

EL00-023

EL00-023

KC/MY
MB

EL00-023

DOCKET NO. _____

In the Matter of — IN THE MATTER OF THE
APPLICATION OF THE CITY OF
PIERRE FOR A CONSTRUCTION
PERMIT FOR 4.83 MILES OF 115KV
ELECTRIC TRANSMISSION LINE IN
HUGHES COUNTY, SOUTH DAKOTA

Public Utilities Commission of the State of South Dakota

DATE	MEMORANDA
8/21 00	Filed and Docketed;
8/24 00	Weekly Filing;
9/8 00	Addendum to Application;
9/18 00	Notice of Department to apply for Party States, Notice of Application; Order for and Notice of Public Input Hearing
9/19 00	Order Assessing Filing Fee;
10/23 00	Transcript of Public Hearing held 10/16/00;
11/7 00	Order for and Notice of Hearing;
11/9 00	Addendum No. 2;
12/1 00	Amended Order for and Notice of Hearing;
12/12 00	Order Cancelling Hearing;
1/30 01	Rever of 180-Day Rule;
2/14 01	Stipulation
2/15 01	Order Granting Extension of Time;
3/1 01	Decision and Order Approving Stipulation and Granting Permit to Construct Transmission Facilities;
3/1 01	Docket Closed.

EL 00-023

PROJECT NO. 120522-04

**APPLICATION
TO THE
SOUTH DAKOTA**

RECEIVED

AUG 21 2000

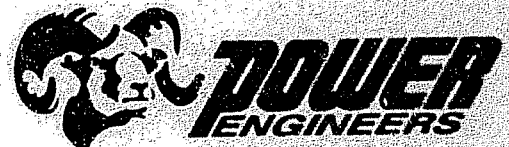
SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

**PUBLIC UTILITIES COMMISSION
FROM THE CITY OF PIERRE
HUGHES COUNTY, SOUTH DAKOTA
FOR A
CONSTRUCTION PERMIT FOR
4.83 MILES OF 115KV ELECTRIC
TRANSMISSION LINE IN
HUGHES COUNTY, SOUTH DAKOTA**

JULY 2000

**For Information Contact:
Frank Rowland**

**POWER Engineers, Inc.
P.O. Box 1066
3940 Glenbrook Drive
Hailey, Idaho 83333
(208) 788-3456
FAX (208) 788-2082**





Letter of Transmittal

July 28, 2000

To: Todd Chambers
Electrical Engineer
City of Pierre Electric Department
222 East Dakota
Pierre, SD 57501-1253

RECEIVED

AUG 21 2000

SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

Subject: 120522-04 City of Pierre
Application to the South Dakota Public Utilities Commission from the
City of Pierre - Hughes County, South Dakota for a Construction
Permit for 4.83 Miles of 115kV Electric Transmission Line in Hughes
County, South Dakota - Final

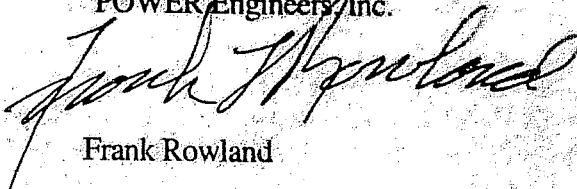
Enclosed are the following items:

Document Date	Copies	Description
July, 2000	30	Application to the South Dakota Public Utilities Commission - Final

These are transmitted:

☐ For your information ☐ For action specified below ☐ For review and comment ☒ For your use ☐ As requested

Sincerely,
POWER Engineers, Inc.


Frank Rowland

FR/k
Enclosure(s)
Sent Via: FedEx
cc: Lynn Askew
Les Hinzman
Brian Rozyla

HLV 24-492

If enclosures are not as noted, please notify us at once.

POWER Engineers, Incorporated

1400 Chambers Dr. • P.O. Box 1066
Pierre, SD 57501-1066

Phone (208) 788-1456
Fax (208) 788-2082

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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

In the Matter of the Application)
of the City of Pierre for a Construction)
Permit for 4.83 miles of 115kV Electric)
Transmission Line in Hughes County,)
South Dakota)

APPLICATION

(EL _____)

The City of Pierre, which operates its electric utility, pursuant to the provisions of SDCL 49-41B and in accordance with the rules of the South Dakota Public Utilities Commission (Chapter 20:10:22-Energy Facility Siting Rules), does hereby respectfully apply for a permit to construct transmission facilities as defined at SDCL 49-41B-2(9)(b). These facilities consist of approximately 4.03 miles of new 115,000-volt (115kV) electric transmission line and associated terminal facilities between the City's Ash Substation and the Western Area Power Administration Oahe-Pierre 115kV line. In addition, a 0.80 mile segment of the City's Ash to Evans 115kV transmission line would be relocated to a new route and constructed on new structures. The portion of the existing Ash to Evans line that would be replaced would be removed. The construction of these two lines represents the same project since the relocation of the existing Ash to Evans transmission line is required to allow tying the new loop into the Ash Substation. Both transmission lines are located in Hughes County, South Dakota.

1. Name of Applicant (Rule 20:10:22:06)

The applicant and its address and telephone number are:

The City of Pierre
222 East Dakota
Pierre, SD 57501-1253
(605) 773-7341

The individuals authorized to receive communications relating to this Application on behalf of the City of Pierre are:

Mr. Todd R. Chambers, Electrical Engineer
The City of Pierre
P.O. Box 1253
222 East Dakota
Pierre, SD 57501
(605) 773-7341

Mr. Lynn Askew, Project Manager
POWER Engineers, Inc.
P.O. Box 1066
3940 Glenbrook Drive
Hailey, ID 83333
(208) 788-0438

The City is seeking a construction permit for the construction and operation of a new 115kV transmission line to connect its Ash Substation with Western Area Power Administration's (Western) Oahe-Pierre 115kV transmission line. The partial relocation of the City's Ash to Evans 115kV transmission line is required to allow the additional second feed into the Ash Substation.

2. Name of Owner and Manager (Rule 20:10:22:07)

The proposed transmission line is to be owned by the City of Pierre. The City of Pierre's Project Manager for this project is:

Mr. Todd R. Chambers
Electrical Engineer
The City of Pierre
P.O. Box 1253
222 East Dakota
Pierre, SD 57501
(605) 773-7341

3. Balance of Application

The balance of this application setting forth all requirements of SDCL 49-41B and the rules of Chapter 20:10:22, along with all exhibits and information, is presented in the following appendices:

- Appendix A: Summary of all information required for application
- Appendix B: Map showing line route of the new and relocated transmission facilities and line route topography.
- Appendix C: Centerline description
- Appendix D: Typical structure configuration and description of materials for the proposed transmission project
- Appendix E: Environmental Assessment for the Proposed Project, Hughes County, South Dakota
- Appendix F: Cultural Resources Assessment for the Proposed Project, Hughes County, South Dakota
- Appendix G: Alternative Corridor Siting Study
- Appendix H: Summary of Geological Features

Appendix I Project Area Soil Types

Appendix J Water Resources

Exhibits 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, & 5.10: Aerial and ground level photographs showing residential areas adjoining the proposed transmission line right of ways.

4. Applicant's Burden of Proof (SDCL 49-41B-22)

The City of Pierre establishes that:

- (1) The proposed transmission project will comply with all applicable laws and regulations.
- (2) The proposed transmission project will not pose a threat of serious injury to the environment nor to the social and economic conditions of inhabitants or expected inhabitants in the siting area;
- (3) The proposed transmission project will not impair the health, safety or welfare of the inhabitants;
- (4) The proposed transmission project will not interfere with the orderly development of the region with due consideration having been given to the views of applicable governing bodies of the affected local governments.

Wherefore, the City of Pierre requests the Public Utilities Commission (Commission) of South Dakota to:

- (a) Render a decision wherein the Commission finds that the construction of the proposed transmission project meets all requirements of SDCL 49-41B-24 and the Rules of Chapter 20:10:22;
- (b) Enter Findings of Fact consistent with paragraph 4, above, of this application;
- (c) Render a decision which grants a construction permit to the City of Pierre for the construction of the transmission project upon such terms, conditions and modifications of the construction, operation or maintenance as the Commission may deem appropriate; and
- (d) Expeditiously proceed to set a hearing and render a decision to allow the City of Pierre to commence construction of the transmission project as soon as reasonably possible.

Dated 7-27, 00

The City of Pierre

By Gary Drewes Mayor
Signature Title July 27, 2000

Gary Drewes-Mayor

Printed Name

APPENDIX A

APPLICATION

APPENDIX A APPLICATION

CHAPTER 1

DESCRIPTION OF THE NATURE AND LOCATION OF THE TRANSMISSION PROJECT

(SDCL 49-41B-11(2))

The City's proposed project consists of the construction of two short 115kV transmission lines within the municipal boundaries of the City of Pierre and extending into adjacent Hughes County. These two lines include:

- (1) Construction of a new segment of the City's existing Ash to Evans 115kV transmission line within a new seventy-five foot wide right of way west of its existing alignment. The construction of this approximately 0.80-mile segment is required for relocation of the existing Ash to Evans line between the Ash Substation and a point west of Hilger's Pond. This relocation will allow access of a second feed into the Ash Substation, which is required to provide redundancy for providing reliable service to the surrounding high-growth service area. A second direct benefit of this relocation is the increased spatial separation of the existing Ash to Evans transmission line from existing residences. The locations of the new Ash to Evans segment and of the existing Ash to Evans 115kV transmission line alignment are shown in Appendix B.
- (2) Construction of a new 115kV transmission line between the City's Ash Substation and Western Area Power Administration's (Western's) existing 115kV Oahe-Pierre transmission line. This line will be constructed in a new seventy-five foot wide right of way approximately 4.03 miles in length, sited along existing road and utility rights of way, property boundaries and across undeveloped agricultural lands. The new Ash to Oahe-Pierre line will serve as the second high voltage feed into the City's Ash Substation and provide the system reliability and additional capacity for this fast-growing area of Pierre and Hughes County.

Although the City is not aware of any deviations to be made from the specific rights of way alignments described in this application, slight deviations on either side of the described centerline should be allowed to accommodate landowners and engineering requirements once the right of way is acquired and the proposed transmission facilities are finally located and constructed.

The two transmission lines will require a total of 38 acres of new right of way. There are forty parcels of land crossed by the proposed transmission lines. These lands are owned by seventeen individual landowners. In April of this year, of the seventeen landowners

fourteen had granted the City easement options for the transmission lines to cross their property. Of the 4.83 miles of proposed new right of way, easement options have been granted on 3.57 miles, or approximately seventy-four percent of the total required. The City is continuing to negotiate with the three landowners from whom no settlement has been made. It is the City's desire to amicably settle all easement negotiations.

The primary objective of the City's project is to address existing electric service reliability issues for the City of Pierre by providing a 115kV transmission "loop" via a second feed into the Ash Substation. Currently, this important substation in a high-growth area receives only one high voltage circuit from the Evans Substation. A secondary benefit of the relocation will be an increased distance between the City's relocated 115kV line exiting the Ash Substation and a number of residences located along North Harrison Avenue and Cherry Drive. The existing Ash to Evans 115kV right of way virtually adjoins these residential properties.

The City's proposed project will be constructed in sequential phases. Following right of way acquisition, the City will first construct the new segment for the Ash to Evans line, energize this relocated line, then dismantle and remove the old segment, including the span currently crossing Hilger's Pond. The City's desires to complete the rebuilt Ash to Evans line by the end of the year 2000.

The City will construct the new Ash to Oahe-Pierre transmission line, following the energizing of its rebuilt Ash to Evans 115kV facility. The Ash to Oahe-Pierre transmission line will be constructed within approximately 4.03 miles of new right of way. The proposed route extends from the Ash Substation north across undeveloped (though platted) slopes to Fourth Street, across undeveloped rangeland to US Highway 14/83. North of US 14/83 the route traverses dry land pastures along property lines to Range Road. The new right of way crosses Range Road, turns west and follows along the north side of Range Road and Perch Place to its tie-in with Western's Oahe-Pierre transmission line. This project is located partially within the municipal boundaries of the City of Pierre and extends into Hughes County, South Dakota. The specific right of way locations and alignments are described in Chapter 21, item 3 "The Proposed Transmission Site" below, and shown in Appendix B.

The City of Pierre is currently in the process of obtaining easements for the new rights of way, and no changes to the description of the proposed alignments are anticipated.

CHAPTER 2

THE PURPOSE OF THE TRANSMISSION PROJECT

(Rule 20:10:22:08)

The need for construction of the new Ash to Oahe-Pierre 115kV transmission line and the associated relocation of the southern segment of the existing Ash to Evans 115kV transmission line was established on basis of the City's need to address existing reliability concerns. The existing Ash to Evans link is the 115kV sole feed into the Ash Substation, which provides electric power to a rapidly expanding area of the City of Pierre and Hughes County. In order to meet its reliability responsibilities mandated by the South Dakota Public Utilities Commission, the City needs a second feed to the Ash Substation to supply reliable electric service to the City of Pierre. The City's existing electric supply system does not have the redundancy the proposed "loop" will provide.

The need for this system upgrade is reflected in past as well as projected system outages. The reliability issue is underscored by the following example of the City's 115kV electrical system's outage history. On December 16, 1996, an outage occurred at 7:15 in the evening and lasted for eight hours and 15 minutes. This outage affected 6,000 customers in the City of Pierre and within Hughes County during a critical time of day for those who depend upon electricity for heat. On January 7, 1997 a two-hour outage between two and four a.m. affected 4000 households. On February 28, 1998, an outage at 4:30 p.m. lasted nearly five hours. This outage affected all of northeast and southeast Pierre. During the period of September 3 through 29, 1998, 11 system outages occurred. The total elapsed time of electrical system interruption was 17 hours and 30 minutes, and affected 4,324 system customers. An outage on July 14, 2000 affected 4,000 Pierre residents, including service to medical facilities. Had the proposed 115kV line been in service at that time, these outages would have been reduced to a momentary disturbance in service. (For outage histories see Figures 2.1, 2.2, 2.3, 2.4 and 2.5.)

INTERRUPTION REPORT - City of Pierre Electric Dept.

FIGURE 2.1

Date: 12-16-96 Time Reported: 7-15 ^{AM} ~~PM~~ Reported By: City, W
 Time Off: 7-15 ^{AM} ~~PM~~ Time On: 4:00 ^{AM} ~~PM~~ Total # Hrs.: 8 hrs 15 M

Area and Approx. # of Customers Affected: North East Line and all East Line (Customers: 6,000)

Location of fault: on 115 line between Waples & 80

Cause: loose Connector & lightning Rod on

Action Taken: was across phases
off phases refused some switches

Materials Used: (State # and size of items used)

Fuses: 1-50 ELST 1-150 ELST Elbows: _____

Splices: _____ Wire: _____

Transformers: _____ Other (specify): _____

Signed: Car Date: 12-17-96

(Complete this form and turn into Public Works Office on all outages.)

INTERRUPTION REPORT - City of Pierre Electric Dept.

Date: 3-14-96 Time Reported: 2:00 ^{AM} ~~PM~~ Reported By: John
 Time Off: 2:00 ^{AM} ~~PM~~ Time On: 3:00 ^{AM} ~~PM~~ Total # Hrs.: 1 hr

Area and Approx. # of Customers Affected: all of East Pierre (Customers: unknown)

Location of fault: 115 line static line

Cause: unknown

Action Taken: Isolated ash up. put back
on fixed static line 3-14-96

Materials Used: (State # and size of items used) North East Pierre was
back on by 3:30 AM

Fuses: _____ Elbows: _____

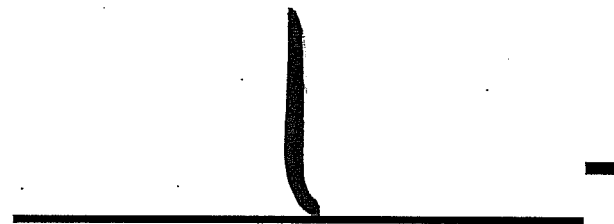
Splices: _____ Wire: _____

Transformers: _____ Other (specify): _____

Signed: Carst Goehring Date: 3-14-96

(Complete this form and turn into Public Works Office on all outages.)

CONTINUATION



[illegible]

FIGURE 2.2

Incident		Date Reported	Reported By	Time Off	Time On	Elapsed Time of Information	Number of Hours	Area Affected	Approx. # of Customers Affected	Total Customer Hours Interrupted	Location of Fault	Cause	Action Taken	Parts Replaced	Transformer	Shower	Wire	Other	Reported By	Date Turned In
1	2.26.04	0.30 PM	POLETT	4.28 PM	5.50 PM	1.50	8.50	NORTHEAST AND SOUTHEAST PIERCE	6000	10,000.00	SWITCH AT PUMP HOUSE AND HARRISON	SWITCH WAS HIT BY CAR WITCH OPEN 2ND SWITCH AT ASH STREET BUS AND THE TRANSFER TRIP ON THE TRANSFORMER	ISOLATED ASH STREET BUS AND PUT LOAD ON EVANS BUS REPLACED SWITCH AT PUMP HOUSE	3-40 0.10	2.10			4 WAY SWITCH	CHART	2.26.04
2						0.00														
3						0.00														
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FIGURE 2.3

Continuation

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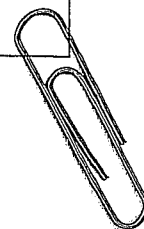


FIGURE 2.4

September

Interruption Report
City of Plano Electric Department
Sep-88

Number	Date	Time Reported	Reported By	Time Off	Time On	Elapsed Time of Interruption	Number of Hours Interrupted	Area Affected	Approx. # of Customers Affected	Total Customer Hours Interrupted	Location of Fault	Cause	Action
1	8/3/88	10:55 AM	CITY HALL	10:55 AM	11:00 AM	0:05	0.08	TRUCK ROUTE & BUFFALO	50	4.17	TRUCK ROUTE & BUFFALO	CABLE HIT	ISOLATED ON
2	8/3/88	4:45 PM	CITY HALL	4:45 PM	5:30 PM	1:45	1.75	HILLTOP TO COUNTRY LINE	50	87.50	HILLTOP & HAWKINS	PRIMARY CABLE HIT	SPICED & ISOLATED
3	8/8/88	11:45 AM	CITY HALL	11:15 AM	12:15 PM	1:00	1.00	BUHLS CLEANERS	6	18.00	BUHLS CLEANERS	BURN OFF	ISOLATED WIRE OVER
4	8/13/88	8:15 AM	POLICE	8:00 AM	9:00 AM	3:00	3.00	BUHLS CLEANERS	1	1.17	BUHLS CLEANERS	PLANNED	REDUG W/ NEW TRAIL
5	8/14/88	1:00 PM	CURT	5:35 PM	6:45 PM	1:10	1.17	BUHLS CLEANERS	2	0.83	BEHIND 2904 REEN	TRANSFORMER FUSE	REPLACED
6	8/15/88	4:45 PM	CITY HALL	4:45 PM	5:04 PM	0:19	0.32	2904 & 2906 REEN	50	108.33	BUCHANAN & BAJA	BURN OFF	ISOLATED ON
7	8/17/88	12:05 AM	POLICE	12:05 AM	2:15 AM	2:10	2.17	BUFFALO & ANTELOPE	10		BUFFALO	FUSE OVERLOAD	ISOLATED
8	8/17/88	2:30 PM	CITY HALL	2:30 PM	2:38 PM	0:08	0.13	BUCHANAN & BUFFALO	4000	15,733.33	Ash substation	Heat in control cabinet cause oil pumps to shut down and trip weaps breaker	Called V&P they sent Thompson. Tried to run from other much load etc.
9	8/18/88	5:00 PM	CITY HALL	5:00 PM	8:56 PM	3:56	3.83	Ash and Evans substations					
10	8/23/88	2:30 PM	CITY HALL	2:30 PM	3:30 PM	1:00	1.00	N MADISON N MONROE 800 BLOCK	10	10.00	N MONROE	BURN OFF	ISOLATED ON
10	8/25/88	10:00 AM	CITY HALL	10:00 AM	11:45 AM	1:45	1.75	KELO-TV	1	1.75	EVANS SUB	BURN OFF	DUG UP
11	8/26/88	8:30 PM	POLICE	6:30 PM	7:30 PM	1:00	1.00	COYOTE & ANTELOPE	30	30.00	2012 ANTELOPE	CABLE HIT	ISOLATED
12						0:00							
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CONTINUATION

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Interruption Report
 City of Sierra Electric Department
 Jul-00

City of Florida Electric Department Jul-00													Materials Used									
Incident	Date	Time Reported	Reported By	Time Off	Time On	Elapsed Time of Interruption	Number of Houses Interrupted	Area Affected	Apprec. # of Customers Affected	Total Customer Hours Interrupted	Location of Fault	Cause	Action Taken	Fuses	Splices	Transformers	Elbows	Wire	Other	Reported by	Date Turned In	
1	7/7/2000	Scheduled	DK/DH	8:00 AM	8:18 AM	1:10	1:17	Humboldt Garfield	8	9.33			Install new pri wire. Add 1ph cab		1,1/0	Return line# 75d157134	1,1/0				DLBX	7/11/2000
2	7/8/2000	10:45	D-K/362	10:45 AM	1:10 PM	2:23	2:42	Norfolk to Sebree	40	96.67	218 W Prospect	Bad pri wire	replace 184ft primary 1/0	2/ADals			2				DLBX	7/12/2000
3	7/9/2000	Scheduled	SV VB DA	8:30 AM	11:00 AM	2:30	2:60	517 E Bous	2	6.00		3ph cab bad	add new 3ph cab		3, 1/0		5, 1/0	50 ft 1/0		DLBX	7/11/2000	
4	7/8/2000	362	DK	10:45 AM	1:10 PM	2:25	2:42	218 W Prospect	40	96.67	Sebree	Bad pri wire	Install new pri wire	2, 40 els		return line# m797618ydm 877d1350847				DLBX	7/12/2000	
5	7/10/2000	4:56 PM	4-M	4:55 PM	5:30 PM	0:35	0:58	Brink Pown	16	8.75	425 S Burke	Bad pri wire		3,100 Elst	1,1/0					DLBX	7/11/2000	
6	7/11/2000	7:21 AM	362 FM	7:21 AM	8:40 AM	1:19	1:32	Capitol Grounds	4	5.27	Forth st & Governors Dr	Bad pri wire			1,1000 mon					DLBX	7/11/2000	
7	7/12/2000	3:38	364	3:30 PM	3:45 PM	0:15	0:25	Lakeview Ct	20	6.00	138 Lakeview	Bad pri wire	replace 10 ft primary 1/0	2/50 wkt		1,1/0	105 1/0			DLBX	7/12/2000	
8	7/13/2000	Scheduled	SBG SV	1:30 PM	1:31 PM	0:01	0:02	Lakeview Ct	20	0.33		return N.O.	out of phase							DLBX	7/13/2000	
9	7/13/2000	Scheduled	FM DK	9:00 AM	10:30 AM	1:30	1:50	218 W Prospect	7	10.60	see 7-8-00		Hot up new primary			Install 75 line# 75d764205	2,1/0	184R 1/0 200ft 40 sec	seconds ry ped	DLBX	7/13/2000	
10	7/14/2000	6TP	DK	12:40 PM	1:30 PM	0:50	0:53	Hillview Golf Course	2	1.67	On road near river	Bad pri wire	splice wire	1,100 elst	3,1/0					DLBX	7/20/2000	
11	7/14/2000	362ML	DK	4:21 PM	8:30 PM	4:09	4:15	Ash & Evans Streets	4000	16,600.00	110 W OH Hilltop Church	40 OH LINE broke at shoe	Waps repaired 2 40 & 3 placed on plastic wire		1,40 oh ACGR		4/0 OH ACGR	1/0 ACGR		DLBX	7/17/2000	
12	7/14/2000	362	DK	8:30 PM	10:00 PM	1:30	1:58	W Harrison Walks to Dakota	20	30.00	1400 Blk of E Bous	Bad pri wire	splice wire	2,100 elst	2,1/0					DLBX	7/20/2000	
13	7/10/2000	362	DK	1:30 PM	4:30 PM	3:00	3:00	H of Prospect Central & Sebree	60	100.00	214 N Central	Bad pri wire	splice wire		1,1/0					DLBX	7/20/2000	
14						0:00																
15						0:00																
16						0:00																
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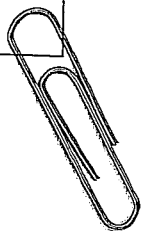
FIGURE 2.5

FIGURE 2.5

Continuation

4

of pages



CHAPTER 3

ESTIMATED COSTS OF FACILITY

(Rule 20:10:22:09)

The estimated construction costs for the City's proposed transmission line and substation upgrade project is \$950,000. This estimate includes \$100,000 for construction of the Ash to Evans 115kV transmission line relocate/rebuild segment and removal of the existing facilities, and \$500,000 for the construction of the new Ash to Oahe-Pierre transmission line. The estimated cost for the associated Ash Substation upgrades is \$250,000. The estimated cost for the tie-in with Western's existing Oahe-Pierre 115kV transmission line is \$100,000.

The estimated project design cost of \$530,000 includes \$250,000 for environmental studies and permitting services. ; \$120,000 for line design and construction management; and \$160,000 for substation design, construction management, and commissioning. These costs are included in the total estimated project cost of \$1,480,000. This total does not include right of way acquisition costs. To date, landowners who have agreed to grant easements to the City for this project have been paid initial payments only totaling \$1,200. Certification of the preferred line route will trigger payments totaling \$60,900 to those landowners who have currently granted easements.

CHAPTER 4

DEMAND FOR TRANSMISSION FACILITY

(Rule 20:10:22:10)

The demand and need for this transmission line project is set forth in the response provided in Chapter 2, "The Purpose of the Transmission Facility." (Rule 20:10:22:08).

CHAPTER 5

GENERAL SITE DESCRIPTION

(Rule 20:10:22:11)

The City's project area includes a portion of the northeastern municipal boundaries of the City of Pierre and the northwestern portion of surrounding Hughes County, South Dakota. The City's proposal consists of two inter-related projects: Relocation of the southern portion of its existing Ash to Evans 115kV transmission line within the municipal

boundaries of the City of Pierre and construction of a new 115kV transmission line between its Ash Substation and Western's existing 115kV Oahe-Pierre transmission line within the City and Hughes County.

Relocation of the southern segment of the Ash to Evans line will occur between the Ash Substation and a new tie-in with the existing line at a point north of Fourth Street and west of Hilger's Pond. Construction of the new Ash to Oahe-Pierre line will occur in a new right of way extending from the Ash Substation north to Range Road, then west along the north side of Range Road/Perch Place to its tie-in with Western's facilities. The tie-in will be accomplished via a tap structure similar to that shown in Exhibit 5.1. As a result, a new switch station or substation will not be required. A detailed description of the rights of way is provided in Chapter 21, "Legal Description."

The City's Ash Substation (Exhibit 5.2) is located on a rise behind the City's water tanks off North Harrison Avenue and west of Cherry Drive (Exhibit 5.3) on the northeastern outskirts of the City of Pierre. Access to the substation is via an existing service road from North Harrison Avenue. Between the substation and Fourth Street, the project area consists of steep, undeveloped (though platted) slopes and washes covered by sage, other shrubs and a variety of herbaceous rangeland species. A small drainage and strip of associated wetland community lies south of and parallel to Fourth Street. Due to the steep slopes, wetlands and generally unstable soils (glacial till composed of sands, gravels and clays overlying the Pierre Shale Formation), only limited future development, if any, is expected in this area.

No residences or other improvements occur in or are currently scheduled for development in the project area between the substation and Fourth Street. As a result, the relocated Ash to Evans line and the new Ash to Oahe-Pierre line will not adjoin or displace existing residences or other developments. In fact, the project will result in the removal of the existing 115kV transmission line located immediately behind a number of residences along North Harrison Avenue (Exhibit 5.4) and Heritage Drive (Exhibit 5.5), and construction of the new facilities farther from these homes. As a result, the City's project will result in improved separation of the 115kV transmission lines and existing residential properties.

The nearest residences to the Ash Substation are located to the west along Monroe Avenue (Exhibit 5.6). The substation and existing line are also visible from two residences located at the north end of Madison Avenue. Other residential areas in the vicinity of the project are located to the east along North Harrison and the western loop of Cherry Drive (Exhibit 5.6). The existing Ash to Evans transmission line currently passes immediately behind seven residences located along North Harrison and Cherry Drive and very near the end (and at the same level) of Heritage Drive, a short unoccupied cul-de-sac (Exhibits 5.4, 5.5 & 5.6).

Between Fourth Street and U.S 14/83, the project area consists entirely of undeveloped, rolling rangeland. The new Ash to Oahe-Pierre line will be routed between existing hills

to minimize potential visual impacts (Exhibit 5.7). No residential developments or other building developments exist within this segment of the project area. Just south of U.S. 14/83, the nearest residential development along this segment of the project area lies more than 0.3 miles to the east off of Saunders Drive in the Grandview Subdivision. The new transmission line may be partially visible from three residences within this subdivision (Exhibit 5.8).

Between U.S. 14/83 and Range Road, (Exhibits 5.8 & 5.9) the project area consists of rolling pastures and level croplands. No residences, developments or other improvements exist within this segment of the project area. The nearest residences are located across pastures and drainages approximately 0.62 miles to the west along Highway 1804. Two residences are located approximately 0.4 miles to the east along Duluth Avenue. Pastures and croplands are the sole existing land uses and cover classifications between U.S. 14/83 and Range Road.

