). Roosting sites may be several miles from feeding sites. The main surface water drainages In the study area are the Heart, Green, and Knife Rivers, all of which are tributary to the Missouri River. These rivers, however, are not considered to be perennial in nature and flow only after snowmelt or precipitation. No significant lakes or ponds occur within the study area. The project area is largely treeless with limited suitable bald eagle roosting/perching habitat occurring as hardwood draws along drainages.

The mere presence of human activity may or may not be disturbing to bald eagles, depending on the eagles' use of an area, the proximity to, and kind of disturbance. Several studies have indicated that tolerance to human activities depends on the degree of disturbance to which the birds are accustomed (COE, 1979). They tolerate more disturbance at feeding sites than at loafing or roosting areas (Lish, 1975, Stalmaster, 1975 and Steenhof, 1976 In Steenhop, 1978). During project construction, Western's activities in the transmission line corridor could disturb bald eagles In the vicinity and preclude their use of localized portions of the area for short periods of time.

Powerlines and trails are among the least disturbing human artifacts to bald eagles (Juneman et al, 1972 In Snow, 1973). However, powerlines do pose some threat. Electrocution and collisions are the two major hazards associated with electrical powerlines. On powerlines with conductor-conductor or conductor-ground spacing such that bald eagles can simultaneously contact two conductors or a conductor and a grounded part of the line, electrocutions may occur. The wingspan of an adult female bald eagle is about 2.4 meters (7.9 feet) (COE, 1979). The minimum spacing between conductors and grounds on the proposed transmission line would be over 20 feet, making electrocution virtually impossible.

Collisions with high voltage lines can kill or injure large birds of prey, with young birds being more susceptible (Steenhop, 1976). Citing the keen eyesight, relatively slow flight and maneuverability of eagles, Kroodsma (1978) surmises that collisions with transmission lines would not pose a threat to these birds. He does state that eagle flights during periods of low visibility could increase the potential for collisions. Bald eagle migratory flights generally take place in the daytime (Ingram, 1965 in COE, 1979) and during cold, stormy weather wintering birds may stay in the roost all day (Cooksey, 1962, Ingram, 1965, Shea, 1973, and Lish and Lewis, 1975 in Steenhof, 1976). Since bald eagles are generally diurnal fliers and are known to stay in the roost during inclement weather, the probability of collision with the proposed powerline is very low.

B. Peregrine Falcon

The peregrine falcon is known as a migrant in the project area. Peregrine falcons eat primarily passerine birds, waterfowl, and shorebirds (Snow, 1972a). They prefer to perch on cliffs in igneous and sedimentary formations (Snow, 1972a). Topography in the study area is characterized by low relief and gentle slopes interrupted by hills, buttes, and ridges. There are few cliffs or steep terrain in the area which could provide optimum habitat for perches, loafing, roosting, and hunting.

Peregrines have few natural enemies, but have proven susceptible to impacts from man. The introduction of organochlorine pesticides into the environment has been the major cause of the bird's decline (Snow, 1972a). Other impacts of man include trapping, harassment and killing of the birds. In spite of this, when not subjected to these kinds of actions and organochlorine pesticides, the peregrine has demonstrated the ability to adapt to non-traditional environments. They have been known to nest on tall buildings in cities (Hickey and Anderson 1969 in Snow, 1972a).

The study area provides some suitable peregrine falcon habitat for short periods of time during each migration season. Project construction activities could disturb peregrines in the area, but they would likely avoid the area of construction if they felt threatened. The presence of a transmission line would not affect use of the area by the birds. The primary potential adverse effect of the proposed line on the peregrine falcon is collision with the line. As with the bald eagle, the peregrine is possessed of keen eyesight and highly maneuverable flight. The threat of a collision with the line would be quite low in periods of good weather, but would increase somewhat during inclement weather. The few peregrines expected to be found in the area, and the transient nature of their occurrence, would preclude adverse effects to the species.

C. Black-Footed Ferret

The black-footed ferret is a seal-like mammal of the family Mustelidae. It is the only ferret native to North America (Hall and Kelson, 1959 in Anderson et al, 1978). Until recently, the only known naturally occurring black-footed ferret population was near Meeteetse, in northeastern Wyoming (Clark, et al, 1984). All known species are now in captivity at the Sybille Research Unit near Laramie, Wyoming (Anonymous, 1987).