The remaining right of way segment along Range Road, across Highway 1804 and along Perch Place adjoins existing road and powerline rights of way. With the exception of a farm complex near the Perch Place/Highway 1804 intersection, this segment of the proposed right of way crosses agricultural and undeveloped rural lands (Exhibits 5.9 & 5.10). A new subdivision, Green Grass Ridge, has been developed along the north side of Range Road to the northeast of the City's proposed transmission line route. Other local land uses along the Range Road segment include the South Dakota National Guard Live Fire Range just west of the Green Grass Ridge Subdivision, another shooting range and the Oahe Arena in the northeast quadrant of the Range Road and Highway 1804 intersection. To the west of Highway 1804, the right of way passes between Perch Place and a farm complex. The route then crosses steeply rolling, undeveloped rangeland to its intersection with Western's Oahe-Pierre transmission line.



Exhibit 5.1: Tap Structure. This shows a representative structure similar to that proposed for Pierre's Ash to Oahe project.

****Lines are shown for illustrative purposes only**

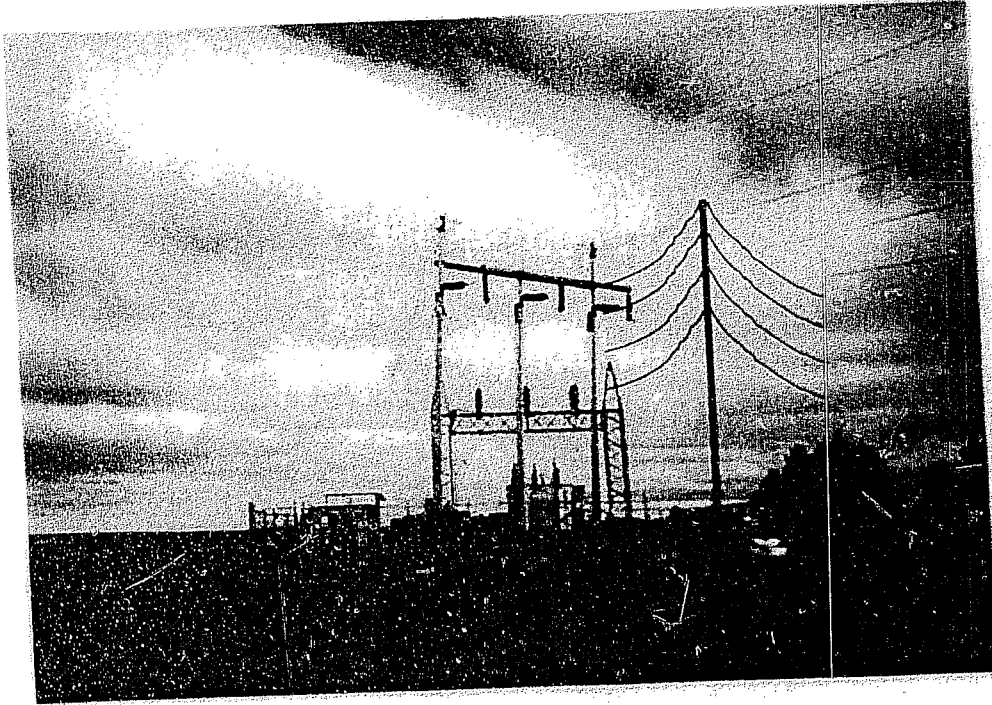


Exhibit 5.2: Ash Substation



Exhibit 5.3: Westbound view from Cherry Drive to Ash Substation.



Exhibit 5.4: East view from Ash Substation toward Cherry Drive Subdivision. Substation access road and existing Ash to Evans 115kV transmission line in foreground.

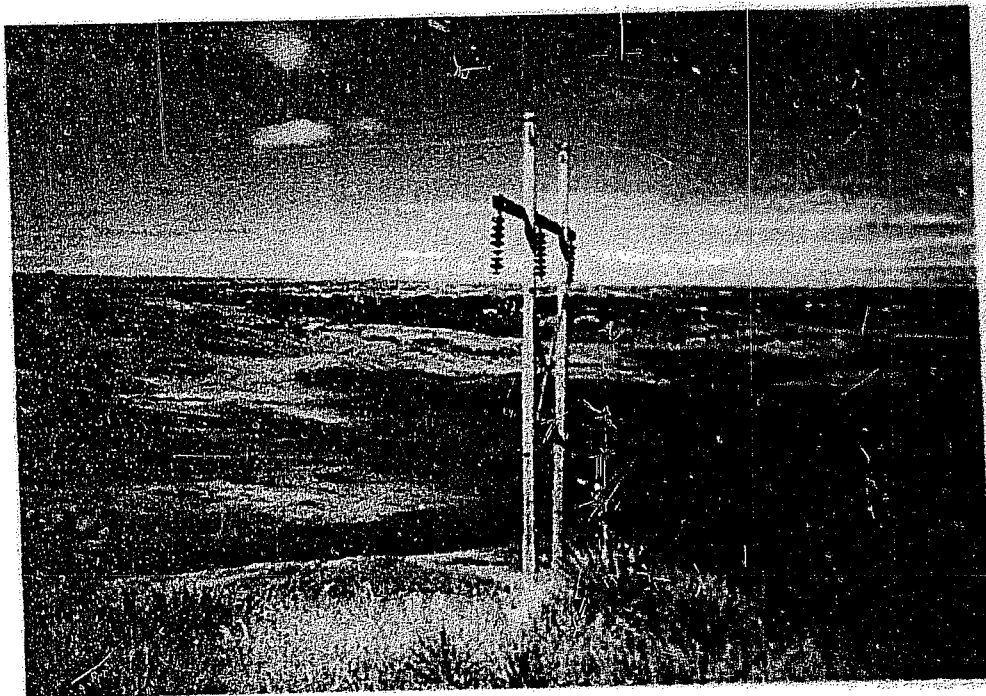


Exhibit 5.5: City's existing Ash to Evans 115kV transmission line from end of Heritage Drive. (Single red line represents the proposed realignment.)

NEXT

DOCUMENT (S)

BEST IMAGE

POSSIBLE

Hilger's
Pond

4th Street

Proposed Ash-Oahe
Line Route

h to Evans Line
Location

Wichita Dr

Cherry Dr

N. Hampton

Madison Ave

Madison Ave

Ash Substation

HWY 13763

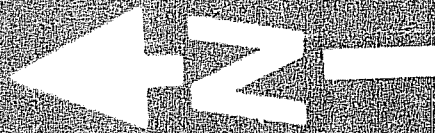
Proposed Ash-Oahe
Line Route

Range Road

Proposed Ash-Oahe
Line Route

Hwy 1804

Perch Place



WING ROAD

Proposed Ash-Oak
Line Route

CHAPTER 6

ALTERNATIVE CORRIDOR STUDY

(Rule 20:10:22:12)

The City of Pierre conducted a systematic alternative routing study for the proposed transmission project to identify the most feasible alignment based on environmental, land use, engineering and cost considerations. The City's corridor study was a phased effort consisting of:

- 1) Delineation of the project area boundaries and initial evaluation of aerial photographs, maps and existing databases;
- 2) Regional screening of the project area to identify restricted and potentially incompatible areas, such as conflicting land uses and environmental features;
- 3) Identification of alternative corridors between the Ash Substation and tie-ins;
- 4) Field surveys by a multi-disciplinary team including a transmission engineer, environmental scientist and land use planner;
- 5) A comparative assessment of the alternative corridors using quantifiable environmental, land use, engineering and cost evaluation criteria; and
- 6) Identification of the preferred corridor for the proposed Ash to Oahe-Pierre transmission line.

The initial task was the delineation of the project area boundaries and examination of aerial photographs, maps of existing and future land uses, transportation and utility maps and other information such as floodplain, soils and wetlands maps. This review served to identify restricted and potentially unfavorable areas within the project area unsuitable for transmission line siting. Based on the locations of such areas as well as additional considerations, eight potential corridor alternatives were identified and mapped on aerial photographs. These corridors were further divided into logical segments and nodes, which would allow the recombination of alternatives. All alternatives were subsequently field examined, then comparatively screened against specific evaluation criteria.

A list of nine evaluation criteria was developed for the comparative screening, including corridor length, access, number of required permits, visual impact, miles of line not co-located with existing linear facilities and boundaries, ability to meet the City's needs, number of properties crossed, reliability and costs. Additional factors considered included number of homes adjacent to the right of way, wetlands and other sensitive habitats. However, it should be remembered that such areas were generally excluded in the initial identification of restricted and unfavorable areas. Individual weighting factors were assigned to each of these criteria to standardize their relative degree of importance and to calculate a sum total of each alternative's weighted score.

The results of the alternative corridor study showed that one of the eight alternative routes, designated Alternative 1C, best addressed the needs of the City while minimizing environmental and land use impacts. The combined score of its evaluation criteria ratings made this alternative the highest ranked route. Although not the shortest route, its reliability and cost ratings ranked higher while generally being comparable with other alternatives in terms of other rating criteria. As a result, the City selected Alternative 1C as the preferred alternative and this route represents the transmission line alignment for the new Ash to Oahe-Pierre corridor addressed in this application. A copy of the siting study is appended to this application as Appendix G.

The short corridor required for relocation of the southern segment of the existing Ash to Evans 115kV transmission line was identified based on a review of aerial photographs and field investigations. Its final alignment was selected based on the location of existing residential areas, review of other existing and future land uses and evaluation of existing environmental factors, such as wetlands, steep slopes and unsuitable soils that would make future development difficult if not unlikely between the Ash Substation and Fourth Street. This evaluation resulted in a direct alignment of the relocated portion between the Ash Substation and its tie-in with the existing line.

CHAPTER 7

ENVIRONMENTAL INFORMATION

(Rule 20:10:22:13)

The existing environment is described in detail in Section 3.0 of the environmental assessment report provided as Appendix E. Estimates of changes and impacts to the existing environment from right of way clearing, transmission line construction and maintenance operations are also discussed in Appendix E, Section 4.0.

In brief, the City has selected right of way alignments that follow existing property boundaries, road and utility rights of way and that are located primarily on agricultural and undeveloped lands. In fact, based on slope, wetlands and soil characteristics between the Ash Substation and Fourth Street, future development in this portion of the project area is expected to be severely limited. Despite this, much of this area has been platted and the City's Future Land Use Plan designates this area as "residential."

Based on the compatibility of existing land uses, absence of potentially unfavorable features, including institutional uses (such as schools) and recreation areas, and based on an assessment of impacts to the environmental and land use resources in the project area, the City does not believe that significant, direct, cumulative or synergistic hazards to the health and welfare of human, animal or plant communities will occur as a result of this project. This is especially true since the relocated portion of the existing line will be further from existing residential areas. The Ash to Oahe Line route runs adjacent to, or

within four feet of property lines for 3.14 miles of its 4.03-mile length. Both rights of way have been sited to avoid potentially sensitive wildlife habitats, vegetation communities, wetlands and waterways or residential areas and other incompatible land uses. In summary, the construction of the City's new transmission facilities will occur primarily in undeveloped, non-cropped agricultural areas and in areas that, although platted years ago, remain largely unsuitable for future residential developments due to wetlands, steep slopes and unstable soils.

The proposed transmission line is not anticipated to represent an inducement for commercial or industrial growth in the area. Moreover, the City is unaware of commercial or industrial facilities that may be developed as a result of the City's project.

CHAPTER 8

EFFECT ON PHYSICAL ENVIRONMENT

(Rule 20:10:22:14)

1. Regional Land Forms

Land forms of the project area are discussed in Appendix E, Sub-Section 3.3. The City's project will have no adverse effects on land forms of the project area. Construction of the project will not require grading or other changes to the topography or dredging and filling. All sections of the proposed lines can be accessed for construction and subsequent maintenance from existing roads or across open fields and rangelands.

2. Topographic Map

A topographic map of the project area is provided in Appendix B. The project is shown on U.S. Geological Survey (USGS) topographic maps, Pierre, South Dakota, and Pierre N.E. quadrangles. Hughes County is a part of the Missouri Coteau in the Great Plains physiographic province. In general, its relief is mainly nearly level to sloping, but becomes steeper along the Missouri River and larger creeks and drainages. The county is drained by the Missouri River.

3. Geological Features

A summary of the geological features occurring in the project area is provided in Appendix H. In brief, the underlying geologic material for the Pierre and adjoining Hughes County area is the Pierre Shale. The Pierre Formation is the only bedrock exposed in Hughes County. It is a marine shale with exposures primarily along the Missouri River and covered by loess and other drift in areas. Most soils in the area formed in glacial material derived from pre-glacial formations of granite, gneiss,

limestone, sandstone and shale. A number of other deposits consist of unsorted material or glacial till, as well as glacial drift.

4. Economic Deposits

No economic mineral deposits are known to occur in the project area as stated in the Soil Survey of Hughes County (U.S. Department of Agriculture, Soil Conservation Service 1975)

5. Soils

The soil types that occur in the project area are described in Appendix I. Two soil types dominate in the project area. The Lowry-Agar association consists of nearly level to gently sloping, well-drained silty soils that formed in loess on uplands and outwash terraces. And the Gettys-Betts association consists of rolling to steep, well drained to excessively drained loamy soils that formed in glacial till on uplands. The Gettys-Betts association occurs along the steep to moderately steep slopes between the Ash Substation north to U.S. 14/83 and again to the west of Highway 1804 along Perch Place. The more level segments of the right of way, such as the segment between U.S. 14/83 and Range Road, are located on the Lowry-Agar association.

6. Erosion and Sedimentation

Erosion and the potential for subsequent sedimentation of downgradient wetlands and drainages are a common concern associated with vegetation clearing and soil disturbance in Hughes County. In particular, the steepness, slopes and characteristics of the Gettys-Betts association occurring between the Ash Substation and Fourth Street, for example, make these soils highly erodible. As a result, the City will minimize the extent of vegetation clearing and install soil erosion and sediment control measures downgradient of all cleared areas prior to soil disturbance. Implementation of an approved Soil Erosion and Sediment Control Plan will eliminate erosion and sedimentation impacts during construction. If necessary, the City will stabilize exposed soils via reseeding and other appropriate measures.

7. Seismic Risks, Subsidence Potential and Slope Instability

The City's proposed transmission facilities will be designed and constructed to meet state-of-the-art standards and will comply with all applicable construction codes. Potential difficulties due to seismic activities, subsidence and slope instability will be avoided through proper design and construction techniques. As stated in Pierre's 1997 Comprehensive Master Plan, "soils in the Pierre area are recognized as having the potential of creating problems through tendencies to swell when wet, shrink under drying conditions and often exhibit instability, primarily on hillsides, with resultant slides."

8. Geological Constraints

The geology of the project area has been discussed in Appendix H. Geological characteristics within the project area impose no unusual constraints on the design, construction or operation of the City's proposed transmission facilities. The City's approach in the planning of this project has been consistent with the recommendations of the City of Pierre Comprehensive Master Plan, which states that applicants should conduct geophysical condition evaluations assessing the soil conditions that may create problems for the types of developments planned. The City has conducted such geotechnical investigations within its proposed rights of way, and verified its suitability for the project.

CHAPTER 9

HYDROLOGY

(Rule 20:10:22:15)

1. Hydrological Map

The City's project area does not include any perennial streams. Hilger's Pond, located north of Fourth Street, is the dominant surface water feature (Exhibit 9.1). Area floodplains are shown in Exhibit 9.2. The project will span an intermittent drainage located in Hilger's Gulch south of Fourth Street and a second drainage lying parallel to Highway 1804 at Perch Place. The City's proposed transmission project will not impact or alter any perennial streams, Hilger's Pond or local drainage patterns or other floodplain characteristics.

2. Effect on Current or Planned Water Use

The City's project will have no impacts on either municipal or private water uses in the project area. The aboveground transmission facilities will not impact any local aquifer or recharge areas. Water resources in the project area are discussed in Appendix J.

3. Surface and Groundwater Use by Project

The City's project will not require the consumptive use of surface or ground waters. Surface and groundwater resources within the project area will not be impacted by the City's project. Water resources in the project area are discussed in Appendix J. The City's geotechnical surveys within the rights of way indicate ground water at eleven (11) feet below ground surface at one borehole and at more than twenty-seven (27) feet at the other ones. As a result, pole embedment will not impact local ground water sources.

4. Water Use From Aquifer

The proposed project will not require use of ground water, either for consumptive use or to meet dewatering requirements.

5. Water Storage, Reprocessing and Cooling

No water storage, reprocessing or cooling are required for the construction or operation of the City's transmission project.

6. Deep Well Injection

The City's proposed transmission line project will not require deep well injection.

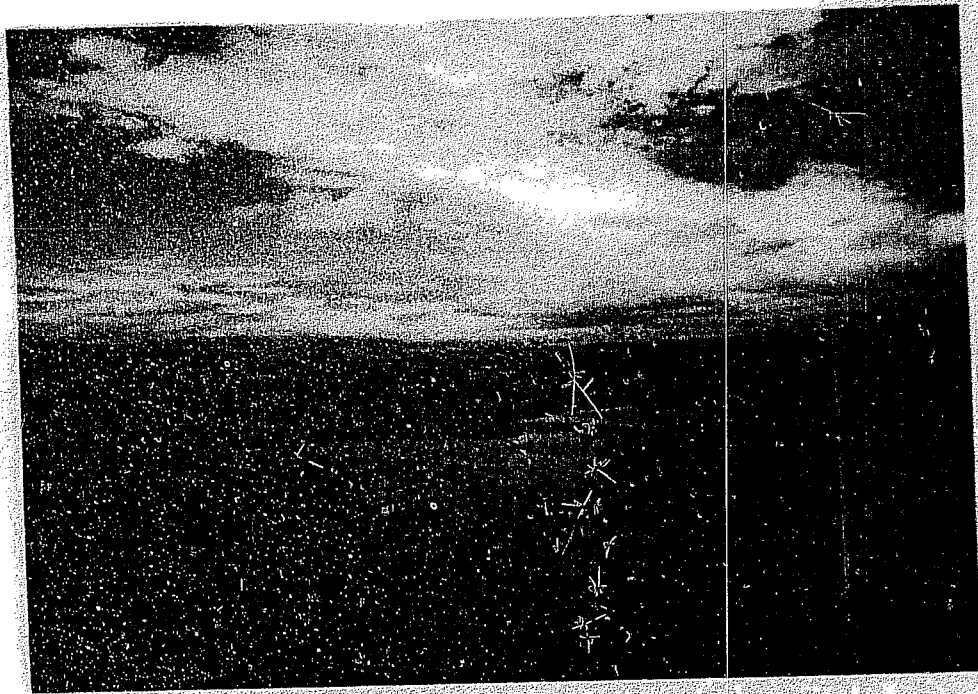
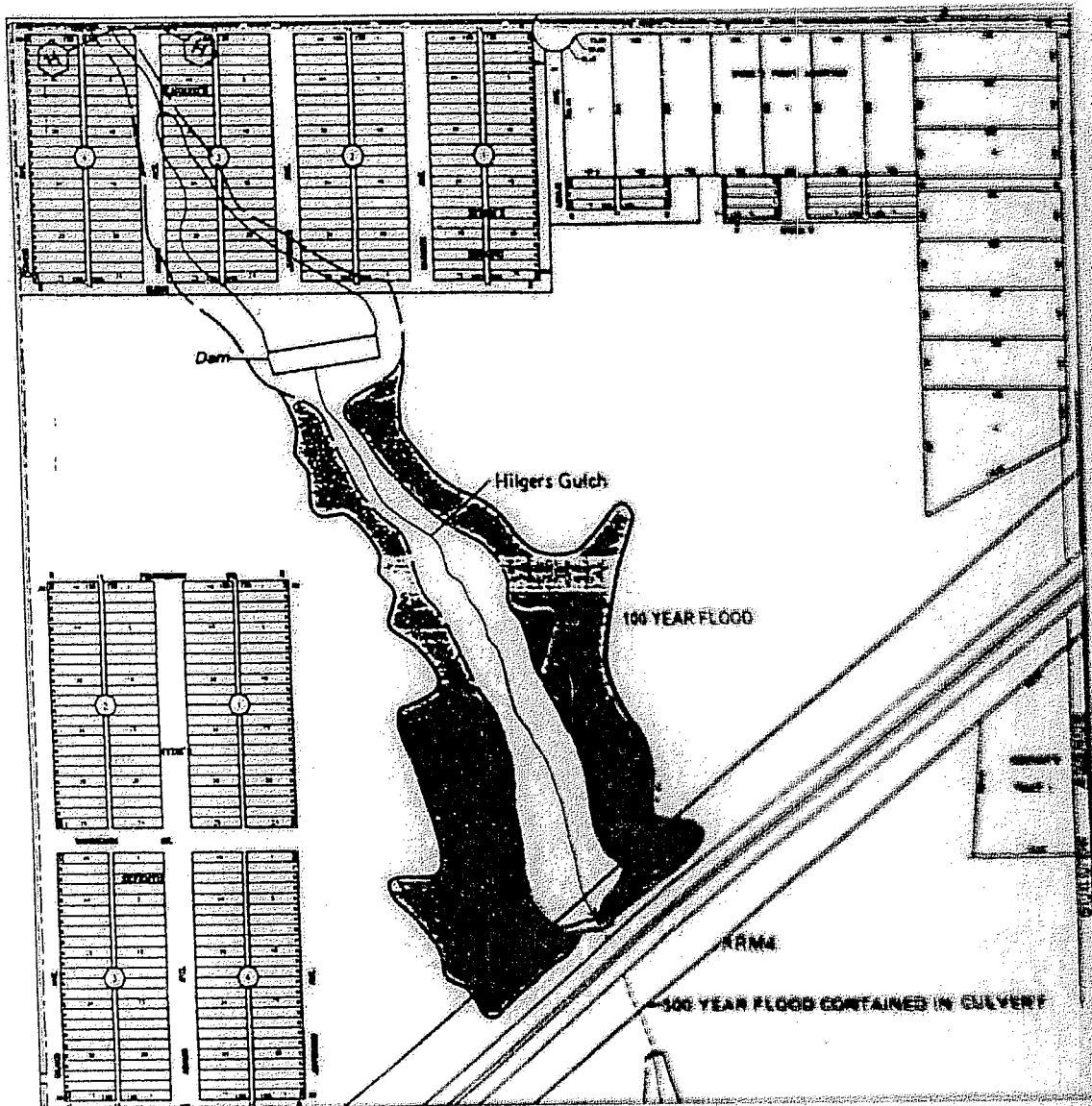


Exhibit 9.1: Hilger's Pond from Fourth Street right of way. The existing Ash to Evans 115kV transmission line crosses the western portion of the pond. (This section to be removed)



KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

FLOODWAY FRINGE

100-Year Flood Boundary

500-Year Flood Boundary

Approximate 100-Year
Flood Boundary

Cross Section Line

Elevation Reference Mark

River Mile

FLOODWAY

RMT

• M15

EXHIBIT 9.2



CHAPTER 10

EFFECT ON TERRESTRIAL ECOSYSTEMS

(Rule 20:10:22:16)

The potential and anticipated impacts of the project on terrestrial resources and ecosystems are described in Appendix E, Subsections 4.6 & 4.7. In brief, the City's proposed project will be constructed across undeveloped lands, agricultural areas and along existing rights of way. Due to the low growth of the native vegetation, no deforestation will be required. Native vegetation will also allow access to all sections of the rights of way without the need for permanent service roads. As a result, the project will cause only an insignificant loss of rangeland and pasture habitat, primarily at the footprint of poles and anchors.

The project area supports no ecologically unique or sensitive habitats, such as critical habitat for listed species or riverine or lacustrine habitats for important fishery resources and migratory waterfowl. As determined by the U.S. Fish and Wildlife Service and the South Dakota Department of Game, Fish and Parks, the project area does not support rare, threatened or endangered species of plants and wildlife. The habitats consist of rangeland, grasslands and pastures supporting vegetation species common to South Dakota rangelands and tall, medium and shortgrass prairie. The wildlife consists of species such as mule and white-tailed deer, badger, fox, coyote, prairie chicken, sharp-tailed grouse, pheasant and a variety of raptors and songbirds.

Construction of the City's project will have no adverse impacts on the vegetation and wildlife composition of the project area in terms of species diversity or abundance. No permanent service road will be required that would result in vegetation removal and unauthorized access. Vegetation removal or habitat loss resulting from pole and anchor placement is insignificant, and affects only small areas of common range land and pasture species. The transmission project will not displace or adversely affect wildlife or aquatic species. No rare, threatened or endangered species occur within six tenths of a mile of the project area. The project will not impact ecologically unique or sensitive habitats, including wetlands and aquatic habitats.

CHAPTER 11

EFFECT ON AQUATIC ECOSYSTEMS

(Rule 20:10:22:17)

Aquatic ecosystems within the City's transmission line corridors consist primarily of a few small stock watering ponds, dry gulches, an intermittent drainage paralleling the east side of Fourth Street and an intermittent drainage paralleling the west side of Highway

1804. Hilger's Pond is located between the rebuilt Ash to Evans and new Ash to Oahe-Pierre lines and will not be adversely impacted by the project. The Ash to Evans relocation will allow removal of the existing conductors, shield wire and poles across and in the vicinity of the Hilger's Pond.

None of the seasonal or manmade aquatic ecosystems will be directly impacted by the City's proposed project. No structures, such as poles or anchors, will be placed within aquatic ecosystems or their buffer zones. In fact, the proposed rebuild of the existing Ash to Evans transmission line will re-route the existing conductor crossing of Hilger's Pond away from and to the west of the pond. All construction in the vicinity of gulches, ponds and drainages will be governed by a county-approved soil erosion and sediment control plan to ensure that storm water runoff will not result in erosion or in siltation and sedimentation of aquatic ecosystems.

The construction, operation and maintenance of the proposed transmission facilities will not impact sub-surface aquatic resources. No excavation or dewatering will be required for construction or maintenance of the City's project.

CHAPTER 12

LAND USE

(Rule 20:10:22:18)

1. Land Use Maps

Existing land uses in the project area consist of undeveloped, previously platted rangeland between the City's Ash Substation and Fourth Street (Exhibit 12.1), undeveloped rangeland between Fourth Street and US 14/83 (Exhibit 21.3) and undeveloped pastures and croplands between US 14/83 and Range Road (Exhibit 21.5). A new residential subdivision, Green Grass Ridge, is currently in the early stages of development to the northeast of the City's project. However, two existing powerlines currently parallel Range Road along this subdivision, and the City's project is compatible with the existing lines (Exhibit 21.6). The existing land uses along the City's proposed rights of way are described in Appendix E, Subsection 3.9.

2. Homes and Persons To Be Displaced

No homes or individuals will be removed or displaced as a result of construction, operation or maintenance of the City's proposed transmission facilities. In fact, the relocation of the existing Ash to Evans 115kV transmission line between the substation and Fourth Street will add additional distance between the City's system and residences along North Harrison Avenue and Cherry Drive. The proposed transmission line project

will not adjoin any developed residential lots or interface with the access to such properties.

3. Land Use Compatibility

The City's proposed transmission facilities are compatible with existing as well as projected future land uses. The project will have no adverse impacts on existing land uses and land-use patterns of the project area. The highest visibility of the existing, as well as the proposed, transmission line occurs between the Ash Substation and Fourth Street (Exhibit 12.1). However, the existing Ash to Evans transmission line currently exerts an existing visual impact and the row of steel pole streetlights along Fourth Street further mitigate the effects of the City's project. Relocation of the existing Ash to Evans line and construction of the new Ash to Western line will add additional spacing between the residences along North Harrison and Cherry Drive. However, the relocation will move the existing 115kV line somewhat closer to residences located along the ends of Madison and Monroe Avenues. The new Ash to Evans line may also be seen from Fourth Street and limited areas of Governor's Drive. However, both distance and the presence of a row of steel pole streetlights along Fourth Street will mitigate such impacts. The new line is not visible from the Cultural Heritage Center located at the south end of Governor's Drive.

To the north of Fourth Street, relocation of the existing line will avoid crossing over Hilger's Pond (Exhibit 9.1). The relocated transmission line will avoid Hilger's pond and associated wetlands altogether. With regard to the new transmission line right of way, the proposed alignment will only cross undeveloped agricultural lands and has been sited on those lands to avoid interference with farming uses on these properties. In areas where the proposed transmission line lies in the vicinity of planned communities (Green Grass Ridge), the new line will be co-located with existing transmission and distribution lines, and will not represent new impacts.

4. Analysis of the Effect on Land Uses

The construction, operation and occasional maintenance of the City's proposed transmission facilities will not adversely impact existing land uses. Livestock grazing and crop planting and cultivation will continue along current trends and practices. In fact, between U.S. 14/83 and Range Road, the new right of way has been sited parallel to field edges to avoid interference with farming operations (Exhibit 21.5). This project segment was implemented as a result of prior project hearing testimony and subsequent discussions with landowners.

Although relocation of the existing Ash to Evans transmission line and construction of the new Ash to Western transmission line will cross platted lands between the substation and Fourth Street, no future development of these areas is expected due to the instability of soils, steep slopes and presence of wetlands. However, the City of Pierre has identified this area as residential in its Future Land Use Plan, although the instability of local soils.

combined with the steep slopes, has resulted in the removal of existing houses (e.g., at the end of Monroe Avenue) along the surrounding ridge line. The City's existing Ash to Evans 115kV transmission line is currently the only existing use of this undeveloped rangeland area.

With regard to the City's new Ash to Oahe-Pierre project, Hughes County has established proposed corridor routes in its Future Land Use Plan. The objectives of such designated corridor routes is to "plan for and, where possible, designate land and corridor routes for the development of public facilities and utilities which will be required for future growth" (Hughes County Comprehensive Master Plan, 1997). The City's project in Hughes County will be located within this designated utility corridor.

The City's project will not impact or lie in the vicinity of institutional facilities, such as schools or hospitals, or near parks or recreation areas, such as Pierre's Riverfront Park or Hilger's Gulch Park. The project is also not visible from the South Dakota Cultural Heritage Center located at the south end of Governor's Drive.

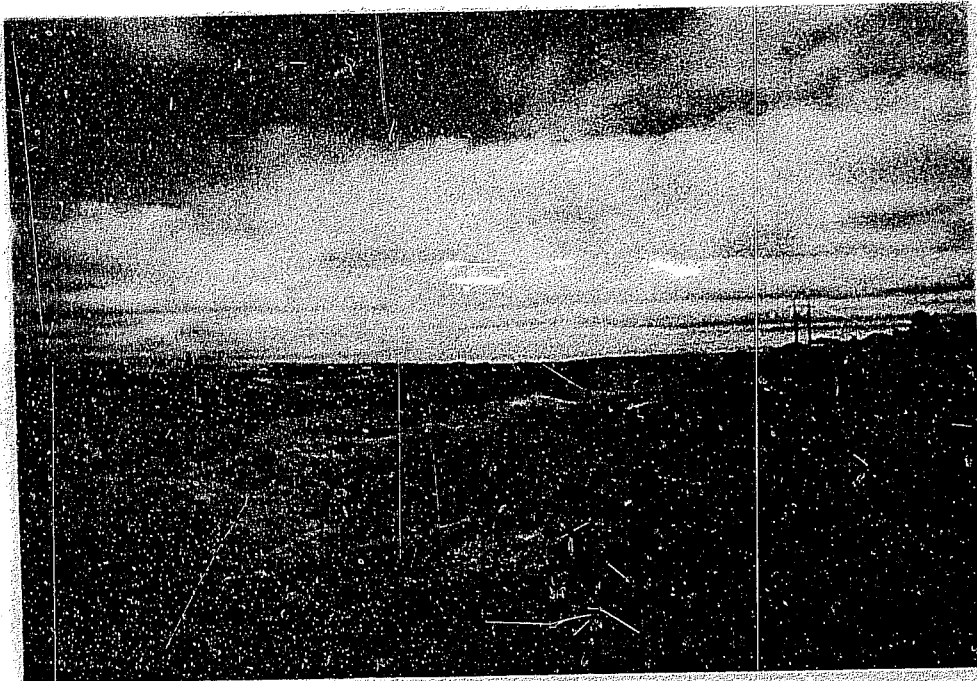


Exhibit 12.1: View of project area between Ash Substation and Fourth Street. The existing Ash to Evans 115kV transmission line and Cherry Drive Subdivision are to the right of the photo. Hilger's Pond is on the left. Grandview Subdivision is in the distant center.

CHAPTER 13

LOCAL LAND USE CONTROLS

(Rule 20:10:22:19)

The City will comply with all applicable zoning requirements. No existing land use controls by any of the governing bodies (the City of Pierre, Hughes County) restrict the use of the land within the proposed project area for the purpose of constructing and maintaining the transmission facility.

CHAPTER 14

WATER QUALITY

(Rule 20:10:22:20)

The construction, operation or maintenance of the proposed transmission facilities will not result in discharges to surface or ground waters or placement of structures into such waters. The project is located entirely on uplands, distant from the Missouri River, other perennial streams and associated flood zones and littoral areas. Hilger's Pond is the major surface water body in the project area. Surface water quality will be protected from siltation and sedimentation through use of silt fences, staked hay bales and other approved measures designed to treat stormwater runoff from construction areas.

Access to the construction sites will not require installation of permanent culverts, bridges or other water control structures. The project's absence of impacts to wetlands and waterways is reflected in the U.S. Army Corps of Engineers' project assessment that determined that no Section 404 dredge and fill or Section 10 waterway construction permits would be required. However, it is likely that a U.S. Army Corps of Engineers Nationwide Section 12 permit will be required to conduct work within jurisdictional wetlands (See Appendix E, Subsection 4.4).

CHAPTER 15

AIR QUALITY

(Rule 20:10:22:21)

No significant or long-term impacts to air quality will occur as a result of this project. Construction traffic may generate local fugitive dust for short durations during the construction phase along unpaved roads (e.g., Range Road, Perch Place). However, the

number of line construction vehicles is low compared to existing background traffic levels and will be short term (several days) at each segment of the line.

CHAPTER 16

TIME SCHEDULE

(Rule 20:10:22:22)

The City has completed all necessary background studies and has surveyed and staked the centerline of the proposed rights of way where landowners have allowed access. The City's anticipated construction start date for the Ash to Evans rebuild as well as the Ash to Oahe-Pierre transmission line is mid to late summer of 2000, with completion by the end of the year.

CHAPTER 17

COMMUNITY IMPACT

(Rule 20:10:22:23)

1. Forecast of Socioeconomic Impact

No significant socioeconomic impacts to the local communities and governmental facilities or services are anticipated as a result of the City's project. Following construction, the project will not result in secondary socioeconomic impacts.

It is anticipated that project implementation would result in increased reliability of electrical service to the City's customers; thus providing a social and economic benefit to the area.

2. Property and Other Tax Impacts

The proposed project will have no effect upon the City's ad valorem tax liability. No corresponding loss of property taxes is expected since the City will obtain easements from the various landowners, who will be fairly compensated for granting the easements.

3. Agriculture Impacts

The City has sited the proposed transmission project along rights of way and property lines to the greatest extent feasible. As a result, the project is not expected to interfere with agricultural operations or result in the loss of croplands. The loss of grazing lands resulting from the siting of transmission structures in rangelands will be minimal and

limited to the footprints of poles and anchors. Such minor losses are reflected in the easement costs to be paid to property owners by the City.

4. Socioeconomic Impacts

See (1) above.

5. Transportation Impacts

A temporary and minor increase in traffic will occur during the delivery and staging of equipment and as a result of daily traffic to and from the individual construction sites. Minor, temporary road traffic will also be generated by construction crews traveling to and from construction sites. Very brief traffic stoppage will occur once at each road crossing during conductor stringing operation. The City's project will not result in any long-term or permanent increases in traffic or in other impacts to the existing or planned transportation facilities of the City of Pierre or Hughes County. It should be remembered that although the total construction period is estimated at four to six months, only about six days of activities will occur at each structure location. As a result, the minor transportation impacts, if any, will occur at different roadways.

6. Cultural Resources Impacts

The results of a detailed cultural resources survey of the proposed right of way and adjoining areas are presented in Appendix F. Based on the results of this survey and a review of relevant databases, the City's proposed transmission project is not expected to impact cultural resources. Potential impacts outside the City's rights of way will be minimized further by restricting heavy vehicle traffic to existing roads and impact areas.

CHAPTER 18

EMPLOYMENT ESTIMATES

(Rule 20:10:22:24)

Right of way preparation and transmission line construction will employ approximately 15-20 individuals for a period of four to six months. Approximately three to five individuals are expected to be hired locally, and 12-15 workers are expected to commute to the area.

Once operational, the City's transmission facility will be maintained, if necessary, by City employees.

Utilization and timing of the required construction labor force will be the responsibility of the City's contractor. No permanent additional employment is expected to ensue. Total estimated construction payroll for the line construction is expected to be \$250,000.

CHAPTER 19

FUTURE ADDITIONS AND MODIFICATIONS

(Rule 20:10:22:25)

The City has no current plans for future modifications or expansions of its proposed transmission facility that would have to be approved at this time.

CHAPTER 20

TRANSMISSION FACILITY LAYOUT and CONSTRUCTION

(Rule 20:10:22:34)

1. Vegetation Clearing

The City had sited the proposed rights of way across open, undeveloped rangeland, pastures and croplands. As such, no deforestation or extensive tree clearing will be required for this project. Shrubs and herbaceous vegetation will be cleared from a few areas of the rights of way as required for construction, operation and maintenance of the lines. Due to the low growth of shrub and herbaceous vegetation within most of the rights of way, little clearing will be required to provide access or construction (i.e., pad) sites. Where necessary, only those trees or shrubs that restrict access or pose a danger to the line will be selectively cut back. The rights of way will not be cleared unless the landowner specifically requests such clearing.

Special attention will be paid to vegetation clearing, if necessary, within the wetland segments of the rights of way. However, the only jurisdictional wetlands within the corridor area are the two intermittent drainages along the south side of Fourth Street and east side of Highway 1804. The City's project will span these drainages and associated wetlands and not require placement of structures, anchors or other fill within jurisdictional areas. All stream bank and wetland vegetation and vegetation within adjoining buffer zones will be maintained for soil stability and maintenance of water quality.

Vegetation that has been removed will either be removed to an approved disposal site or shredded and dispersed within the right of way as designated by the landowner.

2. Soils

Unless specified by the landowner and if suitable, soils excavated during the boring of the holes for transmission structures will be used for backfill to the extent possible. The remaining or unsuitable soils will be mounded around the base of structures or evenly spread around the structures.

3. Water Resources

The City's proposed project will not adversely affect surface waters or impact ground water resources. Two vehicle access crossings will be required across the upper reaches of Hilger's Gulch. The crossings, each approximately one hundred feet long, are located in Township 111 North, Range 79 West, in the southeast quarter of Section 28. The more northerly of the two crossings is located approximately eight hundred feet south east of Highway 14/83; and the second crossing is located approximately two thousand feet southeast of the highway. Both crossings will require an engineered design to prevent erosion and stabilize the fords. That design will include sloping the gulch banks, and placing rock on the crossing approaches and in the bottom of the gulch. There will be no introduction of obstructions that might impede the flow of seasonal waters.

Removal of the existing Ash to Evans transmission conductors across Hilger's Pond following the energizing of the rebuilt segment to the west of the pond will not result in adverse impacts but, rather, represent an improvement to this recreation area.

Vehicles or equipment will not be permitted to be refueled or washed in the vicinity of sensitive areas or their buffer zones. Wetlands will be avoided to the greatest extent possible. Wetland vegetation will be retained as a natural sediment trap. All clearing and construction activities in the vicinity of surface waters and wetlands will be governed by an approved Soil Erosion and Sediment Control Plan prepared specific to this project. As with other segments of the rights of way, disposal of waste materials, soils or vegetation debris will be consistent with landowner stipulations and best management practices.

4. Herbicides and Sterilants

The City's project will not require the use of herbicides and sterilants. The transmission rights of way cross primarily rangelands, pastures and croplands. The remaining segments are co-located with existing, cleared rights of way. As a result, the vegetation is low and will not interfere with the operation or maintenance of the facilities.

5. Air Quality

The City's project will have no impacts on the local air quality. Applicable state and local vehicle emission and noise standards will be complied with, and dust suppressants or wetting procedures will be used as necessary near residential or recreational areas (e.g., the Hughes County Rodeo Grounds). Although construction of the new transmission

facilities will not occur in residential areas, all local noise regulations will be complied with.

6. Construction Site Access

Access to the construction sites will be via existing roads or across agricultural lands. The construction of new permanent access roads is not anticipated.

7. Waste Disposal

Trash, scrap and all other non-vegetation debris will be picked up and disposed of daily to avoid accumulation and dispersal of trash along the rights of way. Vegetation debris will either be trucked to an approved disposal site or shredded and dispersed in the rights of way according to landowner stipulations.

8. Restoration, Revegetation and Cleanup

The City will restore all areas of the rights of way to original surface conditions following construction. Since most of the rights of way are located in rangelands, pastures, croplands and along existing rights of way, disturbed areas of the right of way are expected to revegetate with native species during the following growing season. In areas where natural succession of native grasses, forbs and shrubs appears potentially slow (e.g., in graded areas), reseeding and mulching will be done consistent with local Soil Service or Agricultural Extension Office guidelines and landowner stipulations. Reseeding would use the same pasture species that exist in the surrounding pastures, as stipulated by the landowner.

As stated previously, all vegetation debris, scrap and trash will be removed from the rights of way, unless otherwise directed by the local landowner.

CHAPTER 21

INFORMATION CONCERNING TRANSMISSION FACILITY

(Rule 20:10:22:35)

1. Configuration of the Towers and Poles, Including Material, Overall Height and Width

The City's typical structure configuration and dimensions proposed for both the rebuilt portion of the Ash to Evans line and for the new Ash to Oahe-Pierre line are shown in Exhibit 21.1 and in Appendix D.

2. Conductor Configuration and Size, Length of Span Between Structures and Number of Circuits per Pole or Tower

The City's proposed conductor is shown in Exhibit 21.2. The single steel poles, 80-100 feet in height, will support a single three-phase circuit (three wires) using this conductor. In addition, a single 3/8-inch steel overhead shield wire will be supported from a pole top bracket. Poles will be spaced approximately 500-600 feet apart.

3. The Proposed Transmission Site

The approximate lengths of the new Ash to Oahe-Pierre line is 21,284 feet (4.03 miles). The approximate length of the rebuilt segment of the Ash to Evans transmission line is 4,250 feet (0.80 miles). The alignment of the City's proposed transmission routes are shown in Appendix B and described as follows:

Line #1: The Ash Substation to Western Area Power Administration's Oahe-Pierre 115kV Transmission Line

- **Segment A** is 100 feet (+/-) in length and begins at the Ash Substation termination structure on the east side of the City of Pierre's Ash Substation. This segment extends to the east-northeast from the substation to Point of Intersection #1 (PI-1) located on platted Van Buren Avenue. At PI-1, the line direction turns approximately 100° left, continuing to the north.
- **Segment B** is 4,257' +/- in length and begins at PI-1. Segment B extends directly north on the platted Right of Way of Van Buren Avenue, which is located approximately 344 feet west of the north-south section line, to PI-2A. At PI-2A, the line route makes a 30° left turn to the northwest.
- **Segment C** is 4,768' +/- in length and is located between PI-2A and PI-3A, a computed point. This segment crosses over a four-lane section of U.S. Highways 14 and 83. The length of the line has been approximated in this area since one of the landowners did not grant access to the survey crew. At PI-3A, the line route makes a 30° right turn and continues directly to the north along the quarter-section line.
- **Segment D** is 5,803' +/- in length and is located between PI-3A, a computed point and PI-6A. This length is also considered approximate. (Exhibit 21.5) At PI-6A, the line turns left 90° and continues westward parallel to the section line.
- **Segment E** is 1,979' +/- in length and is located between PI-6A and PI-7. The line route is 14 feet north and parallel to an east-west property line that also parallels the line dividing Sections 16 and 21. This line segment was located the standard 4 feet plus an extra 10 feet from the property line to avoid conflict with a distribution line, which parallels Segment E. See Exhibit 21.6.

- **Segment F** is 793' +/- in length and is located between PI-7 and PI-8. This segment begins 14 feet north of the property line, which parallels the east-west line dividing Sections 16 and 21 and extends to a point located 4 feet north of the east-west property line on the west side of the Highway 1804 crossing. This adjustment is required to avoid the conflict with a nearby distribution line. See Exhibits 21.6 & 21.7.
- **Segment G** is 3,585' +/- in length and is located between PI-8 and PI-9. The line is 4 feet north and parallel to an east-west property line that also parallels the line dividing Sections 17 and 20. This segment terminates at the point where the transmission line connects to Western Area Power Administration's Oahe-Pierre 115kV transmission line. See Exhibit 21.8.

The surveyed legal description for this line is as follows:

Point of Beginning to PI1 100' +/- (angle to be determined upon final design)

PI-1-PI-2A	N 0° 20' 50" W	4,256.73'
PI-2A-PI-3A	N 28° 33' 07" W	4,767.65'
PI-3A-PI-6A	N 0° 11' 25" E	5,802.85'
PI-6A-PI-7	S 89° 58' 00" W	1,978.88'
PI-7-PI-8	S 89° 13' 34" W	792.91'
PI-8-PI-9	S 89° 33' 27" W	3,584.97' (END OF PROJECT)
Total Line Length:		21,283.99 feet, 4.03 miles

Line #2: Partial Relocation and Rebuild of the Evans to Ash Substation 115kV Transmission Line.

The existing Evans-Ash 115kV transmission line, which acts as the only feed to the Ash Substation, is being relocated as part of this project. In order to facilitate dual 115kV feeders into the Ash Substation, it is necessary to relocate this line, as shown in the sketch designated as Line #2.

- **Segment H** is 818' +/- in length and begins at Line #2's PI-1R, which is located 75 feet north of the City of Pierre's Ash Substation. This line segment extends 818 feet to the north and west to PI-2R, which is located on the platted Right of Way at a point 4 feet north of the property line on the platted Elizabeth Street and centered in the alleyway between platted Van Buren Avenue and the platted Jackson Avenue.
- **Segment I** is 737' +/- in length and is located between PI-2R and PI-3R of Line #2. The proposed line route is 4 feet north from and parallel to an east-west property line. This line segment is located in the platted Elizabeth Street right of way.
- **Segment J** is 2,695' +/- in length and is located between PI-3R and PI-4R of Line #2. The proposed line route is 4 feet west and parallel to a north-south property line. This

line segment is located in the platted Madison Avenue Right of Way. It is at the endpoint of this line segment that the rebuilt line will connect to the existing Evans-Ash 115kV transmission line, continuing on to Pierre's Evans Substation.

The surveyed legal description for this line is as follows:

PI1R (beginning) to PI2R	N 4° 15' 33" W	818.17'
PI2R-PI3R	N 89° 59' 26" E	736.79
PI3R-PI4R (end)	N 0° 20' 21" W	2,694.62'
Total Line Length:		4,249.58 feet, 0.80 miles

4. Reliability and Safety

The City's transmission facilities will be constructed in full compliance with all applicable electrical performance and safety codes. The State of South Dakota has not adopted maximum ground level electric and magnetic field thresholds. However, the proposed 115kV transmission facilities will emit electric and magnetic fields that are lower than threshold limits adopted by other states, both underneath the conductors and along the edges of the rights of way.

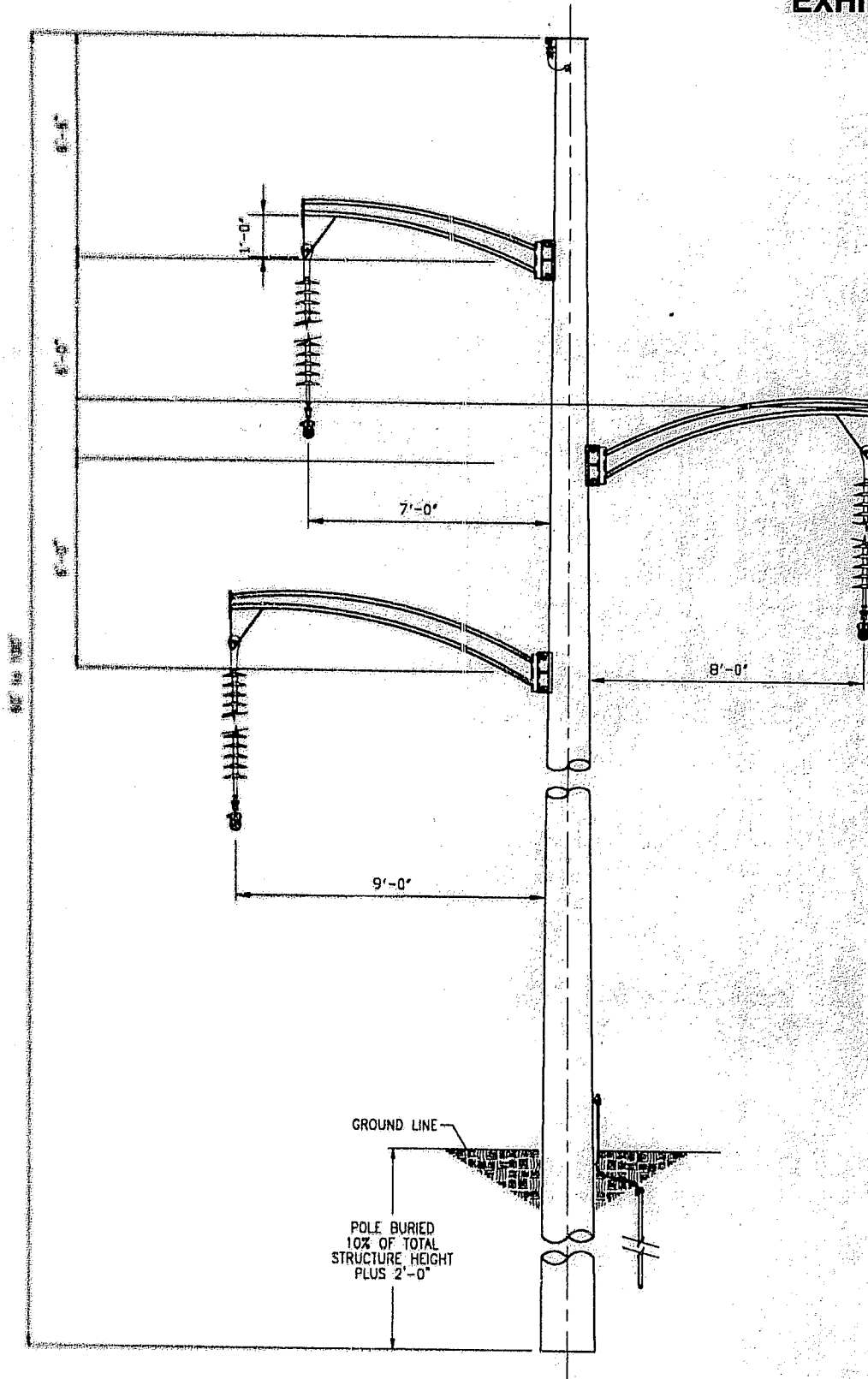
5. Right of Way Condemnation Requirements

The City has acquired easement options on twenty-nine of the forty parcels crossed by the proposed lines. Negotiations are continuing in order to amicably settle with the three owners of the remaining eleven parcels.

6. Necessary Clearing Activities

No significant clearing activities are anticipated as described in Chapter 20, above.

EXHIBIT 21.1



TS-1D

TYPICAL TANGENT POLE
(0'-2')

THE DESIGN AND CONSTRUCTION OF POWER
LINES ARE FOR A SPECIFIC PROJECT.
THESE ARE NOT TO BE USED FOR ANY OTHER
PROJECT WITHOUT THE APPROVAL OF THE
DESIGNER. IF THE DESIGN IS AN ADAPTATION
OF AN EXISTING DESIGN, THE DESIGNER
SHALL BE RESPONSIBLE FOR THE DESIGN.
THESE ARE NOT TO BE USED FOR ANY OTHER
PROJECT WITHOUT THE APPROVAL OF THE
DESIGNER.



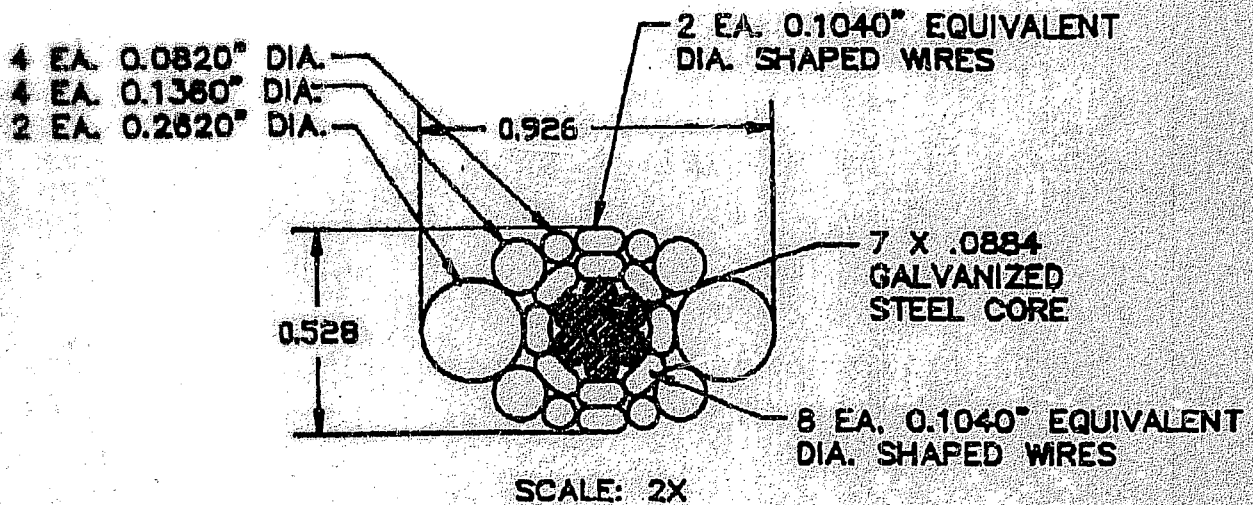
3840 CLEVELAND DRIVE
WILLY, D. 83313

SCALE: NTS

CITY OF PIERRE

115 KV
TRANSMISSION LINE

EXHIBIT 21.2



336.4 TYPE 16 ACSR/OVAL
LINNET/OVAL

PERIMETER: 2.331"

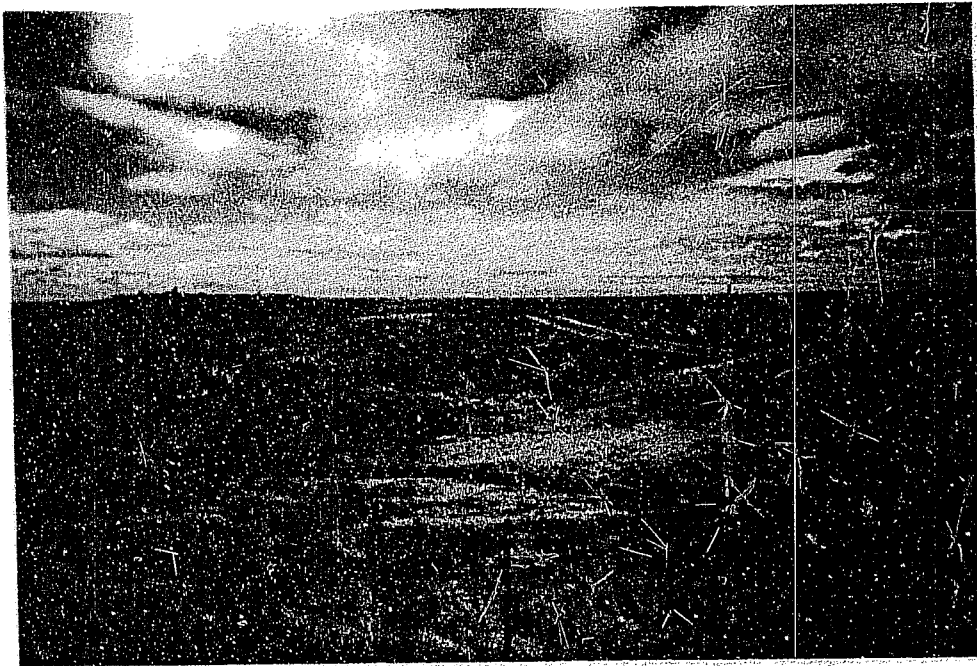


Exhibit 21.3: Westbound view of project area between Fourth Street and US14/83 from the Grandview Subdivision. City's line will be sited near shed in center of photo.



Exhibit 21.4: Southwesterly view of project area from US 14/83 right of way. New transmission line will be sited along slopes to be right of the photograph.

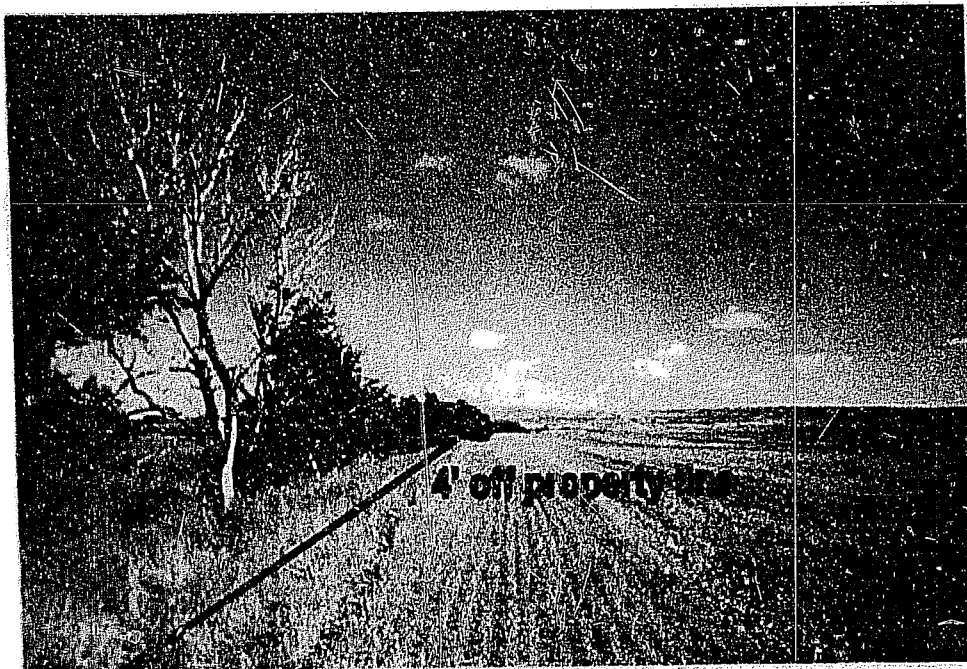


Exhibit 21.5: Northward view of Ash to Oahe-Pierre right of way south of Range Road between PI3A and PI6A. Elms on left may be cut back somewhat to avoid interference with the conductors.