The black-footed ferret was first described in 1851 by Audubon and Bachman (Fortenbery, 1972; and Hillman and Clark, 1980). The original range of the ferret corresponded closely to that of the prairie dog, extending from Alberta and Saskatchewan in the north to Texas, New Mexico, and Arizona in the south (Hall and Kelson, 1959 in Linder, et al, 1972; Henderson, et al, 1969; Seton, 1929 in Henderson, 1969; Burt and Grossenheider, 1964; and Snow, 1972b).

Ferrets have been found living in haystacks, under buildings, and in ground squirrel colonies (Henderson, et al, 1969). However, ferrets generally use abandoned prairie dog burrows for denning (Hiiiman and Clark, 1980; Henderson et al, 1969; and Linder et al, 1972). Most black-footed ferret sitings in places other than prairie dog towns occur during the time young are dispersing and are probably temporary habitats (Snow, 1972b). The close association of ferrets and prairie dogs (Cynomys sp.) is well documented (Seton, 1929 and Hall and Kelson, 1959 in Hiiiman and Clark, 1980; Henderson et al, 1969; Linder et al, 1972; Fortenbery, 1972; and Hillman and Linder, 1978). Prairie dogs serve as the primary food source for ferrets (Snow, 1972b; Fortenbery, 1972; Hillman and Clark, 1980; Sheets et al, 1972 In Hillman and Clark, 1980). Ferrets will also eat other animals such as thirteen-lined ground squirrels (Spermophilus tridecemlineatus), cottontail rabbits (Sylvilagus floridanus), deer mice (Peromyscus sp.), and birds (Hillman, 1968). They will scavenge dead animals as well as taking live prey (Henderson et al, 1969).

Ferrets are largely nocturnal (Henderson et al, 1969 and Hillman, 1968). This, coupled with the fact that many of their activities occur underground and their scarcity, makes many of their habits difficult to study and relatively unknown (Hillman and Clark, 1980; Clark et al, 1983; Forest et al, 1984). Man has been the major cause in the reduction of the ferret population. Direct effects include shooting, trapping, and roadkills; and indirect effects include secondary poisoning and loss of prey base (resulting from prairie dog eradication efforts), loss of habitat due to land use changes and attacks by domestic pets (Forest et al, (1984). Disease, such as canine distemper, is another contributor to the declining fortunes of the ferret.

Because of its close association with prairie dogs, the black-footed ferret is a potential inhabitant of any prairie dog town. However, there is a likely lower threshold for the size of dog town that could support ferrets. Hillman et al (1978) made minimum habitat recommendations for ferrets. They were: 1) eight towns per township, 2) each of the eight towns should be at least 12 hectares (ha) (30 acres) in size, and 3) two or more of the town should exceed 40 ha (99 acres). Clark et al (1984) cited a study by Stromberg et al (1983) which described predator-prey model of metabolizable energy requirements for ferrets based on prairie dog densities reported in the literature. The model indicated a minimum black-tailed prairie dog town size of 37-95 Ha (91-235 acres) and 167-355 ha (413-877 acres) for white-tailed prairie dogs to support one reproductive female and her young.

No prairie dog towns of any size are known to exist along the proposed route. For this reason, it is unlikely that the proposed route would impact the black-footed ferret.

D. Whooping Cranes

For more than 50 years, most whopping cranes have migrated along a narrow corridor extending from Wood Buffalo National Park in the Northwest Territories of Canada to Aransas National Wildlife Refuge on the Texas coast (USFWS, 1986). This corridor encompasses the study area in the southwest corner of North Dakota.

Most whooping crane pairs return to the nesting area in Wood Buffalo National Park in late April. Autumn migration begins in mid-September and most birds arrive at the wintering grounds on the Texas coast between late-October and mid-November. They are diurnal migrants and tend to make regular stops to feed and rest at isolated sites away from human activities. As a result, few authenticated sitings are made during migration each year. Little is known about food sources utilized during migration, but diets include frogs, fish, plant tubers, crayfish, insects, and waste grains in harvested fields. Winter diet consists primarily of invertebrates.