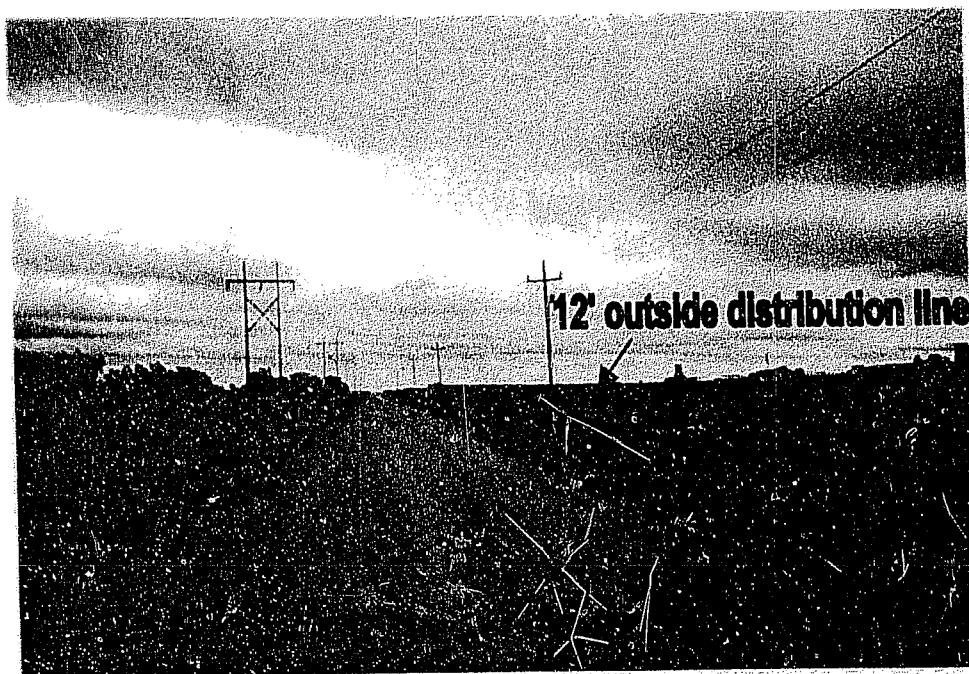


Exhibit 21.6: Westward view of Range Road showing existing 69kV East River Cooperative's line is on the left, and Oahe Electric Co-op's 13.8kV distribution line. The City's facilities will be located adjacent to, and north of, Oahe line.



Exhibit 21.7: Westward view from Range Road showing its intersection with Highway 1804 and Perch Place. East River Cooperative's 69kV line is on the left, Oahe Electric Co-op's 13.8kV distribution line is on the right, and a farm complex is on the far right.



Exhibit 21.8: Westward view along Perch Place. Approaching Western's Oahe-Pierre 115kV transmission line.

CHAPTER 22

ADDITIONAL INFORMATION ON APPLICATION

(Rule 20:10:22:36)

This application contains all the information as required of the City to meet the burden of proof specified at SDCL 49-41B-22. No additional information is provided.

CHAPTER 23

TESTIMONY AND EXHIBITS

Rule 20:10:22:39

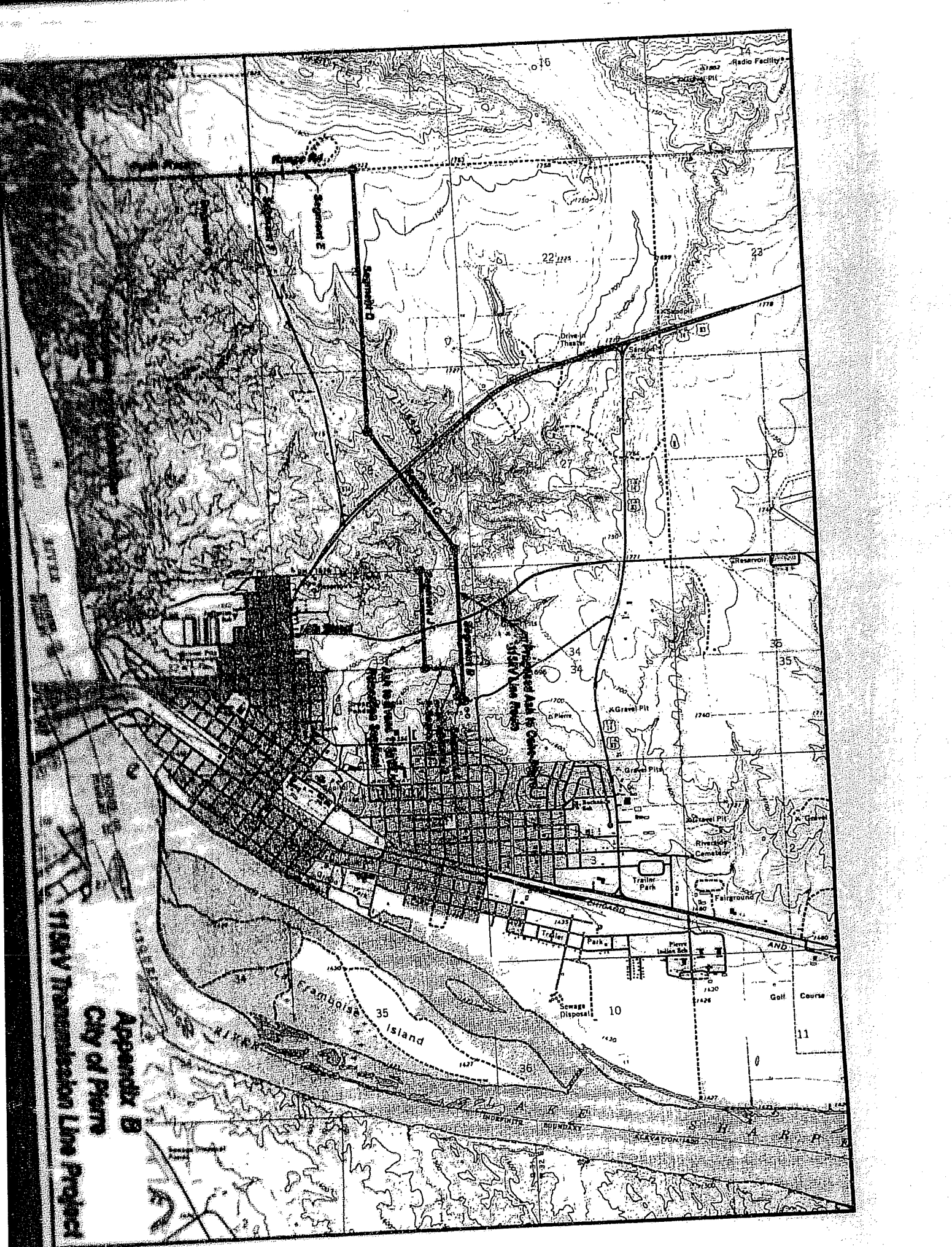
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Les Hinzman
Kristen Lambert
Brian Rozyla
Frank Rowland
Clayton Sonenschein
Thielen Surveying & Mapping
Richard Wenglikowski
Jon Wiese

This document is intended to represent the entire application, including all narratives, analysis, and exhibits.

APPENDIX B

MAP OF PROPOSED LINE ROUTES



Appendix B
City of Pierre
115KV Transmission Line Project

APPENDIX C

SURVEYED CENTERLINE LEGAL DESCRIPTIONS

APPENDIX C SURVEYED CENTERLINE LEGAL DESCRIPTIONS

Line #1: The Ash Substation to Western Area Power Administration's Oahe-Pierre 115kV Transmission Line

Point of Beginning to PI1 100' +/- (angle to be determined upon final design)

PI-1-PI-2A	N 0° 20' 50" W	4,256.73'
PI-2A-PI-3A	N 28° 33' 07" W	4,767.65'
PI-3A-PI-6A	N 0° 11' 25" E	5,802.85'
PI-6A-PI-7	S 89° 58' 00" W	1,978.88'
PI-7-PI-8	S 89° 13' 34" W	792.91'
PI-8-PI-9	S 89° 33' 27" W	3,584.97' (END OF PROJECT)
Total Line Length:		21,283.99 feet, 4.03 miles

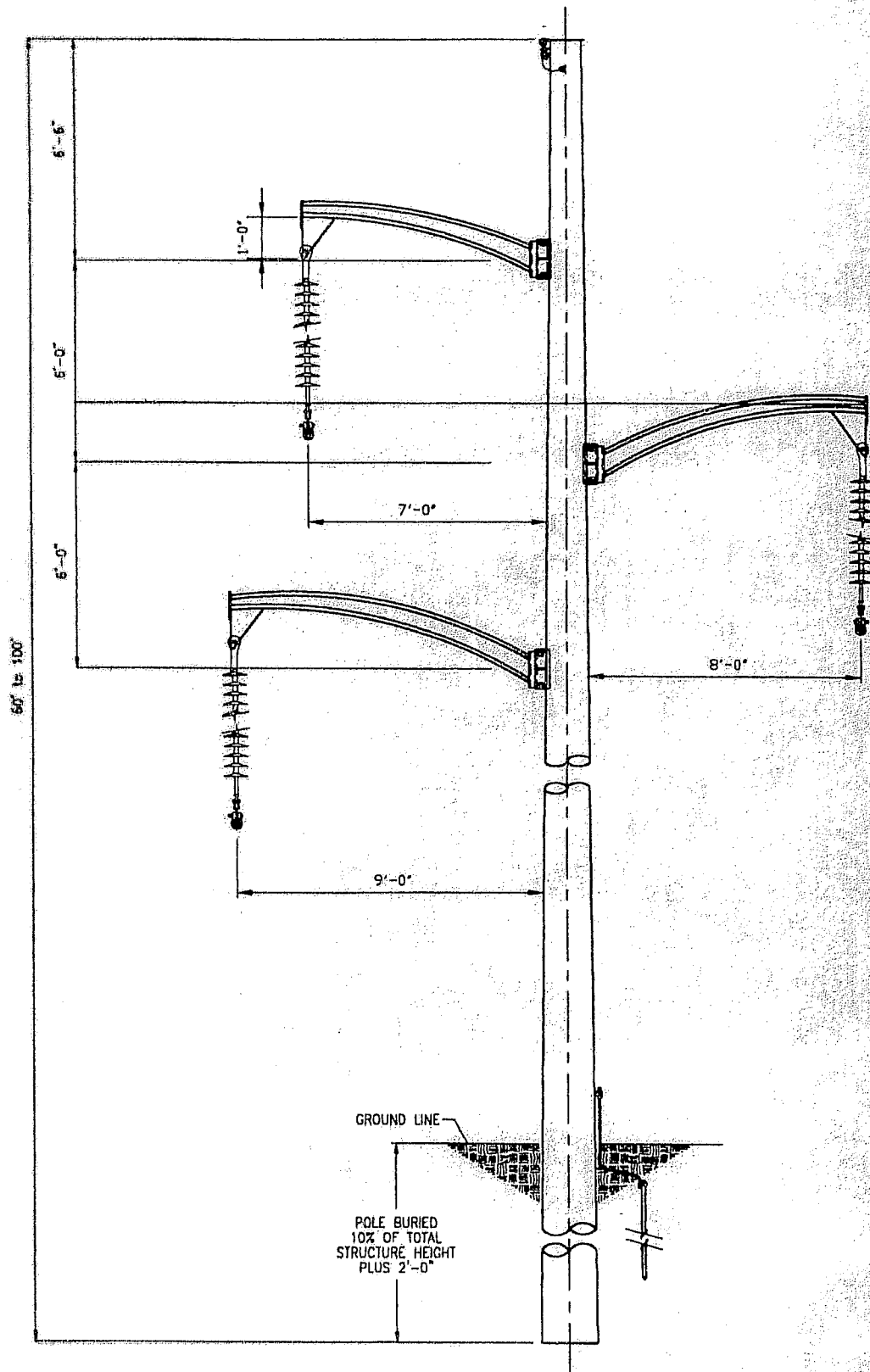
Line #2: Partial Relocation and Rebuild of the Evans to Ash Substation 115kV Transmission Line.

The surveyed legal description for this line is as follows:

PI1R (beginning) to PI2R	N 4° 15' 33" W	818.17'
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PI3R-PI4R (end)	N 0° 20' 21" W	2,694.62'
Total Line Length:		4,249.58 feet, 0.80 miles

APPENDIX D

TYPICAL TRANSMISSION LINE STRUCTURE DRAWING



TS-10

TYPICAL TANGENT POLE
(0'-2')

THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT. IT IS NOT TO BE USED FOR ANY OTHER PROJECT. NO PART OF THIS DRAWING OR ANY INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM POWER ENGINEERS, INC. AND POWER'S CLIENT IS ADVISED.



3440 OLDSMOKE DRIVE
HAULEY, ID 83333

SCALE: NTS

CITY OF PIERRE
115 KV
TRANSMISSION LINE

APPENDIX E

ENVIRONMENTAL ASSESSMENT

APPENDIX E

ASH TO OAHÉ-PIERRE 115kV TRANSMISSION LINE PROJECT CITY OF PIERRE, HUGHES COUNTY, SOUTH DAKOTA ENVIRONMENTAL ASSESSMENT

Prepared for

**South Dakota Public Utilities Commission
Pierre, South Dakota**

Western Area Power Authority

Submitted by

**Public Works and Engineering Department
City of Pierre
Pierre, South Dakota**

**Prepared by
POWER Engineers, Inc.
Hailey, Idaho**

Revised – July, 2000

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9.0 LIST OF PREPARERS

1.0 PURPOSE AND NEED

1.1 Introduction

The City of Pierre, South Dakota, (City) proposes to construct a new 4.03-mile-long 115 kilovolt (kV) transmission line connecting its existing Ash Substation with Western Area Power Administration's (Western) 115kV Oahe-Pierre transmission line. The City's Ash Substation is located off North Harrison Avenue within the municipal boundaries of the City of Pierre. The proposed tap with Western's Oahe-Pierre transmission line is outside the city limits in adjoining Hughes County, South Dakota. The City will also relocate a portion of its existing 115kV Ash to Evans transmission line as part of this project. The relocation of the 0.80-mile southern segment of this existing line is required to provide the proposed Ash to Oahe-Pierre line access into the Ash Substation. Both projects are shown on Exhibit 1 at the end of this section.

1.2 Purpose and Need

The purpose of the City's proposed project is to increase electric service capacity in a high-growth area of the City's service and to add a second feed to provide redundancy in 115kV feeds into the Ash Substation, thereby increasing the City's electrical system reliability. At present, the existing Ash to Evans link is the sole 115kV feed into the Ash Substation, which provides electric service to a rapidly expanding area of the City of Pierre and adjacent Hughes County. The current need for the construction of the new Ash to Oahe-Pierre 115kV transmission line and associated relocation of the southern segment of the existing Ash to Evans line, was established on the basis of the City's need to address existing reliability concerns.

In order to meet its reliability standards and service responsibilities, the City needs to provide a second feed into the Ash Substation. The need for a 115kV loop is reflected in past as well as projected outages. If the proposed transmission project is not built, the risk of serious electric service problems, consisting of unacceptable periods of complete outages to the City of Pierre as well as its transmission service area, will increase and become unacceptable by the year 2001.

1.3 Scoping Summary

Scoping and identification of issues for the City's project was accomplished during a series of project news releases, public meetings, public hearings and contacts with landowners and agencies. A list of forty-nine landowners was developed, which represented all landowners adjacent to the preferred route. These individuals received information regarding the proposed project, including a notice of public hearings. In

addition, the City mailed out specific requests for information pertaining to threatened or endangered species, their habitats, wetlands and surface waters, and the occurrence of cultural or historic resources in or along the project area. These requests for project review and information were mailed to the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), South Dakota Department of Game, Fish and Parks (DGF&P) and the South Dakota Historical Society. Finally, the City and its consultants met with PUC staff on July 14, 1998, to review the proposed project and to identify issues and approaches.

1.4 Issues Identified

The issues and concerns identified during the scoping process are expressed by resource below:

- Purpose and Need: Is the project required for existing demand or expected growth? Would failure to build the line affect the City's ability to provide reliable and acceptable electric service?
- Project Alignment: Minimize intrusion into private property by routing the rights of way along property boundaries, section lines or along existing rights of way and linear facilities.
- Project Description: Ensure removal of the abandoned section of Ash to Evans transmission line without impacts to Hilger's Pond and other habitats.
- Soils and Geology: Avoid erosion at steep slopes; avoid or minimize construction in floodplains.
- Water Resources: Avoid siltation and sedimentation of surface waters or contamination of surface and ground water resources.
- Vegetation: Avoid impacts to wetlands; minimize clearing of vegetation.
- Wildlife and Wildlife Habitats: Avoid impacts to listed species such as whooping crane, least tern and piping plover and their habitats.
- Visual Resources: Avoid or minimize visual impacts and intrusions into scenic viewsheds such as Lake Sharpe. Use mitigation measures to reduce visual impacts.
- Cultural Resources: Conduct a cultural resource survey of the proposed rights of way and adjoining areas. Avoid impacts to known historic resources like Route 1804 (Lewis and Clark Route).
- Electrical Effects: Ensure compliance with applicable codes and regulations.

1.5 Permit Requirements

The major permits and approvals that will be required for construction and operation of the City's proposed project are listed below.

Permit Requirements

- U.S. Army Corps of Engineers, Issue Section 404 and Section 10 Dredge and Fill and Waterway Construction Permits
- South Dakota PUC, Permit for Construction of Transmission Line
- South Dakota Department of Transportation, Highway 14/83 Encroachment Permit

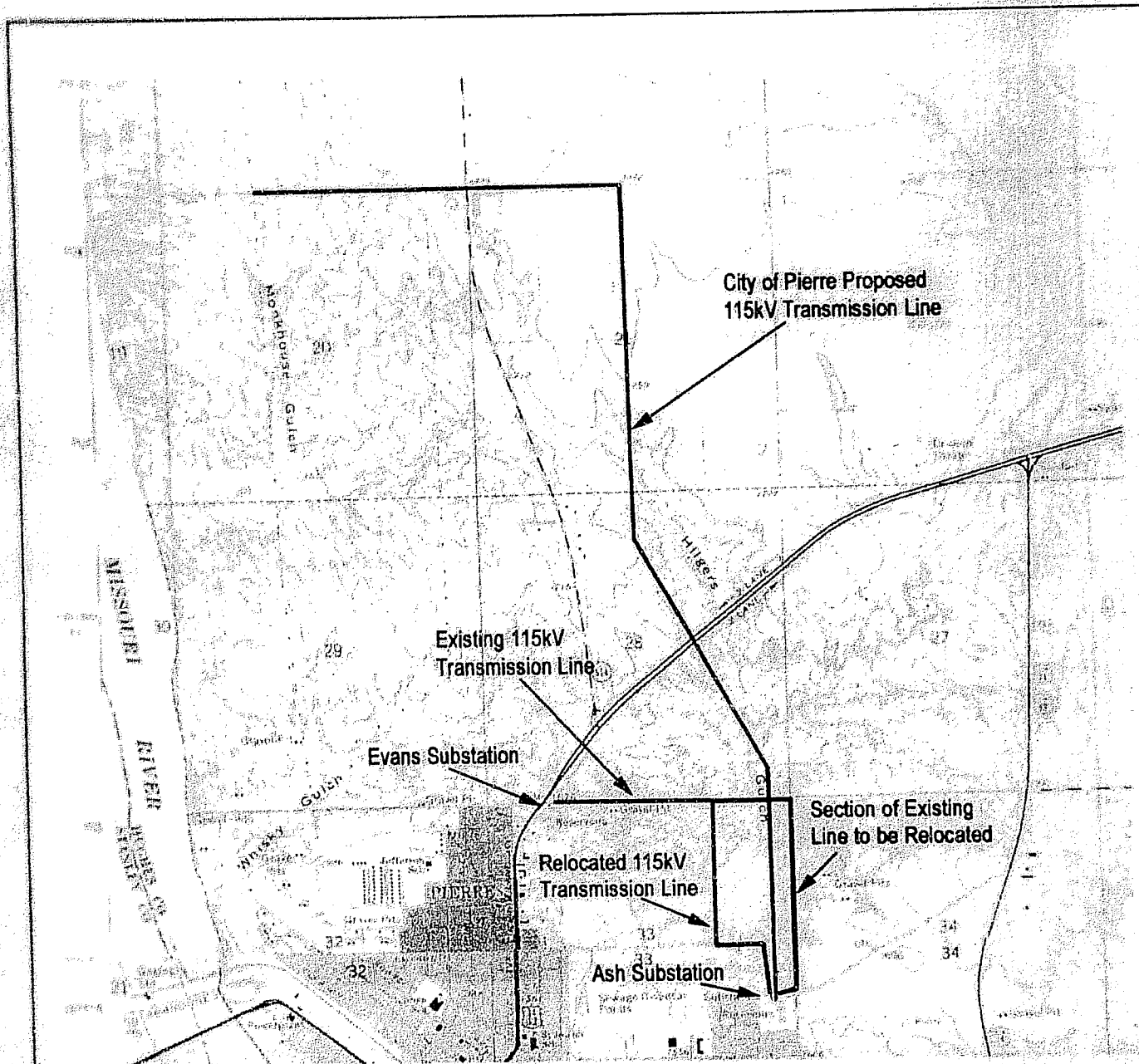


EXHIBIT 1

**City of Pierre:
115kV Transmission Line Project
(Proposed Route & Relocation of Existing Route)**

**POWER
ENGINEERS**
3940 Glenbrook Dr., Hailey, Idaho 83333

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Description of the Proposed Action

The City's proposed project consists of the construction of two short 115kV transmission lines within the municipal boundaries of the City of Pierre and extending into adjacent Hughes County. These two lines include:

1. Construction of a new segment of the City's existing Ash to Evans 115kV transmission line within a new right of way to the west of its existing alignment. Construction of this approximately 0.80-mile segment is required for relocation of the existing line between the Ash Substation and a point west of Hilger's Pond and north of Fourth Street. As part of the proposed action, the City would remove the existing 115kV line between the new tie-in and the Ash Substation. Following conductor and shield wire removal, the wood poles would be removed and properly disposed of. The locations of the new Ash to Evans segment and of the existing Ash to Evans 115kV transmission line right of way are shown in Exhibit 1.
2. Construction of a new 115kV transmission line between the City's Ash Substation and Western's Oahe-Pierre transmission line. This line will be constructed in a new right of way approximately 4.03 miles in length. It will be sited along existing road and utility rights of way, property boundaries and across undeveloped agricultural lands. All terminal facilities would be constructed within the existing Ash Substation property. Tie-in with Western's Oahe-Pierre transmission line will be via a pole-mounted, three-way switch structure. As a result, no additional land will be required for terminal facilities. The location of the proposed Ash to Oahe-Pierre transmission line is shown in Exhibit 1.

2.2 Alternatives to the Proposed Action

The City identified the proposed right of way as a result of an alternative corridor study that evaluated eight alternative right of way alignments in addition to the No-Action alternative. These alternatives differed primarily in their locations and, as a result, in length, land use, resource issues, ownership characteristics and costs. Each of these alternatives was screened against nine distinct evaluation criteria, including length, access, number of permits required, visual impact, degree of co-location with other linear facilities, ability to meet the City's project objectives, number of properties crossed, reliability and total project cost. Additional factors were applied to fine-tune the screening results, including number of residences adjacent to each alternative, wetlands and other potentially sensitive habitats. Individual weighting factors were assigned to each of these criteria to standardize their relative degree of importance. Corridor alternative rankings were based on the sum total of each alternative's weighted score.

The results of the City's alternative corridor study showed that one of eight alternative routes best addressed the City's needs and objectives while minimizing environmental and land-use impacts. The combined score of its evaluation criteria ratings made the proposed alternative the highest ranked route. Although not the shortest route, its reliability and cost ratings ranked higher while generally being comparable with the other alternatives in terms of other impacts. A copy of the City's corridor siting study is attached as Appendix G

The short corridor required for the relocation of the southern segment of the existing Ash to Evans 115kV transmission line was identified on the basis of a review of aerial photographs and field investigations. Its final alignment was selected on the basis of the location of existing residential areas, review of existing and future land-use patterns and evaluation of environmental factors such as wetlands, steep slopes and soils unsuitable for future development between the Ash Substation and Fourth Street. This evaluation resulted in a direct north-south alignment of the relocated portion between the Ash Substation and the new tie-in with the existing line north of Fourth Street.

The No-Action alternative was not judged acceptable to the City since it would not alleviate the potential for outages and interruption of electric service.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

Existing baseline conditions of the Ash to Oahe-Pierre project area (including the areas for the Ash to Evans rebuild) are described in this section. Environmental components addressed in this section of the Environmental Assessment include physical, biological, and social and cultural resources that occur in the project area and that could potentially be affected by the proposed project. However, the area of influence for the project varies from resource to resource. For example, project effects on vegetation and wildlife habitat would be confined to the immediate construction and laydown areas. In fact, due to the characteristics of the existing vegetation communities, the vegetation and habitats within the right of way will remain unchanged after the initial construction impacts. In contrast, other resources such as viewsheds may be affected on a more regional basis.

The level of detail of the baseline resource description and particularly the level of the corresponding impact assessment in following sections reflects the presence, and potential sensitivity, of local resources. Resources not affected by the proposed project (such as climate and air quality), or issues not identified by the public or regulatory agencies during the initial scoping process, have not been addressed in detail.

The City has considered the potential impact of the proposed project on environmental and land-use resources throughout the initial feasibility studies, alternative corridor evaluations and final rights of way siting. As a result, the City selected a right of way

alignment that follows primarily existing property boundaries across undeveloped agricultural lands, existing road and utility rights of way. The route avoids intrusion into developed residential areas. In fact, the removal of the southern segment of the existing Ash to Evans transmission line and construction of the new Ash to Oahe-Pierre project will result in significantly improved separation between existing residential developments and the transmission line. Moreover, based on existing slopes, wetlands and soil characteristics between the Ash Substation and Fourth Street, future development in this portion of the project area is expected to be severely limited, though much of this area has been platted and the City's Future Land Use Plan designates this area as residential.

In brief, the principal land use between the Ash Substation and Westerns Oahe-Pierre line is agricultural croplands, rangeland and pasture. As a result, the City has successfully identified a transmission line corridor and right of way alignments that avoid impacts to potentially sensitive resources such as wetlands, ecologically unique or sensitive habitats, endangered or threatened species, forested lands and cultural and historic resources. Construction, operation and maintenance of the proposed Ash to Oahe-Pierre transmission line is not expected to displace wildlife species, reduce biotic diversity or result in changes to existing vegetation communities. The individual resources of the project area and the projected and potential impacts of the City's proposed project on these resources are described in the following sections.

3.2 Climate and Air Quality

The City of Pierre is located in the west-central part of Hughes County at an elevation of 1,734 feet. Climatic conditions are representative of those of the county. Hughes County experiences large seasonal variations in temperature and occasionally large variations from day to day. Temperature readings have gone above 100 degrees Fahrenheit (°F) in summer and dropped to minus 30°F in winter. Readings reach 100°F or higher on the average of nine times each year, and reach minus 20°F or lower on an average of two times per year. Minimum temperatures of zero degrees or lower can be expected on an average of about 25 times each year (USDA SCS 1975).

The average precipitation at Pierre is 16.49 inches, of which 12.59 inches or 76 percent, falls during the April to September months. Annual precipitation has ranged from 7.82 inches to 29.5 inches (1982). Thundershowers, often accompanied by high winds of 50 miles per hour or more, are the main source of rainfall during the summer months. The seasonal snowfall in Pierre averages 31 inches and has ranged from 13 inches to 82 inches. The relative humidity varies throughout each day, but ranges from 66 to 80 percent during the winter and 45 percent to 84 percent during the summer months.

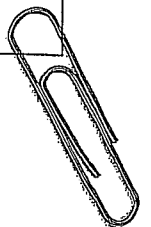
The City of Pierre and adjoining Hughes County is designated as attaining federal and state air quality standards for all criteria pollutants. The project area is designated a Class II area for Prevention of Significant Deterioration (PSD), meaning moderate, well-controlled industrial growth is permitted.

Continuation

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5

of pages



3.3 Soils and Geology

Soils in the City of Pierre and adjoining Hughes County generally fall into one of four different categories. The project area consists of two dominant soil types. The Lowry-Agar association consists of nearly level to gently sloping, well drained silty soils that formed in loess on uplands and out-wash terraces. The Gettys-Betts association consists of rolling to steep, well drained to excessively drained loamy soils that formed in glacial till on uplands. In general, the Gettys-Betts association occurs along the steep to moderately steep slopes between the Ash Substation north to U.S. 14/83 and again west of Highway 1804 along Perch Place. The more level segments of the proposed right of way such as the segment between U.S. 14/83 and Range Road, are located on the Lowry-Agar association. See Appendix I for more detail about project area soils.

The City conducted a series of soil sampling along the proposed right of way to determine engineering characteristics. The materials encountered along the rights of way generally consisted of sand, gravel, cobble and clay soils.