The endangered status of whooping cranes is attributed primarily to loss of habitat owing to human settlement with attendant agricultural development. Hunting, specimen collecting, environmental pollution and various other human-related activities have also contributed. Deaths or serious injury from collisions with power lines have been documented in the literature (USFWS, 1976). However, during prolonged migrational flights, whoopers usually travel at high attitudes well above surface obstructions. The greatest opportunity for collision during migration occurs during takeoffs or landings at migration stopovers. Of approximately 150 whooping crane sitings reported by the USFWS (USFWS, 1976) for North Dakota for a period from 1955 to 1985, seven (7) were at locations proximate to the study area (none in the study area).

Whooping cranes are possible spring and fall migrants through the study area. The cranes roost and feed in shallow wetlands and stock ponds that provide good horizontal visibility. Given the sparsity of wetlands and surface water bodies in the study area, it is highly unlikely that cranes would have a significant presence in the vicinity of the proposed route.

E. Conclusions

The bald eagle, peregrine falcon, black-footed ferret, and whooping crane are Federally-listed endangered species which are known to or potentially may occur in the project area. The numbers of each of the species are expected to be quite low or nonexistent, primarily due to habitat limitations. Therefore, Western has determined that the proposed Charlie Creek-Belfield 345kV transmission line project would not adversely affect any listed threatened or endangered species or any species of concern. The U.S. Fish and Wildlife Service (see Chapter II of this FEIS, Letter 30, Comment C) and the North Dakota Game & Fish Department (see Letter 45) concur with this determination.

APPENDIX B - REFERENCES AND PERSONAL COMMUNICATIONS

Anderson, M.E., E.M. Brigham, III, C.N. Hillman, D.L. Lengkeek, R.L. Linder, A.L. Lovaas, J.K. McDowell, and W.W. Painter, 1978, Black-Footed Ferret Recovery Plan, U.S. Department of Interior, Fish and Wildlife Service, 150 pp.

Anonymous, 1987, Another Male Ferret Captured at Meeteetse, The Black-footed Ferret Newsletter, Vol. 4, No. 2, p. 3.

Burt, W.H, and R.P. Grossenheider, 1964, A Field Guide to the Mammals, Houghton Miffline Company, Boston, Massachusetts, 284 pp.

Clark, T.W., L. Richardson, S.C. Forest, T.M. Campbell, III, D. Casey, and K.A. Fagerstone, 1984, Black-Footed Ferret Prey Base, in Black-Footed Ferret Workshop Proceedings, Laramie, Wyoming, p. 7.1-7.14.

Colorado State University, 1988, The Impacts of External Development In the Economics and Aesthetic Values of Theodore Roosevelt National Park, unpublished study.

Cooksey, B.F., 1962, A Winter Population of the Bald Eagle (Haliaeetus leucocephalus) in Northeastern Oklahoma, MS thesis, Kansas State College, Pittsburg, Kansas, 40 pp.

Davis D., and Turner A., 1987, Personal Communication, U.S. Forest Service, Dickinson, North Dakota.

Faanes, C.A., 1976, Winter Ecology of Bald Eagles in Southeastern Minnesota, Loon 48:61-69.

Forest Service, 1974, National Forest Landscape Management, Vol. 2, USDA.

Forest, S., T.W. Clark, L. Richardson, D. Biggins, K. Fagerstone, and T.M. Campbell, III, 1984b, Life History Characteristics of the Genus Mustela, With Special Reference to the Black-Footed Ferret, Mustela nigripes, In Black-footed Ferret Workshop Proceedings, Laramie, Wyoming, P. 23.1-23.14.

Fortenbery, D.K, 1972, Characteristics of the Black-Footed Ferret, U.S. Department of the Interior, Fish and Wildlife Service, Resource Publication 109, 8 pp.

Hall, E.R. and K.R. Kelson, 1959, The Mammals of North America, 2 vol., The Ronald Press, New York, 1082 pp.

Henderson, F.R., P.F. Springer, and R. Adrian, 1969, The Black-Footed Ferret in South Dakota, Department of Game, Fish and Parks, Pierre, South Dakota, 37pp.