The underlying geological material for the Pierre area includes glacial material and the Pierre Shale Formation. The glacial material belongs to glacial deposits of the Early Wisconsin Drift that overlie the Pierre Shale Formation. Typically, glacial materials consist of non-sorted, non-stratified materials that were deposited by glaciers. This material may consist of variations of gravel, sand, silt or clay. Within the project area, the glacial materials generally consisted of sands, gravels and clays. These materials generally have a brown to olive-brown color. It is also possible that some of the sampled material could be of alluvial origin. The underlying Pierre Shale Formation materials generally consist of dark gray shale that weathered brown and breaks into blocky irregular fragments. The Pierre Shale Formational materials encountered along the right of way exhibited various degrees of weathering. The formation materials often contain bentonite in the partings as beds up to two feet thick. The Pierre Shale Formation materials can potentially have thicknesses on the order of 1 to 2000 feet.

3.4 Water Resources

The surface water resources within the proposed project area consist of small stock watering ponds, ephemeral streams and manmade ditches. No perennial stream or natural surface water bodies occur within or along the proposed right of way. The City's proposed transmission lines would span one small drainage (Hilger's Gulch) that is also currently crossed by the Ash to Evans line. However, the rebuild would result in the removal of the existing Hilger's Pond crossing, since the rebuilt portion of the Ash to Evans line will not cross or adjoin this pond. The City's proposed Ash to Oahe-Pierre transmission line would span the Hilger's Gulch, avoid Hilger's Pond and cross a second small drainage lying parallel and west of Highway 1804 and Perch Place.

Groundwater along the right of way was encountered at depths as shallow as 11 feet below the existing site grades. In the remaining boreholes, groundwater was either not

encountered or it was encountered at deeper depths on the order of more than 27 feet below site grades.

Surface and groundwater drainage in the project area is generally to the west. Practically all of Hughes County drains into the Missouri River or its reservoirs, Lake Oahe and Lake Sharpe. The exceptions are small drainage ways that terminate in small depressions or potholes. Within City's proposed project area, surface water and surficial aquifer drainage is assumed to flow toward Lake Sharpe and the Missouri River.

3.5 Vegetation

The project area is located in west central Hughes County, an area of rolling rangelands, pastures, croplands and developed urban areas. No forests occur in the vicinity of the project, and trees occur either individually throughout the rangeland community, in small hardwood stands along drainages and around homesteads, or in windrows in agricultural areas. The principal tree species recorded in the project area include cottonwood, ash, elm, crabapple, red cedar, Russian olive, mulberry and willows.

The principal vegetation associations in and along the proposed right of way are mid- and short-grass prairie dominated by native grasses. Such prairie associations occur primarily in the undeveloped, non-cultivated area between the Ash Substation and U.S. 14/83 and, to some extent, in the rangeland west of Highway 1804 along Perch Place. Crested wheatgrass, big bluestem, switchgrass, tall prairie grass, rabbit grass, squirreltail grass, porcupine grass and prairie sandrush are the common grasses recorded in the project area. Forbs and shrubs are prevalent on the steep slopes between the Ash Substation and Fourth Street and in rangelands and ruderal areas of the project area. Common shrubs recorded in the project area include Gardener's saltbush, silver sage, service berry, ground maple, Wood's rose, chokecherry orange currant, soapweed, common evening primrose and pale dogwood. Goldenrod, field bindweed, spurge, plains pricklypear, milkweed, coneflower, common sunflower, asters, vetches, pigweed, wooly verbena, wild lettuce, poison ivy, bindweed, thistles, mullein and burdock represent common forb species.

Two narrow wetland zones occur in Hilger's Gulch and the small intermittent drainage west of Highway 1804 and Perch Place. Within the project area, these wetland communities consist primarily of marsh and shrub swamp associations dominated by cattail, willows, cottonwoods, ashes, sedges, marsh muhly, other wetland grasses and rushes.

The remaining segments of the proposed rights of way cross primarily croplands and pastures and ruderal associations along the field edges. These ruderal associations consist predominantly of native grasses, weeds and other forb species and hedgerows.

3.6 Floodplains and Wetlands

The City's project area does not include any perennial streams. Hilger's Pond, located north of Fourth Street, is the dominant surface water feature. Area floodplains are shown in Exhibit 9.2 of Appendix A of the Application. The project will span an intermittent drainage located in Hilger's Gulch, south of Fourth Street, and a second drainage lying parallel to Highway 1804 at Perch Place.

3.7 Wildlife and Wildlife Habitat

The wildlife diversity within the City's proposed project area reflect the rangeland-pasture-cropland habitats that cover most of the proposed rights of way and adjoining areas. As such, the wildlife composition consists primarily of species adapted to urban and grassland habitats. Resident wildlife species recorded in the proposed right of way and adjoining areas include: mammals (such as mule deer, white tail deer, coyote, cottontail, red fox, badger, striped skunk, squirrel and a variety of rodents); birds (such as ring-neck pheasant, great-horned owl, Buteo hawks, kestrel, turkey vulture, western flycatcher, loggerhead shrike, mourning dove, common crow, bluejay, mockingbird, flicker, downy woodpecker, cardinal, western meadowlark, dark-eyed junco, American robin and several species of buntings and sparrows); and reptiles (such as prairie rattle snake, smooth green snake, red-sided garter snake and pale milk snake).

The City's proposed project area does not include ecologically unique or sensitive habitats or important wildlife habitats such as forests or marshlands. However, muskrats and several species of ducks, pied-billed grebe and gallinules were observed at Hilger's Pond.

3.8 Threatened or Endangered Species

No threatened or endangered species of animal or plant are expected to occur in the City's proposed project area. No such species were recorded during a series of corridor surveys, and no such species are expected to occur based on the existing habitat types and land-use patterns. The USFWS and South Dakota Department of Game, Fish and Parks also conducted a review of their databases for any occurrences of rare, threatened or endangered species and concluded that there are no records of such species in the project area. The Missouri River is located approximately six tenths of a mile west of the northern-most end of the Ash to Oahe Pierre line route. The river environment supports nesting and foraging habitat for the American Eagle; however, because of unsuitable habitat in the project area, it is unlikely that this species would frequent the area of the line route.

3.9 Land Uses and Land Use Plans

Existing land uses in the project area consist primarily of undeveloped lands and agricultural. Single-family residential developments occur in the vicinity of the Ash Substation, with non-agricultural rural residential and some limited recreational in the Hughes County portion of the project (e.g., the firing ranges and Oahe Rodeo Arena along Range Road). No public or institutional uses such as schools, religious uses or hospitals, occur in the project area. Existing land uses in the project area are shown in Exhibits 5.1 through 5.10 of Appendix A.

The City's proposal is consistent with the existing City of Pierre and Hughes County land use plans. Within city limits, the proposed Ash to Evans and Ash to Oahe-Pierre right of way segments are located on lands classified as undeveloped. Within the county, the Ash to Oahe-Pierre right of way crosses lands classified as agricultural or follows existing road and utility right of ways.

3.10 Recreation and Wilderness Resources

No designated recreation or wilderness areas occur within the project area. The Oahe Rodeo Arena is to the north of the project near the Highway 1804 and Range Road intersection. Several firing ranges are north of the project along Range Road. Hilger's Pond is used once a year for a children's fishing tournament. Other recreational opportunities involve recreational driving, horseback riding, hunting and dirt biking. These are currently in the low-use category.

3.11 Visual Resources

No portion of the project area falls under a Visual Management System that would provide criteria for identification and classification of scenic quality and quality objectives for alteration of such visual resources. The landscape in the project area consists primarily of steep to moderately rolling rangeland, pastures and croplands. Existing manmade structural features include several major roadways, tall steel light poles along Fourth Street, and existing 115 and 69kV transmission and smaller distribution facilities. Large water tanks and, to a lesser degree, the Ash Substation dominate the view from North Harrison Avenue.

Residential developments occur in the vicinity of the Ash Substation along Cherry Drive, Hilger's Drive and Plum Drive to the east; along North Harrison Avenue to the south and along Monroe Avenue and its cul-de-sacs to the west of the substation. Another residential development is in the Grandview Subdivision off Saunders Drive near U.S. 14/83. The proposed right of way is also visible from a number of residences along Highway 1804, from two residences along Duluth Avenue. The new line would also be visible from three residences along Perch Place. Development has begun on the new

Green Grass Ridge, a rural residential development located northeast of the proposed project north of Range Road.

The proposed transmission facilities, as well as the City's Ash Substation, will not be visible from the South Dakota Cultural Center along Church Street to the east or from Hilger's Gulch Park located between the Capitol and Church Street.

3.12 Noise

Existing ambient noise levels along most of the City's proposed right of way are generally low due to the surrounding undeveloped and agricultural land uses. Elevated noise levels occur due to traffic in the vicinity of roadways such as North Harrison Avenue, Fourth Street, U.S. 14/83 and Highway 1804. Elevated noise levels were also recorded along Range Road as a result of Green Grass Ridge construction traffic.

3.13 Socioeconomics and Transportation

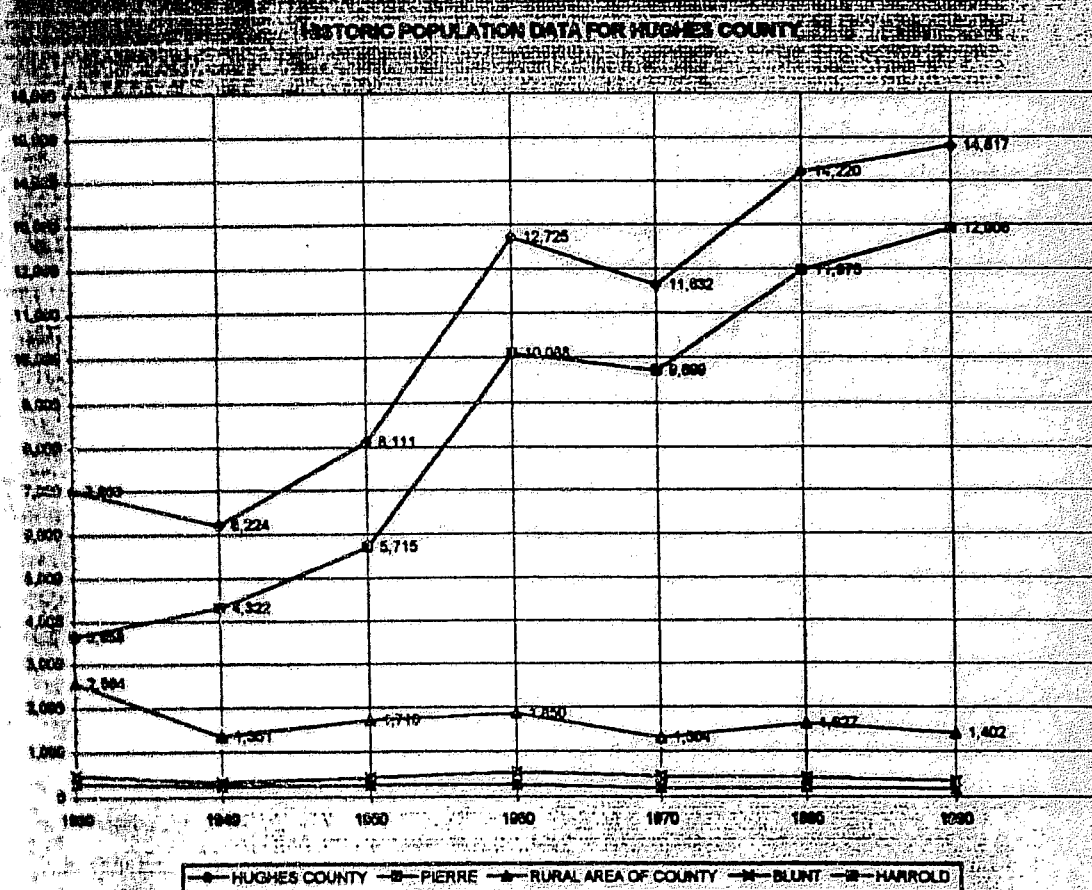
In 1990, the State of South Dakota had a population of 696,004, a one-percent increase over the 1980 population count. The corresponding and historical changes in the population of the City of Pierre and Hughes County are shown in Table 3.1. Between 1980 and 1990 the population of the City of Pierre increased from 11,973 to 12,906, a 7.8 percent increase. The population of Hughes County increased from 14,220 to 14,817 during this time, a 4.2 percent increase. However, the population in the County's rural areas decreased from 1,627 to 1,402 individuals, a 13.8 percent decrease. This decrease apparently reflects the decline in the number of farms, whereas the overall increase in the County's population is due to the increase in number of rural subdivisions along all roads that provide good access to Pierre. This population trend is expected to continue as shown in Table 3.2.

TABLE 3.1

POPULATION DATA FOR HUGHES COUNTY AND ITS MUNICIPALITIES

HISTORIC POPULATION INFORMATION

POPULATION AREA	1930	1940	1950	1960	1970	1980	1990
HUGHES COUNTY	7,009	8,224	8,111	12,725	11,632	14,220	14,817
PIERRE	3,658	4,322	5,715	10,038	9,899	11,979	12,906
RURAL AREA OF COUNTY	2,864	1,351	1,710	1,850	1,304	1,627	1,402
BLUNT	477	322	423	532	445	424	342
HARROLD	308	228	263	255	184	198	167



1930 - 1990 CENSUS BUREAU DATA

**1984 POPULATION PROJECTIONS
COMPARED WITH
HISTORIC POPULATION INFORMATION**

POPULATION	SOUTH DAKOTA	POPULATION AREA DISTRICT V	CITY OF PIERRE
ACTUAL 1980	690,178	78,071	11,973
ACTUAL 1990	696,004	74,952	12,906
LOW '90 PROJECTION	680,500	75,700	13,098
MED '90 PROJECTION	717,500	82,500	14,212
HIGH '90 PROJECTION	737,500	82,500	14,775
LOW '00 PROJECTION	685,600	73,700	14,330
MED '00 PROJECTION	755,100	85,500	16,870
HIGH '00 PROJECTION	779,800	89,500	18,232

In terms of economics, government, services and wholesale and retail trade account for the majority of the non-agricultural labor force with a combined total of approximately 87 percent. A summary of the City of Pierre's non-agricultural labor force is shown in Table 3.3. According to the City Comprehensive Master Plan, industrial growth is being encouraged in the area as a method of stabilizing population and as a general economic stimulus. Industries currently located in the Pierre area include the Midwest Culvert Company, and Electronic Systems, Inc. In recent years, much attention has been given toward promoting tourism in the area. Hunting and fishing are especially popular.

Aside from the dominance of Pierre and its governmental complex, farming and ranching are the most important sources of economic stimulus and labor sources in the county. The average acreage per farm is 1,526 acres based on the 1992 figure of 390,720 acres of agricultural land and 256 operational farms. The total value of all agricultural products sold in 1992 was \$27,809,000 for Hughes County.

The tax structure in Hughes County is typical of the state. Property taxes are levied to finance the City of Pierre, Hughes County and the public school system. As such, real estate will be taxed on a basis of 88 percent of its assessed value for non-agricultural property, and 87 percent for agricultural land. In 1995, the mil levies for Hughes County were 32.21 for non-agricultural areas and 25.12 for agricultural areas.

With regard to housing, the 1990 census revealed that the average number of persons per household in Hughes County was 2.52. The 1990 census identified 6,255 housing units in Hughes County and 5,390 housing units in the City of Pierre. The average value of the owner-occupied houses was in the \$50,000 to \$99,999 range. The Hughes County housing pattern also reflects an increase in the number of mobile homes, estimated at 982 units in 1990.

With regard to transportation facilities, the City of Pierre, as the state capital and the county seat of Hughes County and the retail-marketing center for a multi-county area, generates a high level of traffic. To further increase traffic levels, U.S. 14/83 and State Highway 34 converge at Pierre at the Missouri River Bridge. As a result of this traffic pressure, the City of Pierre has adopted a street classification system. The major roadways in the project area include Highways 14/83 and 1804, which are classified as Major Street and Corridor Route, respectively. Local roadways in the project area include North Harrison Avenue (Collector Street) and Fourth Street (Local); Range Road and Perch Place are in the county and are classified as secondary county roads. U.S. 14/83 leaving Pierre carries approximately 3,734 cars per day (1997 data). As stated in the 1997 Hughes County Comprehensive Master Plan, a survey of the county's primary roads showed them to be graveled or hard surfaced and in generally good condition. Most secondary county roads like Range Road and Perch Place were graveled and in generally good condition.

TABLE 3.3

<i>Nonfarm Wage and Salary Employment by Industry</i>							
	1990	1991	1992	1993	1994	1995	1996
Total	8,445	8,648	9,053	9,350	10,102	10,018	9,729
Mining/Construction	221	213	262	271	290	264	193
Manufacturing	217	226	253	241	295	230	165
Transportation and Utilities	244	255	258	264	270	260	231
Wholesale and Retail Trade	1,834	1,868	2,040	2,085	2,138	2,206	2,205
Finance, Insurance and Real Estate	312	375	384	418	440	448	439
Services	2,081	2,100	2,191	2,264	2,407	2,446	2,415
Government	3,537	3,612	3,665	3,807	4,262	4,164	4,081

South Dakota Dept. of Labor: SD Availability
Study

Table VII-2 shows average annual pay of wage and salary workers by industry. As shown from the table, government and finance, insurance and real estate are in totals the highest wage earners in Pierre.

Table VII-2
*Average Annual Pay of Wage and
Salary Workers By Industry*
October 1994 - September 1995

Average wage for all trades	\$20,837
Construction	\$18,296
Manufacturing	\$17,506
Transportation and Utilities	\$22,796
Wholesale	\$22,825
Retail Trade	\$10,784
Finance, Insurance and Real Estate	\$27,558
Services	\$16,839
Government	\$27,880

South Dakota Dept. of Labor: SD Availability Study

The Pierre Municipal Airport provides commercial passenger service to the City, along with private commercial operators and freight service providers. The airport is located approximately 8.6 miles east of the proposed project area. With an east-west runway of 6,887 feet and a north-south runway of 6,891 feet, the airport can accommodate all small and moderate size jet aircraft and all propeller-driven aircraft.

3.14 Cultural and Historic Resources

No known cultural or historic resources occur in the proposed project area. However, a project assessment and records review under a Section 106 project consultation by the South Dakota Historical Society indicates that "the proposed project is located in an area with a moderate to high sensitivity for locating unrecorded archaeological sites." This determination was made on previous surveys that have located sites on similar terrain.

In response, the City contracted with a licensed archeologist to conduct a pedestrian survey of the proposed right of way. That survey was completed in early November 1999. The methodology and findings of that survey are described in Appendix F.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

The environmental and land use impacts or consequences of the Proposed Action are discussed in this section. The corresponding impacts of the alternatives, including the No Action alternative, are summarized in Section 5.0. The impacts discussed in these sections are based on the project description provided in Section 2.0 and on the baseline resource information presented in Section 3.0. The analysis of potential and anticipated impacts is based on the premise that all standard right of way clearing, construction and operating procedures and other City requirements will be followed in implementing the Proposed Alternative. Any additional assumptions used in evaluating impacts are included in this section.

4.2 Climate and Air Quality

Local climatological conditions will not be affected by the construction, operation or maintenance of the City's proposed project, regardless of which action or right of way alternative is selected. No significant or long-term impacts to air quality will occur as a result of this project. A small amount of dust may be generated for short durations and locally from construction activities during dry periods. It should be noted that construction at any one structure location will last only approximately five non-consecutive days. Along unpaved roadways like Range Road and Perch Place, the proposed project impact would be small when compared to dust created by normal traffic, particularly the Green Grass Ridge construction traffic along Range Road. The project

would not result in violations of federal and state air quality standards and, if deemed a problem by the public, dust generation would be suppressed by dust suppression methods such as watering of roadways.

4.3 Soils and Geology

Some steep slopes occur along the right of way segment between the Ash Substation and Fourth Street. The potential for soil erosion and sedimentation of down-gradient wetlands and drainages, will be restricted to the tower sites since vegetation within the remaining rights of way areas will not be cleared. Erosion at the structure locations will be controlled through implementation of a county-approved Soil Erosion and Sediment Control Plan until the vegetation has been re-established naturally or through seeding. No vegetation clearing will occur in floodplains, drainages or associated wetland areas. No prime farmlands are crossed by the proposed transmission facilities.

In terms of geological resources, the City's project crosses areas of glacial material and the Pierre Shale Formation. Within the project area the glacial materials generally consist of sands, silt and clay. Given the depth of the pole setting, this material will provide adequate foundation for transmission line structures.

4.4 Water Resources

The City's proposed transmission project will cross one intermittent drainage between the Ash Substation and Fourth Street, and the Ash to Oahe-Pierre transmission line will cross a second intermittent drainage west of Highway 1804. Structures will not be placed within or in the immediate vicinity of these drainages, dry gulches or stock watering ponds. These seasonal water resources will be spanned by the transmission line. Two crossings of the upper reaches of Hilger's Gulch will be required for construction and maintenance. There will not be a road associated with these crossings. No adverse impacts due to construction or operation are expected. (See Chapter 20, Section 3 "Water Resources" of the PUC Application.) As stated in Section 4.5, vegetation clearing will be restricted to the immediate structure location, and all upgradient construction will be governed by a county-approved Soil Erosion and Sediment Control Plan. All areas of the proposed right of way are accessible to construction traffic from established roads and highways, and will not require crossing of these drainages.

The relocation of the southern segment of the existing Ash to Evans transmission line to an alignment located to the west of the current location will, in fact, reduce existing impacts on Hilger's Pond. The existing Ash to Evans transmission structures in the vicinity of the pond and the conductors and shield wires currently crossing the upper reaches of this pond will be removed. The rebuilt segment of this transmission line will be located approximately 1000 feet west of Hilger's Pond.

The construction, operation or maintenance of this project will not impact groundwater resources. No excavation or dewatering hydrological features will be required.

4.5 Vegetation

The City's proposed transmission project crosses rangeland, small areas of prairie community, pastures and croplands. No upland forest or forested wetlands or other ecologically unique or sensitive communities, occur in or along the right of way. As a result, impacts associated with the construction and maintenance of the City's proposed transmission project on vegetation resources will be minor and insignificant.

Impact to the vegetation is limited to access trails for construction equipment and to approximately 100- by 100-foot areas at each pole location. Impacts within these areas may result from equipment delivery, structure assembly, and erection and stringing of conductors and shield wires. Actual clearing of vegetation will only be required for setting of the poles, and will be restricted to approximately 30-foot by 30-foot areas. No clearing will be required for access roads, laydown areas or within the remaining areas of the right of way due to the low vegetative growth of native and planted vegetation communities.

Due to the low growth of the native vegetation and presence of pastures and croplands, no herbicides will be required for right of way maintenance.

4.6 Floodplains and Wetlands

The City's proposed transmission lines will not cross any designated floodplains. As a result, construction and operation of the transmission lines will not be affected by flooding, nor would the project alter the hydrologic characteristics and storage potential of local floodplains.

The proposed transmission project will cross two small wetland areas. Both lines will cross a narrow zone of jurisdictional wetlands located east of Fourth Street along the intermittent Hilger's Gulch drainage. These wetlands are currently crossed by the existing Ash to Evans transmission line. The Ash to Oahe-Pierre transmission line will also cross a narrow zone of jurisdictional wetlands along a small, intermittent drainage west of Highway 1804.

Jurisdictional wetland areas within the right of way will be spanned, and no transmission line structures will be placed within the wetlands or their buffer areas. Construction and operation of the transmission project will require crossing two small jurisdictional wetlands in the upper reaches of Hilger's Gulch. These crossings, each approximately one hundred feet long, will be designed to mitigate impacts to the wetland environments. That design will include sloping the banks of the gulch, and the placement of geo-textile matting and/or rock to stabilize the banks and bed of the gulch. All upgradient

construction areas will be surrounded by silt fences and staked hay bales, as appropriate, to avoid secondary wetland impacts due to siltation or sedimentation. As a result, little, if any, impacts to wetlands are anticipated as a result of this project.

4.7 Wildlife and Wildlife Habitat

The City's proposed project would be constructed on undeveloped rangeland in urban and rural areas, across pastures and croplands and along existing rights of way. Due to the low growth of the native vegetation, no deforestation will be required and vegetation clearing will be restricted to small areas at each pole location. As a result, the project will cause only an insignificant loss of locally common rangeland and pasture habitat, and is not expected to change wildlife composition or abundance. No permanent service roads or access will be required that would result in additional vegetation impacts and unauthorized access.

The City's project area supports no ecologically unique or sensitive habitats such as critical area for endangered or listed species or riverine or lacustrine habitats for fishery resources or migratory waterfowl. In fact, the rebuild of the southern segment of the existing Ash to Evans transmission line will allow removal of existing conductors and shield wires across Hilger's Pond. This will eliminate the current collision hazard to waterfowl attracted to this pond. With regard to the potential for avian mortality as a result of electrocution or collision with conductors or shield wires, no such impacts are expected. The shield wires and conductors are spaced sufficiently to prevent "flash-over" and electrocution of even large birds like raptors. Siting the project away from the Missouri River basin will minimize the potential for avian collisions. The proposed transmission project will not cross or encroach into important migratory corridors or waterfowl concentration areas such as the Missouri River and Lake Sharpe.

4.8 Threatened or Endangered Species

No threatened or endangered plant or animal species are known to occur in or along the proposed rights of way, and no such species were recorded during a series of biological surveys of the project area. No listed species are expected to occur based on the existing habitat types and land use patterns. No Critical Habitat for listed species occurs in the vicinity of City's project area.

4.9 Land Uses and Land Use Plans

Construction, operation and maintenance of the proposed transmission project would not adversely impact existing land uses. Livestock grazing and agricultural activities would continue along current trends and practices. The proposed westward shift of the southern segment of the Ash to Evans transmission line would occur on undeveloped, steep slopes and span wetlands between the Ash Substation and Fourth Street and rangeland on the

west side of Fourth Street. The Ash to Oahe-Pierre transmission line avoids impacts to existing land uses by following existing rights of way, section lines and property boundaries to the greatest extent feasible. The middle portion of this line, located near croplands between U.S. 14/83 and Range Road, avoids impacts to agricultural operations by following along field edges. All right of way access and transmission line construction would be in accordance with all applicable city and county land use regulations and as requested by individual landowners.

The proposed transmission line is an allowable use in those areas of the city and county crossed by the proposed right of way alignments. Within the city limits, the proposed Ash to Evans and Ash to Oahe-Pierre right of ways are located on lands classified as undeveloped. Within the county, the proposed Ash to Oahe-Pierre right of way crosses lands classified as agricultural or follows existing utility or road right of ways.

4.10 Recreation and Wilderness Resources

No designated recreation or wilderness resources occur within the project area. The proposed project will not encroach on the Oahe Rodeo Arena or firing ranges located to the north of the proposed right of way along Range Road. The proposed line would not be visible from recreational areas such as Hilger's Gulch Park or Lake Sharpe.

A positive impact resulting from the City's proposed project is the removal of the existing Hilger's Pond transmission line crossing. Hilger's Pond serves as the recreation site for an annual children's fishing tournament. Relocation of the Ash to Evans west of the pond will remove any potential interference of this transmission facility with the recreational use of Hilger's Pond.

4.11 Visual Resources

The City's project area extends across steep to moderately rolling undeveloped urban lands, rangeland, pastures and croplands. The project area does not support any unique viewsheds or designated scenic areas such as Lake Sharpe, the South Dakota Cultural Heritage Center or Hilger's Gulch Park. Lake Sharpe is to the west of the project area and is not visible from the proposed rights of way. The Cultural Center along Governor's Drive is oriented to the west, and has no visual exposure to the proposed project. The visual "berm" created by Governor's Drive, as well as its distance from the proposed right of way, prevent potential visual intrusion of the proposed project to pedestrians and recreational park users in Hilger's Gulch Park. The proposed Ash to Oahe-Pierre line would create a second transmission line crossing of Fourth Street. However, because of the steep terrain in the vicinity of the new crossing, sky-lining of structures is avoided, and the visual duration of the crossing experienced by street traffic would be for a short distance only.

Between the Ash Substation and Fourth Street, the City's proposed project would be visible from a number of residences located along North Harrison Avenue, Cherry Drive, Plum Drive, Hilger's Drive, North Monroe Avenue and North Madison Avenue. The Ash Substation and/or the existing Ash to Evans transmission line are currently visible from all of these residences. The relocation of the existing Ash to Evans transmission line, and construction of the new Ash to Oahe-Pierre transmission line to the west of the existing transmission line alignment, will result in a significantly improved separation of the transmission facilities and a number of residences along Cherry and Plum Drive and North Harrison Avenue. Currently, the Ash to Evans 115kV transmission line follows the ridgeline immediately behind six residences along North Harrison Avenue and Cherry Drive.

In terms of potential visual impacts, the City's proposed Ash to Oahe-Pierre transmission line represents a new feature across the rolling rangelands between Fourth Street and Range Road. The proposed transmission line would be visible from three residences in the Grandview Subdivision off Saunder's Drive and U.S. 14/83, from two residences along Duluth Avenue north of U.S. 14/83 and from seven residences located to the west along Highway 1804. However, the visual impact of the proposed transmission line is minimized due to the distance from these residences, siting of the right of way below existing ridges and visual buffers such as a wooded ridge and wide swales between several residences along Highway 1804 and the proposed right of way.