Hillman C.N., 1968, Field Observations of Black-Footed Ferrets in South Dakota, Transactions of the North American Wildlife and Natural Resources Confrence, 33:433-443.

Hillman, C.N. and T.W. Clark, 1980, Mustela nigripes, Mammalian Species, No. 126, American Society of Mamalogists, p. 1-3.

Hillman, C.N., R.L. Linder, and R.B. Dahlgren, 1978, Prairie Dog Distribution in Areas Inhabited by Black-Footed Ferrets, in Black-footed Ferret Recovery Plan, U.S. Department of Interior, Fish and Wildlife Service, pp. 19-29.

Ingram, T.N., 1965, Wintering Bald Eagles at Guttenberg, Iowa-Cassville, Wisconsin, 1964-1965, Iowa Bird Life 35(3):66-68.

Jones & Jones, Measuring the Visibility of High Voltage Transmission Facilities, from the National Technical Information Service Publication No. BMPA-VIS-76-1, Bonneville Power Administration, Portland, Oregon, 1976.

Kroodsma, R.L., 1978, Evaluation of a Proposed Transmission Line's Impact on Waterfowl and Eagles, In Impacts of Transmission Lines on Birds in Flight, M.L. Avery ed., U.S. Department of the Interior, Fish and Wildlife Service, pp.69-76.

Linder, L., R.B. Dahlgren, and C.N. Hillman, 1972, Black-Footed Ferret-Prairie Dog Interrelationships, In Symposium on Rare and Endangered Wildlife of the southeastern United States, September 22-23, 1972, New Mexico Department of Game and Fish, Santa Fe, New Mexico, pp.22-37.

Lish, J.W. and J.C. Lewis, 1975, Status and Ecology of Bald Eagles Wintering in Oklahoma, Proc. Southeastern Association Game and Fish Commissioners, 29:415-423.

Moore, R.E., Landscape Architect, 1984, Visual Analysis Report, Government Creek Planning Area, Medora Ranger District, Custer National Park.

Seton, E.T., 1929, Lives of Game Animals, Vol. II, pt. II, p. 565-574, and Vol. IV, Pt. I, p. 275-298, Doubleday, Doran Company, Garden City, New York.

Shea, D.S., 1973, A Management Oriented Study of Bald Eagle Concentrations in Glacier National Park, MS thesis, University of Montana, Missoula, Montana, 78 pp.

Snow, C., 1972a, Habitat Management Series for Endangered Species, Report No. 1: American Peregrine Falcon and Arctic Peregrine Falcon, U.S. Department of the Interior, Bureau of Land Management, 35 pp.

Snow, C., 1972b, Habitat Management Series for Endangered Species Report No. 2 Black-Footed Ferret (Mustela nigripes), U.S. Department of the Interior, Bureau of Land Management, 23 pp.

Snow, C., 1973a, Habitat Management Series for Endangered Species, Report No. 5: Southern Bald Eagle and Northern Bald Eagle, U.S. Department of the Interior, Bureau of Land Management, 58 pp.

REFERENCES AND PERSONAL COMMUNICATIONS (CONTINUED)

Stalmaster, M.V., 1976, Winter Ecology and Effects of Human Activity on Bald Eagles in the Nooksack River Valley, Washington, MS thesis, Western Washington State College, Bellingham, Washington, 100 pp.

Steenhof, K., 1976, The Ecology of Wintering Bald Eagles in Southeastern South Dakota, MS thesis, University of Missouri, Columbia, Missouri, 148 pp.

Stromberg, M.R., R.L. Rayburn, and T.W. Clark, 1983, Black-Footed Ferret Prey Requirements: An Energy Balance Estimate, Journal of Wildlife Management, 47:67-73.

U.S. Army Corps of Engineers, 1979, The Northern Bald Eagle (Haliaeetus leucocephalun alascanus) a Literature Survey, Environmental Resources Section, Seattle District, Seattle, Washington, 86 pp.

U.S. Department of Energy, 1988, Draft Environmental Impact Statement, Charlie Creek - Belfield Transmission Line Project, North Dakota, 1988.

U.S. Fish and Wildlife Service, Whooping Crane Recovery Plan, U.S. Fish & Wildlife Service, Albuquerque, New Mexico, 1986.