Land uses along Range Road include the new Green Grass Ridge Subdivision currently under development to the northeast of the proposed right of way, the South Dakota National Guard Live Fire Range to the west of Green Grass Ridge, a second rifle range, the Oahe Arena and one residence in the corner of Range Road and Highway 1804. The potential visual impacts of the proposed project to these existing features are mitigated by existing hedgerows and windscreens and collocation of the project with the existing Oahe Cooperative Inc.'s 13.8kV distribution line and East River Power Electric Cooperative Inc.'s 69kV transmission line.

One farm complex and one residence are the only developments along the line route on Perch Place. Visual impacts to the farm complex, and one residence west of the tap point are mitigated through collocation of the City's project with existing overhead electric lines. However, the project represents a new impact to a single residence located south of Perch Place.

4.12 Noise

Noise associated with construction of the proposed facilities and removal of the southern segment of the Ash to Evans transmission line will be intermittent and short term. Although the project construction period is 4-6 months, construction activities at each pole location occur for only 5-6 non-consecutive days. All construction noise levels will conform to local noise ordinances. Following construction, the energized transmission line may emit audible noise during specific atmospheric conditions. Audible noise may

include a low hum and a random crackling or hissing sound as a result of the corona effect, which is common for any transmission line during rain or high humidity periods. Based on the distance of local residences from the proposed transmission line alignments, the proposed project is not expected to have audible noise impacts.

4.13 Socioeconomics and Transportation

No local or regional population changes are anticipated due to the construction of this proposed transmission line project. The City's contractor will provide a construction work force of 15-20 individuals, hired both locally and outside the county. Construction is proposed to occur during the fall of 2000. Adverse impacts to the local services and economy are not anticipated. Employment characteristics of the city and county would not significantly change. No significant amount of secondary employment or population growth is expected as a result of this temporary and short-term construction project.

The local economy would benefit in the short term from local expenditures by construction personnel and the City. Obtaining the required easements from the landowners would result in payments to individuals granting such easements. The major impact of this project, however, would be a positive one. Construction of the proposed project would allow the City to provide reliable electric service and increased capacity to provide such service, for this fast-growing part of the city and county.

No impacts are expected to the transportation system of the city and county. Short-term impacts may include minor traffic delays due to the stringing of wires across roadways. Any such short-term roadway closings would be clearly marked and detour routes provided as necessary.

4.14 Cultural and Historic Resources

No known cultural or historic resources occur in the proposed right of way. However, if construction activities reveal any such resource, construction activity would be halted at that location and appropriate consultation with a qualified specialist would be made and appropriate mitigation measures employed.

5.0 ALTERNATIVES TO THE PROPOSED ACTION

5.1 Introduction

In its attempt to determine the most feasible route for the proposed new transmission lines, the City of Pierre conducted an Alternative Corridor Siting Study (Appendix G). That study identified eight alternative transmission line alignments, some of which share common segments. The No Action alternative was not considered within the context of

this alternative corridor study. The alignments studied included alternatives for both the Ash to Evans line rebuild and the Ash to Oahe-Pierre line. Alternatives were analyzed using a set of evaluation criteria that incorporated elements of the natural and human environments, as well as cost and technical criteria. The full study is incorporated into this report as Appendix G.

The City's proposed action was selected as the most feasible alternative for meeting its current and future requirements to provide reliable electric power at sufficient capacities to its customers in this fast-growing area of Pierre and surrounding Hughes County. These objectives would not be met under the No Action alternative. In fact, a number of benefits would not be realized. Such benefits would include, among others, the increased spatial separation between the City's 115kV transmission line and a number of residences, and removal of the transmission line crossing of Hilger's Pond.

Under the No Action alternative, the proposed transmission facilities would not be built. The existing Ash to Evans 115kV transmission line would serve as the sole feed for this important substation, with poles and structure components being replaced as necessary. The City would not be able to achieve its responsibilities to its customers. The primary advantage for this alternative is that no new expenditures would be made and no new right of way would be acquired.

As shown in Section 4.0, the anticipated impacts of the proposed action to the environmental, land use and cultural resources of the project area are short term and minor. This was expected since the proposed action and right of way alignments were selected to minimize or avoid such impacts to the greatest extent feasible while achieving the City's project objectives. As a result, the corresponding impacts under other alternatives are either generally comparable to the proposed action or more significant. The principal differences between the City's proposed action and other right of way alternatives are discussed in the following sections.

5.2 Climate and Air Quality

Potential impacts to climate and air quality from construction and operation of the transmission facilities under the alternative actions would be the same as those described in Section 4.0.

5.3 Soils and Geology

Potential impacts to soils and geology from construction and operation of the transmission facilities under the alternative actions would be the same or higher as those described in Section 4.0. In particular, impacts to soils under the four underground alternatives, which would require open trenching, sidecasting of the overburden and backfilling with clean fill, would result in higher impacts than the proposed action.

5.4 Water Resources

Potential impacts to water resources under alternative right of way alignments are comparable or higher than the proposed action. The proposed action will avoid impacts to water resources and, in fact, result in the removal of an existing water crossing. Due to the absence of major or natural water resources in the project area, impacts under other alternatives are generally comparable.

5.5 Vegetation

Potential impacts to vegetation resources under alternative right of way alignments are comparable or somewhat lower than the proposed action. As a result of shorter lengths, a number of alternatives would require fewer structures and, thus, reduced vegetation clearing for pole installation. However, the vegetation cover throughout the project area consists of common species and locally common plant associations. Vegetation impacts associated with the four underground alternatives would be higher as a result of open trenching and destruction of the associated vegetation cover.

5.6 Floodplains and Wetlands

Potential impacts to floodplain and wetlands from construction and operation of the transmission facilities under the alternative actions would be the same or higher as those described in Section 4.0. All alternatives would cross wetlands along the narrow intermittent drainage on the east side of Fourth Street, and all Ash to Oahe-Pierre alternatives would cross the wetlands along the narrow intermittent drainage west of Highway 1804. However, four of the eight alternatives included underground installation of the transmission line between the Ash Substation and Fourth Street. This installation would require dredging and filling in jurisdictional wetlands, with potential for adverse water quality impacts to downstream water bodies.

5.7 Wildlife and Wildlife Habitat

Potential impacts to wildlife and wildlife habitat from construction and operation of the transmission facilities under the alternative actions would be the same as described in Section 4.0.

5.8 Threatened and Endangered Species

Potential impacts to threatened and endangered species from construction and operation of the transmission facilities under the alternative actions would be the same as described in Section 4.0.

5.9 Land Uses and Land Use Plans

Potential impacts to land users and land use plans from construction and operation of the transmission facilities under the alternative actions would be comparable or higher than the proposed action. Although four (4) of the alternatives included underground sections, installation of these underground facilities would require extensive open trenching during initial installation and open trenching during subsequent maintenance and repairs. One of the alternatives (Alternative 3) passed through a parcel of land that had been set aside for development of a high school complex. Schools are considered an exclusion area for transmission line siting.

5.10 Recreation and Wilderness Resources

Potential impacts to recreation and wilderness resources from construction and operation of the transmission facilities under the alternative actions would be the same as described in Section 4.0.

5.11 Visual Resources

Four of the eight alternatives considered in the Siting Study included underground segments for the rebuilt Ash to Evans transmission line segment between the Ash Substation and Fourth Street. As a result, visual impacts under these alternatives, for the Ash to Evans project, would be lower than for the proposed action.

5.12 Noise

Four of the eight alternatives considered in the Siting Study included underground installation. Buried segments of these alternatives would not emit audible noise. However, based on the distances from existing residences audible noise is not anticipated to be a noticeable impact under any alternative.

5.13 Socioeconomics and Transportation

Potential impacts to the socioeconomic resources of the City of Pierre and Hughes County from construction and operation of the transmission facilities under the alternative actions would be the same as described in Section 4.0. Impacts to the local transportation facilities would be higher and longer term for the four underground options as a result of heavy equipment operation and increased truck traffic for disposal of spoil and delivery of fill.

5.14 Cultural and Historic Resources

Potential impacts to the cultural and historic resources from construction and operation of the transmission facilities under the alternative actions would be greater for the four underground alternatives as a result of increased ground disturbance and as described in Section 4.0 for the remaining alternatives.

6.0 MITIGATION MEASURES

Right of way surveying and staking, vegetation clearing, construction, operation and maintenance of the proposed right of way and transmission facilities will comply with all applicable state and local regulations and permit requirements. However, the City and its contractors will employ the following mitigation measures to avoid, minimize or offset any potential impacts:

- At a minimum, the project electrical design will conform to the National Electrical Safety Code.
- All right of way access will be from the nearest existing public roadway and will avoid or minimize intrusion into offsite areas. Access to the right of way may also be as stipulated in the individual easement agreements.
- Vegetation clearing will be kept to a minimum, and vegetation will be retained within the right of way to the extent possible.
- During construction and restoration, the regrowth of the native vegetation will be allowed in disturbed areas of the right of way. Noxious weeds (e.g., knapweed, thistles) will be controlled by the City in compliance with the Hughes County Weed Control District.
- No burning of materials or vegetation will be allowed onsite. All wastes will be disposed of at an approved landfill site.
- No permanent access roads will be installed without securing an agreement from the appropriate landowner. Access to each structure is available via cross-country means. All gates and fences will be maintained in as good or better condition as that in which it was found prior to construction. All gates will be closed upon entry or exit, unless otherwise specified by the landowner.
- All construction will be governed by a county-approved Soil Erosion and Sediment Control Plan.
- All construction activities will occur during normal daylight working hours and meet all local noise codes.
- Fueling and lubrication of construction vehicles will be conducted only in pre-approved locations.
- If ruts from construction vehicles exceed six inches, construction will cease in that area until the soil has dried sufficiently so as to alleviate such rutting. If rutting cannot be controlled due to excessive and prolonged wet conditions, re-grading and restoration of rutted areas will be done following line construction.

- Construction-related damages to crops, livestock, commodity or other property will result in compensation to the landowner according to the then current market value of said commodity or property.
- Construction vehicles will not enter live streams or other water bodies or wetlands.
- Construction vehicles will not exceed the posted weight limit of bridges.
- Construction along or across roads and highways will incorporate an appropriate traffic control plan in accordance with the Manual of Uniform Traffic Control Devices.

7.0 ELECTRICAL EFFECTS

The State of South Dakota has not established electric and magnetic field (EMF) strength guidelines for the design and construction of overhead transmission lines. However, the City will design and construct the proposed project consistent with the standards adopted by other states and within the recommended limits for general public continuous exposure published as guidelines by the International Radiation Protection Association.

These standards apply to the maximum field strength that is predicted by an established computer simulation model prescribed by this standard under all operating conditions except emergency load conditions. Under typical load conditions the actual magnetic field strength will be only a fraction of these standards that are to be met at the line's maximum current rating.

The strength of the magnetic field under a transmission line is primarily a function of the amount of current carried by the line and the height of the conductors above ground. The electric field is primarily a function of the voltage impressed on the line and conductor height above ground. Consequently, electric and magnetic fields vary along the right of way.

The City has conducted computer prediction studies using the minimum ground clearance required by the National Electric Safety Code (NESC), as well as a voltage level ten percent above nominal and a current flow equal to the normal winter conductor rating. These are the worst-case conditions since actual line clearances will generally exceed NESC minimums and typical line currents are well below the normal winter rating. However, if the City's facility can meet these standards under these conservative conditions, it will meet them under more typical design and operating conditions.

The results of these modeling studies show that the proposed Ash to Evans rebuild and the new Ash to Oahe-Pierre 115kV transmission line design and EMF strength will be well within established EMF standards along all sections.

The City will construct the proposed transmission facilities to meet or exceed all applicable requirements of the NESC for distances to buildings and the ground and for operation of agricultural equipment or other heavy equipment underneath these lines.

Electric charge induction on objects to the proposed line will be minimized by grounding of the system as necessary. No occupied buildings are in the immediate vicinity of the transmission right of way, and fences crossed by the conductors will have little or no noticeable charges induced since they are grounded by metal posts or through contact with vegetation.

8.0 CUMULATIVE IMPACTS AND LONG-TERM EFFECTS

Cumulative impact is defined as "the impact on the environment which results from the incremental impact of the individual components of the proposed action when added to other past, present or reasonably foreseeable future actions. Those cumulative impacts would occur regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 Code of Federal Regulations Part 1508.7).

The cumulative impacts associated with the City's proposed project will be the addition of a new 115kV transmission line to the viewshed of select areas of the City of Pierre and Hughes County. Individual pole placement will result in an associated loss of a relatively small amount of vegetation. The physical presence of the new Ash to Oahe-Pierre facility represents a long-term impact. The potential long-term effects to the environmental and land use resources have been minimized through the mitigation measures discussed in Section 6.0. These long-term effects would continue until the project is no longer needed and the transmission facility is removed. Following removal of the line and abandonment of the right of way, the City will restore the right of way as much as feasible to its original condition. The City will remove the abandoned section of the existing Ash to Evans transmission line following construction and energizing of the rebuilt segment.

In terms of irreversible or irretrievable commitment of resources, the only such potential project impact would be the disturbance of cultural resource sites, which could result in a permanent loss of data and information. However, the City has conducted a thorough cultural resources survey of the proposed right of way and no such irreversible or irretrievable impacts are anticipated.

9.0 LIST OF PREPARERS

Jon Wiese
Frank Rowland
Lynn Askew
Brian Rozyla
Les Hinzman
Todd Chambers
James Haug
Kristin Lambert
Steve Anderson

APPENDIX F

**CULTURAL RESOURCES
ASSESSMENT REPORT**

CC LES HINZMAN
FILE
RUE.

RECEIVED

DEC 10 1999

South Dakota

SOUTH
DAKOTA STATE
HISTORICAL SOCIETY

Department of Education and Cultural Affairs
Office of History

December 3, 1999

BRIAN ROZYLA
POWER ENGINEERS INC
PO BOX 1066
HAILEY ID 83333

Cultural Heritage Center
900 Governors Drive
Pierre, SD 57501-2000
(605) 773-3458 Fax (605) 773-4000
www.state.sd.us/deca/culture

SECTION 106 PROJECT CONSULTATION - IDENTIFICATION/EVALUATION

Project: 981124001F - City of Pierre Overhead Line from Ash Substation to WAPA Tap, Project

Location: Hughes County
(WAPA)

Dear Mr. Rozyla:

Thank you for the opportunity to comment on the above referenced project pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). The South Dakota SHPO Program has made the following determination regarding the likelihood that historic properties (whether recorded, unrecorded or undiscovered) exist within the project area's APE (area of potential effects).

Based on the information provided in the report, "A Cultural Resource Inventory of the Ash Substation to Western Power Administration Tap 115kV Conversion Project, Hughes County, South Dakota," by James K. Haug, received November 29, the State Historic Preservation Officer has made the following consensus determination. In concurrence with the recommendations in the report, the SHPO has determined that site 39HU279 is NOT ELIGIBLE for listing on the National Register of Historic Places (NRHP). Given there are no eligible sites within the surveyed portion of the APE and provided that right-of-way on the Buhl property in section 28 is surveyed prior to construction, the SHPO recommends a determination of will have NO HISTORIC PROPERTIES AFFECTED for this undertaking. Should this project change substantially (i.e., new locations of impacts) from that presented in your letter, our office would like the opportunity to review these changes.

If during the course of any ground disturbance related to this project, any bones, artifacts, foundations, or other indications of past human occupation of the area are uncovered, the project should be temporarily stopped and the State Historic Preservation Officer notified immediately.

Concurrence of the State Historic Preservation Office does not relieve the federal agency official from consulting with other appropriate parties, as described in 36CFR Part 800.2(c).

Should you require any additional information, please do not hesitate to contact Steven Littlefield, Review & Compliance Coordinator, at (605) 773-6004. Your concern for the non-renewable cultural heritage of our state is appreciated.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Steven Littlefield

Steven Littlefield
Review and Compliance Coordinator

Arvilla Consulting

1421 Jupiter Ct.

Rapid City, SD 57701

120522-04

November 22, 1999

INVOICE

Project: cultural resources survey of the Ash substation to Western Area Power
Administration tap 115kV conversion project

Archaeologist	700.00
Meals	45.00
Lodging	32.35
Mileage	142.68
<u>Misc. expenses</u>	<u>18.16</u>
Subtotal	938.19
<u>S.D. sales tax</u>	<u>37.53</u>
Total	975.72

CC US 4 120522-04
File
Rau

Arvilla Consulting**1421 Jupiter Ct****Rapid City, SD 57701**

November 22, 1999

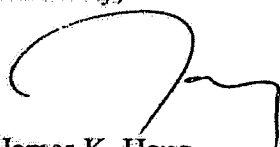
Brian Rozyla, Environmental Specialist
Power Engineers, Inc.
3940 Glenbrook Dr.
PO Box 1066
Hailey, ID 83333

Dear Mr. Rozyla:

Please find enclosed one copy of my report on the cultural resources survey of the Ash Substation to Western Area Power Administration Tap 115kV Conversion Project. I have also submitted review copies to the S.D. State Historic Preservation Office and the S.D. State Archaeological Research Center on your behalf. I was able to cover everything but the Buhl property in Section 28. Once Buhl has signed on the remaining 800 m of right-of-way will need to be completed.

It has been a pleasure working with you. Please let me know if you have questions or require any additional information.

Sincerely,



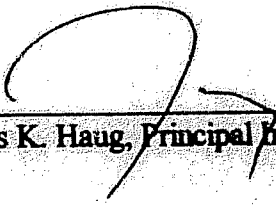
James K. Haug

cc: Steven Littlefield, S.D. State Historical Preservation Office
Pat Hofer, S.D. State Archaeological Research Center

A Cultural Resources Inventory of the Ash Substation to Western Area Power Administration Tap 115kV Conversion Project, Hughes County, South Dakota

by James K. Haug
Arvilla Consulting

November 1999



James K. Haug, Principal Investigator

Prepared for
Power Engineers, Inc.
P.O. Box 1066
Hailey, Idaho 83333
by
Arvilla Consulting
1421 Jupiter Court
Rapid City, S.D.

Abstract

Power Engineers, Inc. is planning to construct a high-power line from the existing Ash substation in Pierre, S.D. to the existing Western Area Power Administration Line north of Pierre. On November 6 and 7, 1999, James Haug of Arvilla Consulting conducted a cultural resource survey of the line. A linear total of 4.23 miles (6.8 km) and an area of 65.9 acres (26.7 ha) were covered. A single site, 39HU279 was discovered. It is a historic structural ruin and an artifact scatter dating to about the middle of the twentieth century. The site does not appear to meet the criteria for inclusion on the National Register of Historic Places.

A Cultural Resources Inventory of the Ash Substation to Western Area Power Administration Tap 115kV Conversion Project, Hughes County, South Dakota

Project Description

Power Engineers, Inc., Hailey Idaho, is planning to construct a power line from the Ash Substation in Pierre, S.D. to the Western Area Power Administration (WAPA) line north of Pierre. Upon review, the State Historic Preservation Office required that a cultural resources survey be conducted of the project area prior to permitting construction. Power Engineers contracted Arvilla Consulting to conduct the work.

The power line runs in two routes. The shorter, designated Line 2, runs from the Ash Substation in northeastern Pierre north, west, and again north to the northern edge of Section 33, T111N, R79W. Line 1 also begins at the Ash Substation. It runs straight north through Section 33, into Section 28, then northwest across U.S. Highway 14 to the half-section line, north along that through Section 21, then west along the southern margins of Sections 16 and 17 (all in T111N, R79W) to the existing WAPA power line (Figures 1 and 2). The combined lines entail a total of 4.8 miles (7.7 km) of construction.

Setting

The project area is located in the Bad-Cheyenne Archaeological Study Unit. It runs up Hilgers Gulch—a deep intermittent drainage running south into the Missouri River, the upper reaches of the Missouri Breaks—to the upland prairie and then down into the Missouri Breaks above Monkhouse Gulch. Hilgers Gulch is dominated by a mixed grass environment and intermittent wetlands along the drainage bottom. The Breaks area of the project is also mixed grass. The upland prairie was originally mixed grass but is now either under cultivation or has been developed.

Previous Investigations

A record search at the State Archaeological Research Center revealed that three previous surveys have been conducted within one mile of the current project. These include two DOT small road projects (Wardlow 1990 and Byre 1994) and the Mid-Dakota Rural Water System (Kordecki and Toom 1998). No sites were recorded in the project area on any of these surveys. Additionally, pioneer field researcher T.H. Lewis (1884) recorded a village and a mound site, located in Section 32, T111N, R79W and Section 4, T110N, R79W, respectively. Both have presumably been destroyed by urban development in Pierre.

Methods and Results

The field work portion of the project took place on November 6 and 7, 1999. Personnel consisted of Principal Investigator James K. Haug. Despite such a late date in the season, conditions were excellent. The weather was warm and dry and the low sun angles did not affect the work. Ground surface visibility varied from 5 to 10 percent. Numerous rodent burrows, eroded patches, and cuts aided the surface inspection.

Power Engineers requested that a corridor 75 feet (about 23 m) wide on each side of the project centerline be inventoried. This was done with a single sinuous transect on each side of the centerline. The terrain was carefully inspected, taking advantage of all areas of exposed soil, gullies, anthills, and animal burrows. Numerous glacial erratics were examined for traces of rock art. In the northern area where the centerline follows next to the road, only a single transect was necessary to cover the 75-foot construction zone. A total of 15,980 feet (4872 m) of 150-foot wide corridor and 6,300 feet (1921 m) of 75-foot wide corridor were inventoried. The areal extent of the survey was 65.9 acres (26.7 ha). That portion of the route lying between Highway 14 and the northern edge of Section 28 was not examined because landowner permission could not be obtained.

Site 39HU279

One site was located just south of Highway 14 where it intersects the project right-of-way, in the NE $\frac{1}{4}$, NE $\frac{1}{4}$, NW $\frac{1}{4}$, SE $\frac{1}{4}$ of Section 28, T111N, R79W. It consists of a shed and a light scatter of historic debris.

The shed has been constructed of what appear to be World War Two--vintage packing crates covered in tar paper (Figures 3 and 4). It measures 5.43 m (17.8 ft) by 4.38 m (14.4 ft). The tallest side is on the southwest and measures about 3 m (10 ft) high; the other side is about 2.5 m (8 ft) high. The bulk of the structure is made of tongue-in-groove 1x6 boards held together by 2x4s. The 2x4s were originally part of the shipping crate frames. Each long side of the structure is made of three segments of packing crate. The sections were nailed together with extra 2x4s and 2x10s. The slanted roof is made of tongue-in-groove planks laid on 2x10s. Windows were framed into the northwest and southwest sides, and a sliding door had been cut into the southeast side. The door has fallen off and lies in ruins next to the structure. Construction was with 16-penny round nails. The exterior sides were covered in tar paper reinforced with strips of $\frac{1}{2}$ -inch plywood. The roof was covered in tar paper and reinforced by plywood strips also. No foundation was used, and the structure tilts noticeably to the south.

Two of the shipping crate panels bear traces of stenciled signs. One is marked:

FROM YORK CORP
YORK, PA.
P.O. 12-1791
REQ. EP-84263
ITEM NO 1

The second panel reads:

...TRANS OFFICER
MARION ENGINEER DEPOT
MARION OHIO
C.E. PLANT 3.6 TONS
YORK MODEL 5-3 AMMONIA
SNL NO. 66-5710-060-800
WT 5750
CU. 333
LENGTH 9-9
WIDTH 5-3
HEIGHT 6-6

The "York Corp" in the stencil is now York International Corporation and is still headquartered in York, Pennsylvania. Its home page on the World Wide Web (<http://www.york.com>, November 10, 1999) describes it as

the largest independent supplier of heating, ventilating, air conditioning and refrigerating (HVAC&R) in the United States and a leading competitor in the industry internationally.

The packing crates making up the shed apparently were for a large refrigerating unit, described in detail in the second panel, which was shipped to a military installation in Ohio. The greatly expanded military in the years after 1940 would argue for a 1940s or later date. Interestingly, the dimensions given in the second panel correspond closely with the panel measurements on the higher side of the structure. Apparently someone acquired a number of war surplus crates and used them as prefabricated building components to construct a shed.

The artifacts scattered in the vicinity of the building include several corrugated metal roofing panels (which had probably been blown off the shed), wood scraps, a 6-foot tractor tire, and a two-basin concrete sink (Figure 5) scattered over an area about 80 m (262 ft) east-west by 50 m (164 ft) north-south. The sink has a built-in metal washboard and a metal rim along the top edges.

Recommendations

Site 39HU279 appears to date to the post-World War Two era. It was likely intended as a shed for storing farm machinery or perhaps animals. Given its uneven setting and lack of foundation, the present location may not be its original site. The concrete sink most likely dates to the first half of the twentieth century. The site does not appear to offer any potential for meeting the criteria for inclusion on the National Register of Historic Places.

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1994 *A Letter Report on an Intensive Cultural Resources Survey of the Small Road Project, M5254(02), PCEMS 2774, Hughes County, South Dakota. Contract Investigations Series No. 866, S.D. State Archaeological Research Center, Rapid City.*

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1998 *Mid-Dakota Rural Water System 1997 Cultural Resources Survey, Hughes, Hyde, Potter, and Sully Counties, South Dakota*. Contribution No. 331, University of North Dakota Dept. of Anthropology, Grand Forks.

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Wardlow, Roger

1990 *An Intensive Cultural Resources Survey of the Proposed Small Road Project in T111N, R79W, Sections 33 and 34, Hughes County, South Dakota*. Contract Investigations Series No. 526, S.D. State Archaeological Research Center, Rapid City.

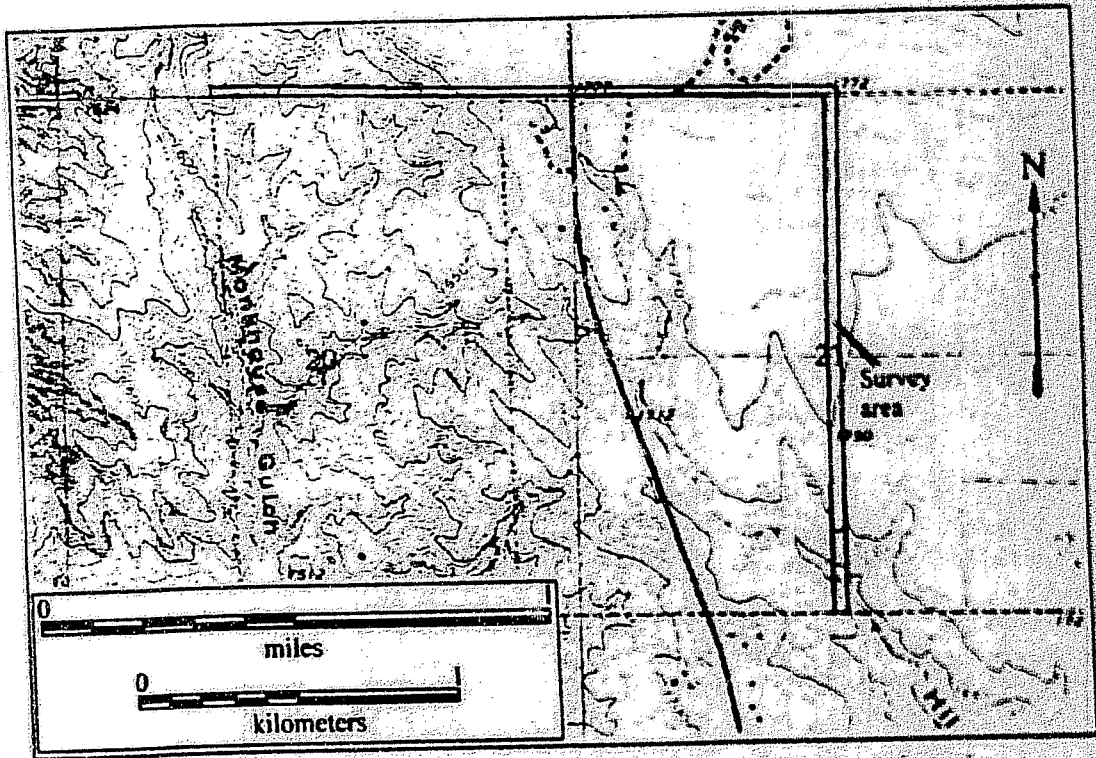


Figure 1. North half of project area. From USGS Pierre NE 7.5' quadrangle.

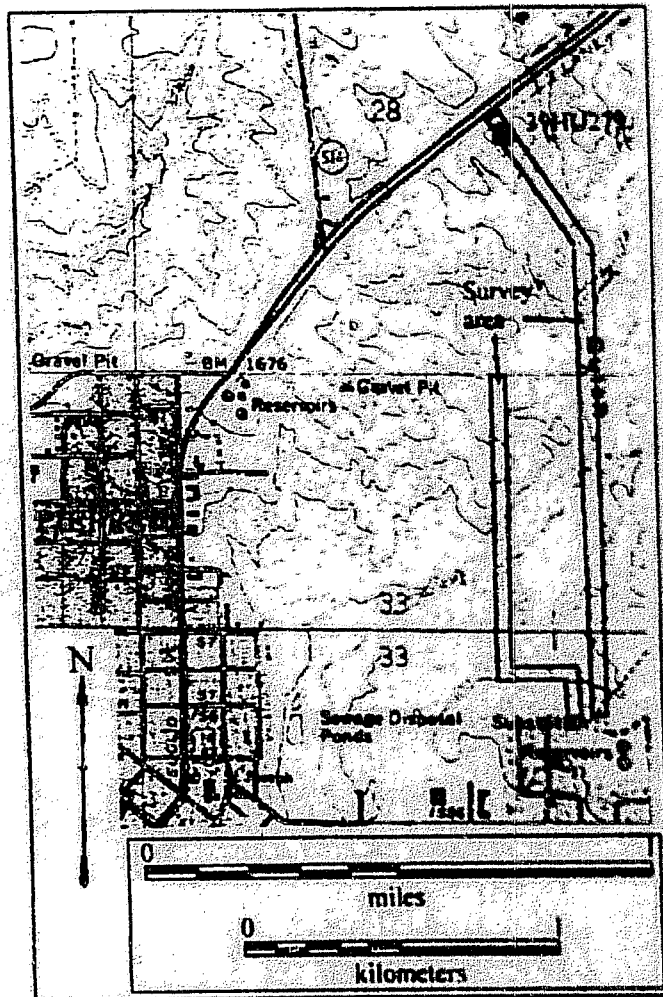


Figure 2. South half of project area. From USGS Pierre and Pierre NW 7.5' quadrangle maps.

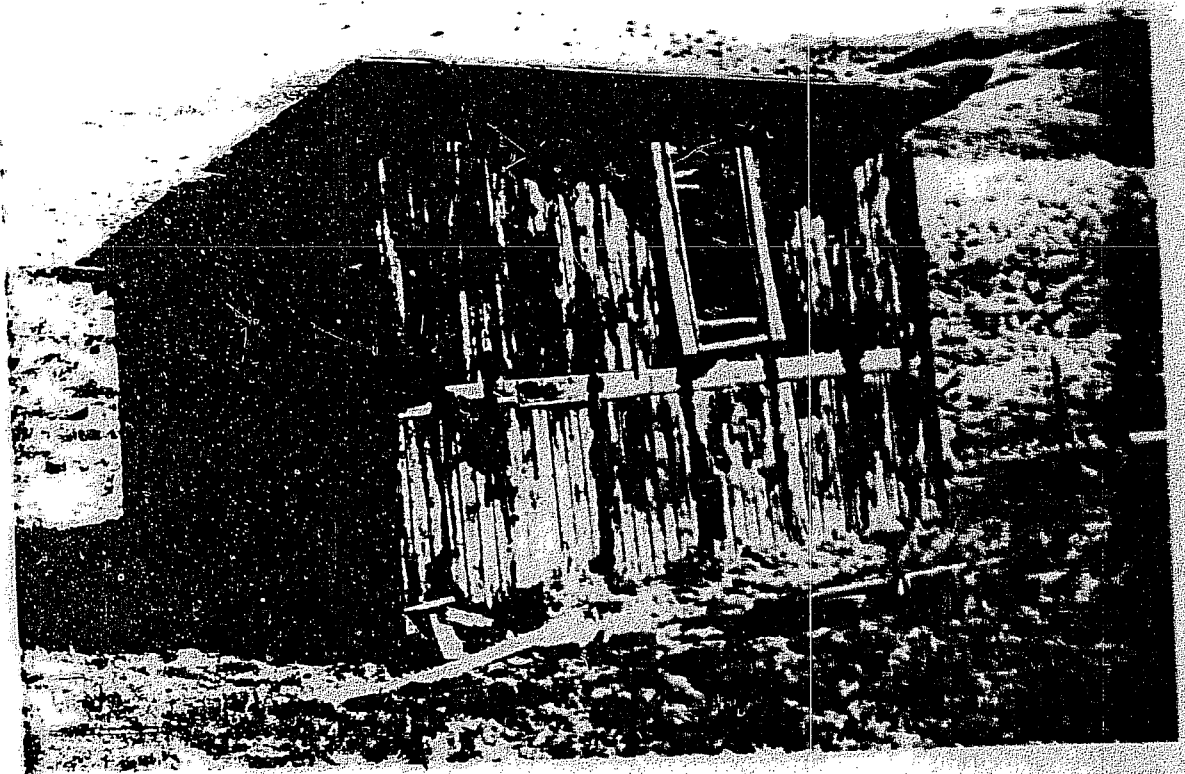


Figure 3. View of shed at 39HU279, facing east.

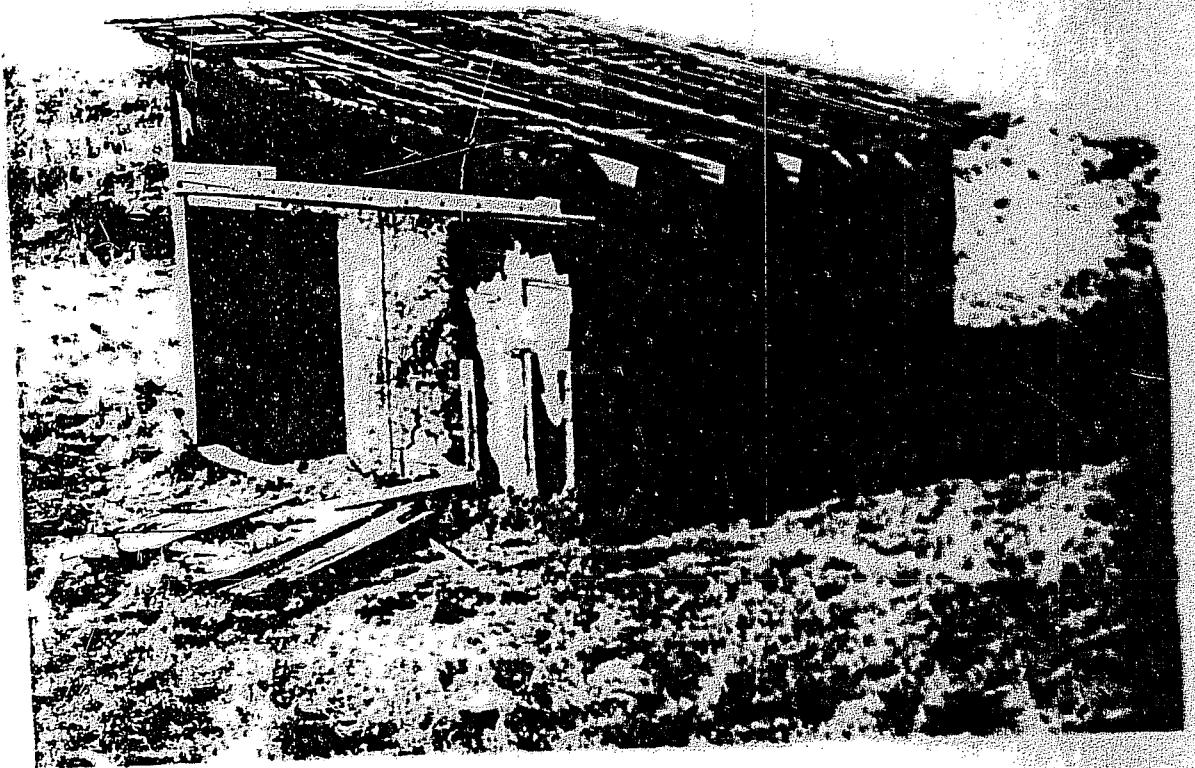


Figure 4. View of shed at 39HU279, facing west.

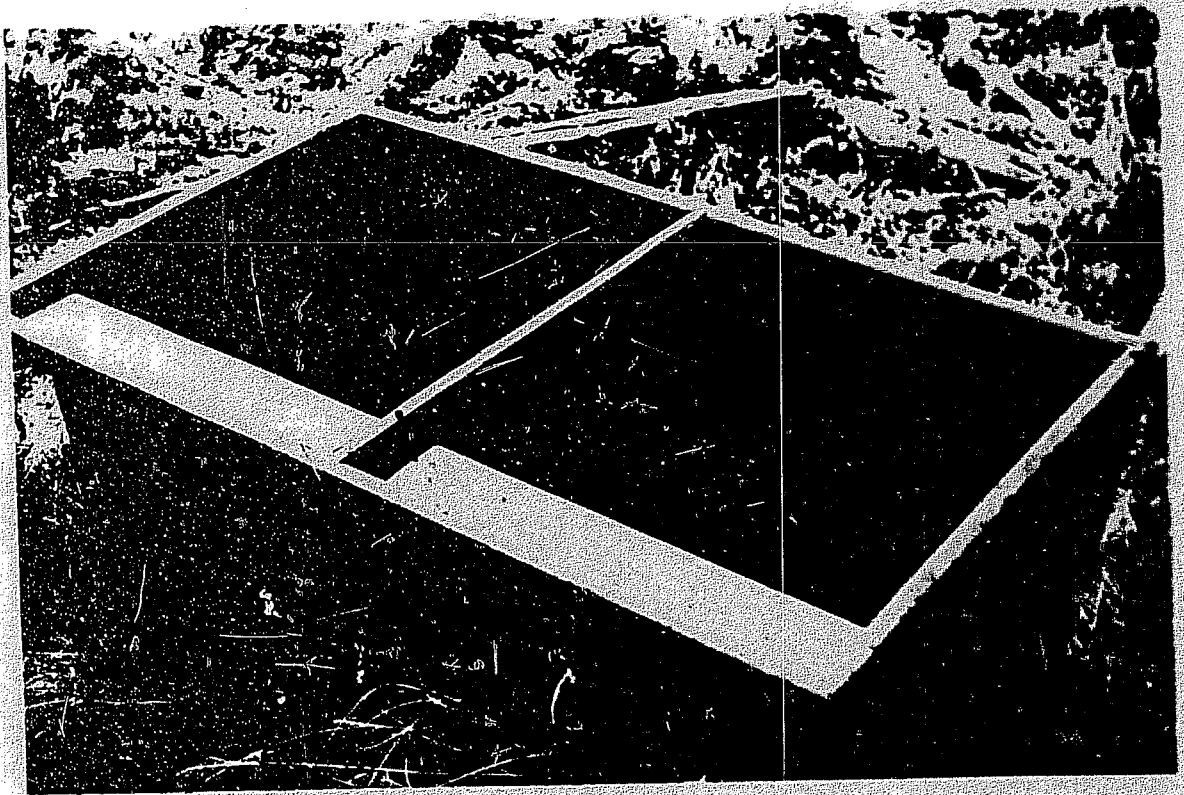


Figure 5. Concrete sink 39HU279.

Appendix

Site Form

----- GENERAL DATA -----

Site No. 39 HU279 Site Name _____ County Hughes
Map Reference Pierre NE UTM Zone 14 / 393660 E / 4915700 N
Study Unit Bad-Cheyenne Topog. Position Valley Slope
Elevation 1640 ft Substrate Drift
Vegetation Mixed Grass Land Use Pasture
Ground Surface Visibility (%) 30 Condition • CRM Status _____
Site Dim. N-S 50 E-W 80 m ; Area .4 ha ; Depth 10 cm/in
Nearest Water Type Intermittent Stream Name Hilgers Gulch
Distance 200 m Elevation 1580 ft Direction NE Bank R

----- LOCATIONAL DATA -----

Legal Location				Section	Township	Range
<u>NE</u>	<u>NE</u>	<u>NW</u>	<u>SE</u>	<u>28</u>	<u>111N</u>	<u>79W</u>

----- CULTURAL DATA -----

Site Type	Time Period	Cultural Affiliation
<u>Artifact Scatter</u>	<u>A.D. 1861-</u>	<u>Euro-American</u>

----- MISCELLANEOUS DATA -----

Comments Site consists of a shack made from WW2-era packing crates covered with tar paper, no foundation. Shack measures 5.43m by 4.78m. Nearby is a tractor tire measuring about 6ft across. To southeast is a two-basin concrete sink with attached washboard. Other residue in area includes milled lumber scraps from building, corrugated metal roofing from shack. No other signs of any habitation or use. Site does not seem to have much potential, shack may not have originally been located here.

Collection/Evaluation Procedure Photographed, sketch map made.

Photo reference(s) _____

Bibliographic reference(s) _____

Recorded by Jim Haug, Arvilla Consulting Date November 7, 1999

Project Power Engineers Ash Substation Survey

(Use Continuation Form when necessary)
(See Site Form Reference Guide for allowable data types)

Site No. 39 HU279

Site Name _____

County Hughes

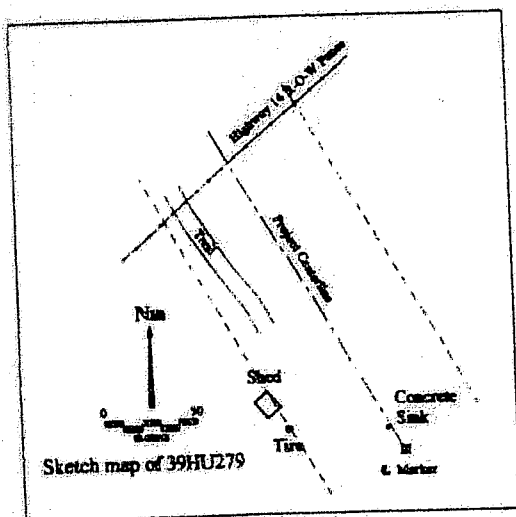
Landowner/Tenant _____

Address _____

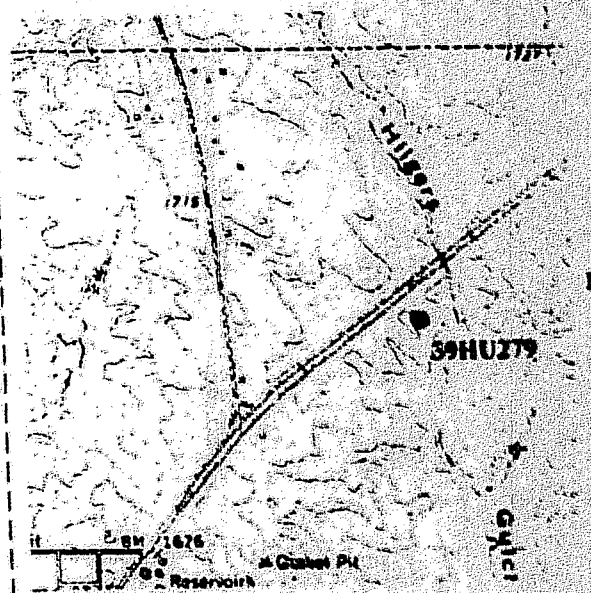
Attitude toward survey _____ toward excavation _____

Access to site Site is reached through gate off Highway 14 right-of-way
about 1/4 mile east of Highway 1804 turnoff.

Sketch Map



Section Map



APPENDIX G

ALTERNATIVE CORRIDOR SITING STUDY

APPENDIX G

CITY OF PIERRE

**Ash Substation to Western Area Power
Administration Tap**

115kV Transmission Line Routing Study

REPORT

November 1997

INTRODUCTION

The City of Pierre (City) has retained Power Engineers (POWER) to conduct a routing study for the construction of a 115kV electrical transmission line that will interconnect the City's Ash Substation with Western Area Power Administration's (Western's) Oahe-Pierre 115kV transmission line. The proposed project will increase the reliability and capacity of the City's electrical supply system.

POWER made a field visit to the City of Pierre to identify possible alternative routes for the proposed line. The following are the results of that study. Please refer to Map 1 for alternative route locations.

ALTERNATIVE ROUTES

Eight alternative routes were identified and examined in the field by POWER and City personnel. These alternatives are described below.

Alternative 1A exits the City's Ash Substation and heads in a northerly direction for approximately three-quarters of a mile on the east side of the platted right of way of Van Buren Street. At the intersection of Eighth Street and Van Buren, this route alternative extends north-northwest for approximately eight-tenths of a mile before turning due north near the platted Leslie Avenue. This route then runs on the east side of the platted Leslie Avenue. After the termination of Leslie Avenue's platted distance, this alternative continues due north along the property line dividing parcels 2130 to the west, and 2141 and 2148 on the east. The proposed route of Alternative 1A then turns to the east on the property line dividing parcel number 2141 to the south and 2110 to the north. The route follows this property line for one-quarter of a mile to the section line separating sections 21 and 22 T111N R79W. Turning to the north, the proposed route follows this section line to Perch Place Road. Perch Place Road is located on the section line between sections 16 and 21 and sections 17 and 20 T111N R79W. The line route of Alternative 1A crosses Perch Place, turns to the west, and follows along the north side of Perch Place to its intersection with Western's Oahe-Pierre 115kV transmission line, the termination of this proposed route. The entire length of this alternative line route would be overhead construction.

Alternative 1B follows the same route as Alternative 1A, however, an underground segment from the Ash Substation north to Eighth Street along the platted Van Buren Street has been proposed to minimize visual impact, and increase the reliability of the system. This underground section eliminates the overhead crossing of the existing City 115kV transmission line that would occur in Alternative 1A. It is considered undesirable to cross main system lines in an overhead configuration since an event causing the failure of the top line could potentially put both lines out of service.

Alternative 1C includes rebuilding a portion of the City's 115kV line, and constructing a new line. In this alternative, a section of the City's 115kV line would be removed from the Eighth Street/Madison Avenue intersection to the Ash Substation. The rebuilt section of the existing 115kV transmission line would begin at the Eighth Street/Madison Avenue intersection and continue south along the east side of the platted right-of-way of Madison Avenue. At the intersection of Madison Avenue and Elizabeth Street, the rebuilt line route turns to the east and continues on the south side of the Elizabeth Street right-of-way to the intersection of Elizabeth and a platted alley that exists between Jackson and Van Buren Streets. Turning south in this alley, the rebuilt line route continues to the Ash Substation.

The proposed routing of the Ash Substation to the Western Tap line in Alternative 1C follows the same route as Alternatives 1A and 1B. Moving the City's existing 115kV line and rebuilding it eliminates the overhead crossing of two major lines, thus increasing reliability while reducing the visual impact.

Alternative 2A exits the Ash Substation and continues along the same route described in Alternative 1A until its intersection with the platted Leslie Avenue. After following Leslie Avenue's full platted distance, the proposed route turns west at the section line between sections 21 and 28 T111N R79W and continues on the section line separating sections 20 and 29 T111N R79W. These section lines constitute the present northern boundary of the City of Pierre. This proposed line route then follows these section lines west approximately one and one-half miles and terminates at Western's Oahe-Pierre 115kV transmission line. An overhead crossing of the proposed 115kV line and existing City 115kV line results from this alternative.

Alternative 2B resembles Alternative 2A. Once again, an underground segment is proposed for that section from the Ash Substation to Eighth Street to increase the reliability of the system and to reduce visual impact.

Alternative 3 leaves the Ash Substation and travels in an easterly direction along the north side of Harrison Road using underground construction. The route follows Harrison Road to its intersection with the Highway 14&83 Truck Route. Using overhead construction, the Alternative then follows along the east side of the truck route crossing Highway 14&83 and continuing north to the section line between sections 15 and 22 T111N R79W. The line route then turns west and continues on the north side of the section lines that divide sections 16 and 21 and sections 17 and 20 T111N R79W. This section line constitutes Perch Place Road. The proposed route follows Perch Place Road to the termination point on Western's Oahe-Pierre 115kV transmission line. The proposed route passes through a parcel of land that has been set aside for the development of a high school complex. Since schools are considered an exclusion area for this study, this alternative is considered fatally flawed. This document will contain information on Alternative 3 for comparison purposes, but for all intents and purposes, this alternative has been dropped from further consideration.

Alternative 4A considers a combination of rebuilding a section of the City's existing 115kV line as an underground installation while the new circuit exits Ash Substation on the east and continues overhead down Van Buren in the same manner as Alternative 1A above.

The City's existing 115kV line will be removed from the Eighth Street/Madison Avenue intersection to the Ash Substation, a distance of approximately one-mile. The existing 115kV line will be connected to Ash Substation by means of a 115kV underground cable installation. This underground circuit extends from the Eighth Street/Madison intersection to the platted Elizabeth Street. Turning east on Elizabeth, the underground installation would continue to the platted alley that exists between Jackson and Van Buren Streets. The underground segment would then turn due south and continue on into the substation, entering from the west. This underground segment provides the means to minimize visual impacts while maintaining a higher level of reliability in the system.

Alternative 4B follows the same route as Alternative 4A and relocates and places underground the City's existing transmission lines in the same manner. However, Alternative 4B considers an additional underground segment for the new circuit from the Ash substation north along Van Buren to Eighth Street. This alternative would then continue in the same manner as Alternative 1A.

In the above-mentioned alternatives, the existence of underground line is said to improve reliability and minimize visual impact. Due to high installation costs, an underground design is considered for only parts of the routes. Only areas that are deemed to have significant visual impact concerns or reliability problems due to crossings were considered for underground construction.

ALTERNATIVES CONSIDERED BUT REJECTED

Additional Generation

Constructing additional generation resources was rejected from the alternatives considered because new energy capacity is not currently needed. The new line construction is proposed to alleviate reliability issues rather than new capacity needs. Additional generation would require new transmission lines to interconnect with the City's distribution, depending on the site chosen for the new generator. Costs of new generation are much higher than constructing a new line in order to solve the reliability issues. Thus constructing generation is not a feasible solution for satisfying the project's need.

Routing the Section 21/22 Section Line and Duluth Avenue

During the initial fielding of potential line routes, a route running east from the Ash Street Substation to the north-south section line for sections 21 and 22 to Duluth Avenue was evaluated. In this scenario, a new line would be constructed east on Lilac to the intersection with the north-south section line for Sections 21 and 22. It would then run north up the section line to Duluth Ave. Duluth would be followed north to its end. The section line would then again be followed to its intersection with Range Road. The line would then follow Range Road west to the proposed interconnection point with the Western Area Power Administration system. This potential route was dropped from further study due to the number of residences located on the line route. In addition, the existing City owned transmission line located from Lilac to 8th Street on this alignment would have to be relocated or a double circuit section built on the common line route. Double circuiting the line would not provide the line location diversity sought by the project unless the existing transmission line was relocated. For these reasons this alternative was eliminated.

Highway 1804 Corridor

The Highway 1804 corridor was evaluated as a possible line route. It was eliminated because extensive residential areas would need to be crossed in order to follow the corridor. In addition, there are a number of residences and at least one business located on the Highway 1804 corridor. The highway also has important historical significance, as it was the route used by Lewis and Clark on their way to the Pacific Northwest in 1804.

Connecting the Ash Street Substation with the Western Substation on 5th Street

Alternatives of interconnecting the Ash Street Substation with the Western Substation located on 5th Street were checked in the field. Extensive crossing of residential neighborhoods was involved. In addition, some alternatives involved crossing the State Capital Parkway, an important recreational open space within the City located near the State capital. This scenario also produces less diversity in line location than desired by the project in solving its reliability issues. Thus, this alternative was dropped from further consideration.

EVALUATION CRITERIA FOR ALTERNATIVE ROUTES

In order to identify a preferred transmission line route for the City a screening level study of the above-mentioned alternative line routes was performed. Characteristics of each alternative were analyzed, and a comparative matrix for those characteristics was prepared.

Nine screening level criteria were used to perform this preliminary analysis.⁴
These were:

1. Line Length
2. Access to Line Construction Site (miles)
3. Number of Permits Required
4. Areas of Visual Impact (miles)
5. Length of Line not Following Section Lines, Property Lines, Roads, Highways or Railroads (miles)
6. Ability to Meet the City of Pierre's Future Energy Needs
7. Number of Parcels Crossed
8. Reliability
9. Cost

These routing criteria were assigned weighting factors based on their relative importance to securing a feasible line route. The factors ranged from one to five, with a factor of one representing the least potential for conflict, impact, and/or cost, and a factor of five representing the most potential for conflict, impact and/or cost. The assigned weights were then multiplied by the number of occurrences of each criterion along each line route alternative. The criteria weighting is summarized below.

Table 1: Evaluation Criteria and Weighting Factors

EVALUATION CRITERIA	ASSIGNED WEIGHTS
Line Length (miles)	3
Access to Line Construction Site (miles)	4
Number of Permits Required	3
Areas of Visual Impact (miles)	3
Length of Line not Following Section Lines, Property Lines, Roads, Highways, or Railroads (miles)	5
Ability to Meet the City of Pierre's Future Energy Needs	5
Number of Parcels Crossed	4
Reliability	4
Cost	5

Line Length

In general, the longer the line length, the more expensive the line is to build, and the greater the potential for environmental and landowner impacts. New construction of transmission lines can impact urban areas also. Existing corridors were used as much as possible to avoid these impacts. Given these offsetting conditions, line length is given a weighting factor of 3.

Access to Line Construction Site

Construction access is often a major consideration in routing a line. Disturbance within the construction area should be kept to a minimum. The construction of new roads leading to the construction site and away from the construction site can be time consuming, result in environmental or landowner impacts, and be expensive. Therefore, the less new road construction, the better. Since construction of new roads is an unfavorable condition, this criterion is weighted a 4.

Number of Permits Required

The number of required permits for each alternative represents the level of difficulty, time and effort in permitting each line route. However, any alternative selected will require some level of permitting. Since all routes will require some type and amount of permitting, this criterion was weighted at 3.

Visual Impacts

Visual impacts of electrical transmission lines are often a very important consideration in routing studies. The relationship between landowner and utility can be enhanced or impaired simply by keeping a line as unobtrusive as possible. The City of Pierre has expressed some concerns regarding potential visual impacts; therefore, visual impact has been given a weight of 3.

Length of Line not Following Section Lines, Property Lines, Roads, Highways or Railroads

The South Dakota Public Utilities Commissions' Energy Conversion and Transmission Facilities Code states in part that a siting permit will be required for a transmission line with a design of 115 to 250kV if more than one mile in length of the transmission line does not follow section lines, property lines, roads, highways, or railroads. It also provides guidance that these features should be used where practicable to avoid impacts to property and the environment. Due to the importance given to this issue by the State, and since a good routing philosophy maximizes the use of existing corridors, this criterion was weighted 5.

Ability to Meet The City Of Pierre's Future Energy Needs

The City of Pierre's future energy needs are at the forefront of this project. Proper planning now will reduce the amount of construction in the future. The line routes examined have been weighted according to their ability to meet this criterion. Building a line that will address not only current electrical demands, but future demands as well is an important factor in routing transmission lines. A weight of 5 is assigned this criterion. If an alternative will meet the City of Pierre's future energy needs it will be awarded a 1, and if the alternative does not meet this criterion, it will be awarded a 5.

Number of Parcels Crossed

A parcel is defined in this document as a parcel of land owned by one person or a group of persons. Impact to local landowners is always a major consideration in a routing study. The utility's reputation with the landowner as well as its relationship with its customers can be at stake. Also, obtaining private easements from landowners can be very costly and result in impacts to land rights. It is thus desirable that lines are routed to impact the least number of private landowners as possible. Most lines, however, will impact some landowners. Due to these conditions, the number of parcels crossed was given a weighting factor of 4.

Reliability

Ice storms, high winds, and other natural phenomena can cause disruption of service in overhead transmission lines. Some routes may be less prone to disruptions from weather due to the type of line used and the geographical configuration of the line. Crossing major transmission features with another major transmission line in an overhead configuration is not desirable, as it increases the likelihood of a double line outage should one of the lines fail. Although outages are rare, the possibility of outages must be addressed. While failures of high voltage underground systems are extremely rare, such a failure requires more time to repair, hence, a slightly higher rating. A weight of 4 will be assigned this criterion. Each alternative will be awarded a number between 1 and 5 with 1 being the most reliable system, and 5 the least reliable. The factors considered in awarding scores to each alternative include, but are not limited to: amount of underground line, distance between new lines and existing lines, and topography.

Cost

Cost is an important criterion in assessing the viability of a transmission line route. While a route selection process tries to minimize costs, it must take into account many other factors of the human, social, and biological environment. The cost figures in this document represent a very rough estimate based on field investigations, yet are considered relative to each other. They are not based on cadastral surveys or final design drawings. This criterion was given the maximum rating factor of 5.

Results

The results of the routing study are included in Table 2. Each evaluation criterion was entered, and multiplied by a corresponding number that took in characteristics of each route.

Of the eight routes studied by City and POWER personnel, the route that best addresses the needs of the City is Alternative 1C. Compared to the other routes studied, Alternative 1C had the best score in the evaluation matrix. This means that although it may have some scores higher than other routes in certain criteria, the *combination* of the evaluation

criteria made this route the most feasible. Although Alternative 1C is longer than other routes, the routes that are shorter in length do not meet the City's needs as well as Alternative 1C. This route has a lower cost than most of the other routes and, since a significant section of the existing 115kV transmission line is rebuilt in this option, the reliability factor is greater. Alternative 1C compares to other routes relatively evenly throughout the rest of the matrix. Given these findings, Alternative 1C is the preferred alternative.

CONTINUATION

6 -

CITY OF PIERRE

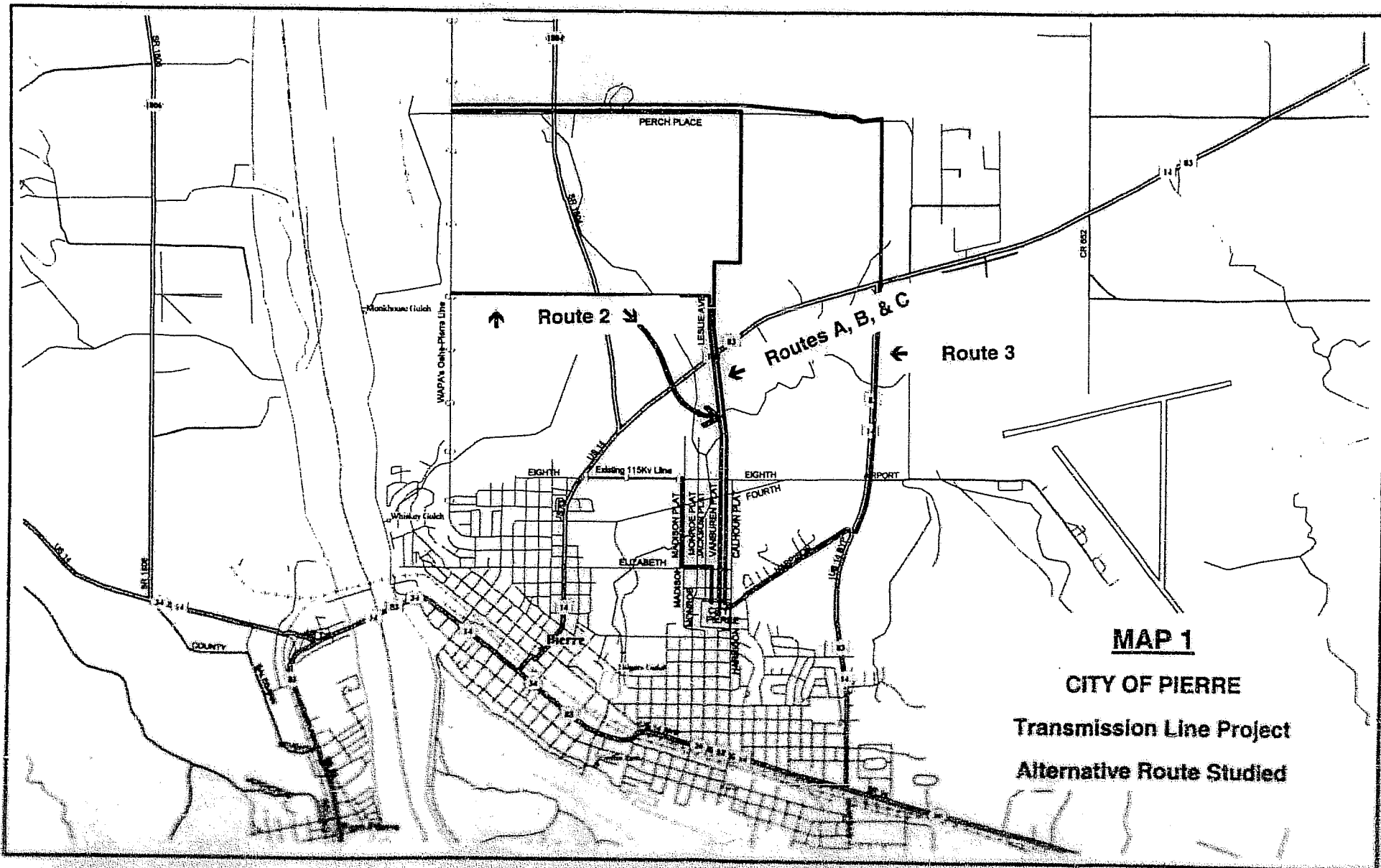
115kV TRANSMISSION LINE ROUTING STUDY

ROUTE EVALUATION MATRIX

120522-01

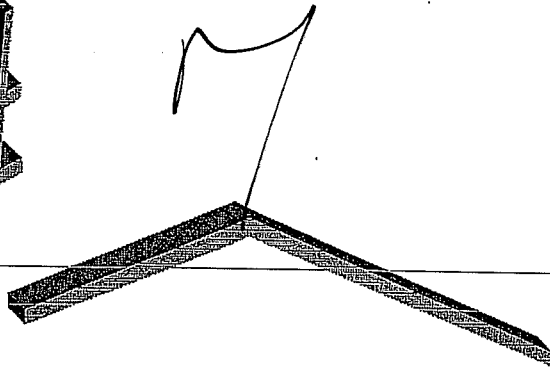
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EVALUATION CRITERIA	WEIGHT	SCORE	TOTAL	SCORE	TOTAL	SCORE	TOTAL	SCORE	TOTAL
Line Length (miles)	3	4.4	13.2	4.4	13.2	5.5	16.5	3.1	9.3
Access to Construction Site Needed (miles)	4	2.8	11.2	3.5	14	2.8	11.2	3	12
Number of Permits	3	6	18	6	18	6	18	5	15
Areas of Visual Impacts (miles)	3	0.65	1.95	0.5	1.5	1.3	3.9	0.65	1.95
Length not following roads, property lines or section	5	0.8	4	0.8	4	0.8	4	0.8	4
Ability to meet City's future needs	5	1	5	1	5	1	5	5	25
Number of Parcels Crossed	4	35	140	35	140	35	140	34	136
Reliability Factor	4	4	16	2.5	10	1.5	6	4	16
Cost (million \$)	5	0.56	2.8	1.33	6.65	0.66	3.3	0.26	1.3
ROUTE PREFERENCE RANKING		212.15		212.4		207.9		220.55	

ALTERNATIVE		2B		3		4A		4B	
EVALUATION CRITERIA	WEIGHT	SCORE	TOTAL	SCORE	TOTAL	SCORE	TOTAL	SCORE	TOTAL
Line Length (miles)	3	3.1	9.3	6.1	18.3	4.4	13.2	4.4	13.2
Access to Construction Site Needed (miles)	4	3	12	0.9	3.6	3.5	14	3.5	14
Number of Permits	3	5	15	5	15	7	21	7	21
Areas of Visual Impacts (miles)	2	0	0	0	0	0.65	1.95	0	0
Length not following roads, property lines or section	5	0.8	4	0.8	4	0.8	4	0.8	4
Ability to meet City's future needs	5	5	25	1	5	1	5	1	5
Number of Parcels Crossed	4	34	136	46	184	49	196	49	196
Reliability Factor	4	2.5	10	2.5	10	2.5	10	1	2
Cost (million \$)	5	1.1	5.5	1.6	8	1.9	9.5	2.6	7.8
ROUTE PREFERENCE RANKING		216.8		247.9		274.7		263.0	

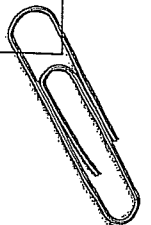


Continuation

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of pages



APPENDIX H

GEOLOGICAL FEATURES

APPENDIX H: GEOLOGICAL FEATURES

Many soils in the county formed in glacial material derived from pre-glacial formations of granite, gneiss, limestone, sandstone, and shale. The glacier picked up materials from these formations, ground and mixed them as it transported them, and redeposited them as the glacier melted. Some deposits consist of unsorted material, or glacial till. Other deposits are material sorted either by water as it was deposited or by wind and water after it was deposited. These deposits are referred to as glacial drift.

The glacial till ranges from loam to clay in texture and from friable to firm in consistence. Betts, Glenham, Raber, and Oko soils are examples of soils that formed in glacial till.

Glacial drift that is high in silt content is the most extensive of the surface materials of glacial origin. This material was deposited during the Wisconsin Stage of the Pleistocene Epoch (2,3). Eakin and Highmore soils are examples of soils that formed in silty glacial drift. Canning and Orton soils are examples of soils that formed in loamy materials over outwash sand and gravel deposited by glacial melt waters.

The Pierre Formation is the only bedrock exposed in Hughes County. It is a marine shale of Cretaceous age. The exposures are mainly along the Missouri River and in many places have been covered with thin glacial deposits which subsequently eroded away leaving only scattered boulders on the surface. Lakoma, Opal, Promise, and Sansarc soils are examples of soils that formed in materials weathered from Pierre Shale.

Loess mantles the uplands in the western part of the county within a few miles of the Missouri River, the source of the wind-deposited material. Agar soils formed in the older loess deposits. Lowry and Sully soils formed in loess of more recent deposition.

Bon and Munjor soils are examples of soils that formed in alluvium of Recent Age. There are no mineral resources in the area.

APPENDIX I

PROJECT AREA SOIL TYPES

APPENDIX I: PROJECT AREA SOIL TYPES

Gettys clay loam, 15 to 40 percent slopes:

This hilly to steep soil is on the sides of ridges and drainageways on uplands. Slopes are short, and short drains are numerous. Except in areas where the surface layer is loam or gravelly loam, this soil has the profile described as representative of the series. Few or common scattered stones and cobblestones are on the surface in most areas.

Included with this soil in mapping are areas of Betts, Peno, and Raber soils. Betts soils are on some of the ridges. Peno and Raber soils are on the mid and lower parts of the landscape. Inclusions make up 5 to 20 percent of mapped areas.

Surface runoff is rapid, and gullies form easily in the natural drainageways. Controlling erosion is the main concern in management.

All areas are in native grass and are used for grazing. Capability unit VIIe-3; Thin Upland range site; windbreak group 10.

Lowry silt loam, 0 to 2 percent slopes:

This soil is on benches and uplands along the Missouri River. It has a profile similar to the one described as representative of the series, but in some places the material between depths of 400 and 60 inches is gravel, fine sand, clay, or shale. Slopes are long and uniform.

This Lowry soil is free of stones and is easy to work. Available water capacity is high, and surface runoff is slow. Controlling soil blowing is the main concern in management.

Most areas are under cultivation, and some are irrigated. The soil is suited to all crops commonly grown in the country. Capability unit II3-1; Silty range site; windbreak group 3.

Lowry silt loam, 2 to 5 percent slopes:

This soil is on uplands near the Missouri River. It has the profile described as representative of the series, but in places in the southeastern part of the county, sand gravel are at a depth of 40 to 60 inches. Slopes are long and smooth.

This Lowry soil is free of stones and is easy to work. Surface runoff is medium. Controlling erosion and soil blowing are the main concerns in management.

Many areas are cultivated, and the soil is well suited to all crops commonly grown in the county. Capability unit IIe-1; Silty range site; windbreak group 3.

Onita silt loam, 0 to 2 percent slopes:

This soil is in swales and along drainageways in the uplands. It has the profile described as representative of the series, but in areas near Lowry soils the subsoil contains slightly less clay. Areas are long and narrow.

Included with this soil in mapping are areas of Hoven soils in depression less than 2 acres in size and some areas of a soil that has a thinner surface layer than the Onita soil.

This Onita soil is high in fertility and has a high available water capacity. Surface runoff is slow, and the areas receive additional moisture in the form of runoff from adjacent soils. In most years the additional moisture is beneficial, but spring planting is delayed in years of excessive moisture. In dry years, crop growth is affected by the lack of moisture late in the growing season. Conserving moisture is the main concern in management.

Many areas are cultivated. Corn, small grain, and alfalfa are the main crops. This soil is well suited to all crops commonly grown in the country. Capability unit IIc-3; Overflow range site; windbreak group 1.

Onita-Hoven silt loams, 0 to 1 percent slopes:

This complex is about 60 percent Onita soil, 25 percent Hoven soil, and 15 percent other soils. The Onita soil is in swales, and the Hoven soil is in depressions. Areas are long and narrow. The upland swales terminate in or connect small, shallow depressions.

Included with these soils in mapping is a soil that has a thinner surface layer than the Onita soil and a weakly expressed claypan subsoil.

Surface runoff is slow on the Onita soil and ponds on the Hoven soil. Areas of this complex receive runoff water from adjacent soils. Generally, the additional moisture is beneficial to the Onita soil but ponds on the Hoven soil where it remains until it has evaporated. Spring planting commonly is delayed by wetness. In addition, the Hoven soil has poor tilth and its claypan subsoil takes in water very slowly.

The use of the adjacent soils usually determines the use of these soils. Many areas are in native grass and are used for grazing or hay. Some are under cultivation. Corn, small grain, and alfalfa are the main crops. Capability unit IIc-3; Onita soil in Overflow range site, windbreak group 1; Hoven soil in Closed Depression range site, windbreak group 10.

Sansarc-Lakoma clays, 9 to 40 percent slopes:

This complex is about 40 percent Sansarc soil, 40 percent Lakoma soil, and 20 percent other soils. It is along the Missouri River and its tributaries. The Sansarc soil is on the tops and upper sides of ridges. The Lakoma soil is below the Sansarc soil on the middle parts of the landscapes. The profiles of both soils are the ones described as representative of their respective series. Many drainageways are in the areas, and many of these are active gullies. A few glacial boulders are on the surface in many of the areas. Included with these soils in mapping are areas of Chantier, Gettys, Opal, Promise, and Swanboy soils. Chantier and Swanboy soils are on fans below the steeper areas and along drainageways. Gettys soils are on rounded knobs in the higher parts of some areas. Opal and Promise soils are in the lower parts of some areas or in sags on some of the ridges. Also included are small areas of Shale land on the shoulders of the drainageways and Slickspots in areas of Chantier and Swanboy soils.

Available water capacity is low or very low. Surface runoff is rapid, and the areas are highly susceptible to erosion. All areas are in native grass and are used for grazing. Capability unit VII-2; windbreak group 10; Sansarc in Shallow range site, Lakoma in Clayey range site.

Sansarc-Shale outcrop complex, (15 to 40 percent slopes):

This complex is 50 to 70 percent Sansarc soil, 25 to 35 percent Shale outcrop, and 5 to 15 percent other soils. It is on valley sides of the Missouri River and its tributaries. The Sansarc soil is less friable and is shallower over shale than is typical. Areas of Shale outcrop commonly are on rounded knobs that lack a soil cover and support little or no vegetation. A few, scattered glacial boulders are on the surface in many areas.

Included with these soils in mapping are areas of Chantier and Swanboy soils on fans and along drainageways and Slickspots intermingled with Chantier and Swanboy soils.

Surface runoff is rapid. Available water capacity is very low. Controlling erosion is difficult.

All areas are in native vegetation and are used for grazing. Sansarc soil in capability unit VII-2, Shallow range site, and windbreak group 10; Shale outcrop in capability unit VIII-2, not assigned to a range site or windbreak group.

Schamber-Orton complex (9 to 40 percent slopes):

This complex is about 65 to 75 percent Chamber soil, 15 to 25 percent Orton soil, and 10 percent other soils. It is on terrace remnants along creeks and along drainageways on uplands. The Chamber soil is in the upper parts of the areas, and the Orton soil is on the

sides of ridges and knolls or on small, isolated benches. Both have the profiles described as representative of their respective series, but in places the surface layer is sandy loam. Few to many glacial boulders are on the surface in some of the areas.

Included with these soils in mapping are areas of Oahe and Ree soils on some of the isolated benches and low terraces and deep loamy soils that formed in alluvium on narrow bottom lands along some of the creeks and drainageways.

These Schamber and Orton soils have low or very low available water capacity and are too droughty and erodible for cultivation.

All areas are in native vegetation and are used for grazing. Clumps of American elm, bur oak, and native shrubs are along some of the drainageways and draws. They provide winter protection for livestock and wildlife. Capability unit VIIc-4; windbreak group 10; Schamber soil in Very Shallow range site, Orton soil in Sandy range site.

APPENDIX J

WATER RESOURCES

APPENDIX J: WATER RESOURCES

Practically all of the county drains into the Missouri River or its reservoirs, Lake Oahe and Lake Sharpe. The exceptions are small drainageways that terminate in closed depressions or potholes. The western part of the county is drained primarily by Dry Run Creek and Spring Creek. The central and northeastern parts of the county are drained by Medicine Knoll Creek. The principal drainageways in the southeastern part of the county are Chaney Rush Creek, Chapelle Creek, and Joe Creek.

Within the immediate project area, Hilger's Gulch and Hilger's Pond are the most dominant waterway features.

South Dakota Public Utilities Commission

WEEKLY FILINGS

For the Period of August 17, 2000 through August 23, 2000

If you need a complete copy of a filing faxed, overnight expressed, or mailed to you, please contact
Delaine Kolbo within five business days of this filing. Phone: 605-773-3705 Fax: 605-773-3809

CONSUMER COMPLAINTS

CT00-096 In the Matter of the Complaint filed by Thermo Bond Buildings Int'l, Inc., Elk Point, South Dakota, against Qwest Corporation, formerly known as U S WEST Communications, Inc., MCI WorldCom and USBI Regarding Unauthorized Charges and Exorbitant Rates after Switching its Long Distance Services to MCI.

Complainant alleges that USBI and WorldCom Network Services billed for unauthorized long distance services at excessive rates after the complainant had switched all of the business lines over to MCI for long distance services. The complainant alleges that SDCL 49-31-93 was broken and it is requesting that a \$1000.00 be paid by the telecommunications company that initiated the unauthorized charges.

Staff Analyst: Charlene Lund
Staff Attorney: Karen E. Cremer
Date Docketed: 08/18/00
Intervention Deadline: N/A

CT00-097 In the Matter of the Complaint filed by John M. Lynch, Sioux Falls, South Dakota, against MCI WorldCom Regarding Unauthorized Switching of Services.

The Complainant claims that his telecommunications service was switched without authorization. He is requesting \$1000 for his inconvenience.

Staff Analyst: Leni Healy
Staff Attorney: Karen Cremer
Dated Docketed: 08/22/00
Intervention Deadline: NA

CT00-098 In the Matter of the Complaint filed by Bert Flaten, Sioux Falls, South Dakota, against AT&T Communications of the Midwest, Inc. Regarding Unauthorized Switching of Services.

The Complainant alleges that his telecommunications service was switched without authorization. He is requesting credit for all charges.

Staff Analyst: Leni Healy
Staff Attorney: Karen Cremer

Date Docketed: 08/22/00
Intervention Deadline: NA

ELECTRIC

EL00-023 In the Matter of the Application of the City of Pierre for a Construction Permit for 4.83 Miles of 115kV Electric Transmission Line in Hughes County, South Dakota.

The City of Pierre has submitted an application for a permit to construct transmission facilities as defined at SDCL 49-41B-2(9)(b). These facilities consist of approximately 4.03 miles of new 115 kilovolt (kV) electric transmission line and associated terminal facilities between the City's Ash Substation and the Western Area Power Administration Oahe-Pierre 115kV line. In addition, a 0.80 mile segment of the City's Ash to Evans 115kV transmission line would be relocated to a new route and constructed on new structures. Both transmission lines are located in Hughes County, South Dakota.

Staff Analyst: Michele Farris
Staff Attorney: Karen Cremer
Date Docketed: 08/21/00
Intervention Deadline: 09/08/00

EL00-024 In the Matter of the Application of Black Hills Corporation to Effect a Share Exchange with Black Hills Holding Corporation.

Application by Black Hills Corporation to exchange all of its outstanding shares of Black Hills Corporation stock for shares of Black Hills Holding Corporation stock and establishment of Black Hills Holding Corporation as a holding company as defined in the Public Utility Holding Company Act.

Staff Analyst: Dave Jacobson
Staff Attorney: Karen Cremer
Date Docketed: 08/23/00
Intervention Deadline: NA

TELECOMMUNICATIONS

TC00-125 In the Matter of the Application of Telera Communications, Inc. for a Certificate of Authority to Provide Telecommunications Services, Including Local Exchange Services, in South Dakota.

Telera Communications, Inc. is seeking a Certificate of Authority to provide interexchange and local exchange telecommunication services in South Dakota. The applicant intends to provide specific forms of intrastate local exchange and interexchange telecommunications services targeted primarily at business customers. Services include: 1) switched local exchange services including carrier access and 2) interexchange (switched and dedicated) services including 1+ and 101XXXX outbound dialing, toll-free inbound dialing and data services. The applicant does not seek to provide resold or facilities-based local exchange

service in the territory of rural telephone companies.

Staff Analyst: Keith Senger

Date Docketed: 08/18/00

Intervention Deadline: 09/08/00

TC00-126 In the Matter of the Filing for Approval of a Second Amendment to an Interconnection Agreement between Midco Communications, Inc. d.b.a. Midcontinent Communications, Inc. and Qwest Corporation.

A second amendment to an interconnection agreement between Qwest Corporation fka U S WEST Communications, Inc. (Qwest) and MIDCO Communications, Inc. dba MidContinent Communications, Inc. has been filed with the Commission for approval. The original agreement was approved by the Commission in Docket TC99-023 and was effective May 5 1999. The first amendment to the agreement was approved by the Commission in Docket TC99-023 and was effective June 6, 2000. The Second Amendment will add the terms and conditions for Unbundled Dedicated Interoffice Transport (UDIT). Any party wishing to comment on the Second Amendment may do so by filing written comments with the Commission and the parties to the amendment no later than September 7, 2000. Parties to the amendment may file written responses to the comments no later than twenty days after the service of the initial comments.

Staff Attorney: Karen Cremer

Date Docketed: 08/18/00

Initial Comments Due: 09/07/00

TC00-127 In the Matter of the Application of Tel West Communications, LLC for a Certificate of Authority to Provide Local Exchange Services in South Dakota.

Tel West Communications, LLC is seeking a Certificate of Authority to provide resold local exchange telecommunication services in South Dakota. The applicant intends to provide all forms of intrastate telecommunications services including basic residential exchange services, call waiting, caller ID, and call forwarding.

Staff Analyst: Heather Forney

Date Docketed: 08/21/00

Intervention Deadline: 09/08/00

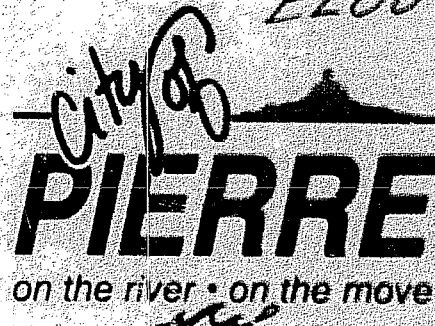
TC00-128 In the Matter of the Application of Pac-West Telecomm, Inc. for a Certificate of Authority to Provide Telecommunications Services in South Dakota.

Pac-West Telecomm, Inc. is seeking a Certificate of Authority to provide resold interexchange telecommunication services in South Dakota. The applicant intends to provide presubscribed message toll calling and a full range of other inbound and outbound voice and data services.

Staff Analyst: Keith Senger
Date Docketed: 08/22/00
Intervention Deadline: 09/08/00

You may receive this listing and other PUC publications via our website or via internet e-mail.
You may subscribe or unsubscribe to the PUC mailing lists at <http://www.state.sd.us/puc/>

EL00-023



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SEP 08 2000

SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

September 8, 2000

To: SD Public Utilities Commission

From: City of Pierre, Todd R. Chambers

TRC

Subject: Addendum to Permit

Attached is an addendum to the application submitted by the City of Pierre for a transmission line construction permit.

Please contact me at the Public Works Office with any questions.

ADDENDUM TO:

AN APPLICATION TO THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION FROM THE CITY OF PIERRE, SOUTH DAKOTA FOR A CONSTRUCTION PERMIT FOR 4.83 MILES OF 115KV ELECTRIC TRANSMISSION LINE IN HUGHES COUNTY, SOUTH DAKOTA

The City of Pierre, South Dakota respectfully submits the following revisions and clarifications to the above captioned application:

1. Page iii, paragraph 4. "Applicant's Burden of Proof (SDCL 49-41B-22)" subparagraph (a). Change the citation of SDCL 49-41B-24 to SDCL 49-41B-25.
2. Page 3, Chapter 2, second paragraph, line 9. Note the sentence: "During the period of September 3 through 29, 1998, 11 system outages occurred." That statement erroneously portrayed all eleven outages as occurring on the City's transmission line system. In fact, only one of the eleven outages was on the City's transmission line system. That outage is detailed on Figure 2.4 as incident number 9, occurring on September 18, lasting for 3.93 hours, and affecting approximately 4000 customers. The other ten outages occurred on the City's distribution system, and were not related to the City's transmission line system for which this application is being made.
3. Page 11, 2nd paragraph, 3rd sentence reads: "The nearest residences are located across pastures and drainages approximately 0.62 miles to the west along Highway 1804." The distance reference (0.62 miles) should be 625 feet.

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION OF	)	NOTICE OF APPLICATION;
THE CITY OF PIERRE FOR A CONSTRUCTION	)	ORDER FOR AND NOTICE
PERMIT FOR 4.83 MILES OF 115KV ELECTRIC	)	OF PUBLIC INPUT
TRANSMISSION LINE IN HUGHES COUNTY,	)	HEARING; NOTICE OF
SOUTH DAKOTA	)	OPPORTUNITY TO APPLY
	)	FOR PARTY STATUS
	)	EL00-023

On August 21, 2000, the City of Pierre (Pierre) submitted to the Public Utilities Commission (Commission) an application for a permit to construct transmission facilities as defined at SDCL 49-41B-2(9)(b). According to the application, these facilities consist of approximately 4.03 miles of new 115 kilovolt (kV) electric transmission line and associated terminal facilities between the City's Ash Substation and the Western Area Power Administration Oahe-Pierre 115kV line. In addition, a 0.80 mile segment of the City's Ash to Evans 115kV transmission line would be relocated to a new route and constructed on new structures. Both transmission lines are located in Hughes County, South Dakota.

The Commission has jurisdiction over this matter pursuant to SDCL Chapter 49-41B, specifically 49-41B-1, 49-41B-4, 49-41B-11, 49-41B-12, 49-41B-15, 49-41B-16, 49-41B-17, 49-41B-17.1, 49-41B-21, 49-41B-22, 49-41B-25, 49-41B-26, 49-41B-33, 49-41B-38, and ARSD Chapter 20:10:22.

The Commission finds that good cause exists to schedule a public input hearing pursuant to SDCL 49-41B-15 and 49-41B-16. The purpose of the hearing shall be to hear public comment regarding Pierre's application. At the public input hearing, interested persons may appear and present their views and comments regarding the application. A copy of the application is on file with the Hughes County Auditor pursuant to SDCL 49-41B-15(5).

The Commission further finds that pursuant to SDCL 49-41B-17 and ARSD 20:10:22:40, the parties to this proceeding are Pierre and the Commission. Further, each municipality, county, and governmental agency in the area where the facility is proposed to be sited; any non-profit organization, formed in whole or in part to promote conservation or natural beauty, to protect the environment, personal health or other biological values, to preserve historical sites, to promote consumer interests, to represent commercial and industrial groups, or to promote the orderly development of the area in which the facility is to be sited; or any interested person, may be granted party status in this proceeding by making written application to the Commission. It is therefore

ORDERED, that the application by Pierre shall be and the same is, incorporated as if set forth in full herein; and it is

FURTHER ORDERED, that pursuant to SDCL 49-41B-17.1, a party may receive all material filed in this matter by making a specific request to the Commission for personal service of the material. Absent such a specific request, the County Auditor for Hughes County is the designated agent for service of process upon all other parties to this proceeding; and it is

FURTHER ORDERED, that the Commission shall hold a public input hearing on Monday, October 16, 2000, at 7:00 p.m., in the Visitors Center of the State Capitol, 650 East Capitol Avenue, Pierre, South Dakota; and it is

FURTHER ORDERED, pursuant to SDCL 49-41B-17 and ARSD 20:10-22-40, that applications for party status shall be on a form provided by the Commission and to be filed within 60 days from the date Pierre's application was filed with the Commission. Therefore, an application for party status must be filed with the Commission on or before October 20, 2000.

Pursuant to the Americans with Disabilities Act, this hearing is being held in a physically accessible location. Please contact the Public Utilities Commission at 1-800-332-1782 at least 48 hours prior to the hearing if you have special needs so arrangements can be made to accommodate you.

Dated at Pierre, South Dakota, this 18th day of September, 2000.

CERTIFICATE OF SERVICE	
The undersigned hereby certifies that this document has been served today upon all parties of record in this docket, as listed on the docket service list, by facsimile or by first class mail, in properly addressed envelopes, with charges prepaid thereon.	
By:	<u>William Kalbo</u>
Date:	<u>9/18/00</u>
(OFFICIAL SEAL)	

BY ORDER OF THE COMMISSION:

James A. Burg
JAMES A. BURG, Chairman

Pam Nelson
PAM NELSON, Commissioner

Laska Schoenfelder
LASKA SCHOENFELDER, Commissioner

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION OF
THE CITY OF PIERRE FOR A CONSTRUCTION
PERMIT FOR 4.83 MILES OF 115KV ELECTRIC
TRANSMISSION LINE IN HUGHES COUNTY,
SOUTH DAKOTA

) ORDER ASSESSING FILING
) FEE
)
)
)

EL00-023

On August 21, 2000, the City of Pierre (Pierre) submitted to the Public Utilities Commission (Commission) an application for a permit to construct transmission facilities as defined at SDCL 49-41B-2(9)(b). According to the application, these facilities consist of approximately 4.03 miles of new 115 kilovolt (kV) electric transmission line and associated terminal facilities between the City's Ash Substation and the Western Area Power Administration Oahe-Pierre 115kV line. In addition, a 0.80 mile segment of the City's Ash to Evans 115kV transmission line would be relocated to a new route and constructed on new structures. Both transmission lines are located in Hughes County, South Dakota. SDCL 49-41B-12 requires a minimum filing fee deposit of \$8,000.

On August 24, 2000, the Commission electronically transmitted notice of the filing and the intervention deadline of September 8, 2000, to interested individuals and entities.

SDCL 49-41B-12 authorizes the Commission to require a minimum filing fee of \$8,000 in the South Dakota Public Utilities Commission's (SDPUC) regulatory assessment fee fund to defray Commission expenses incident to analyzing and ruling upon this type of filing.

The Commission has jurisdiction over this matter pursuant to SDCL 1-26-17.1, 49-1A-9, Chapter 49-41B, and ARSD 20:10:01:34, et seq.

On September 13, 2000, at its regularly scheduled meeting, the Commission, pursuant to SDCL 49-41B-12, unanimously voted to assess Pierre the minimum filing fee as requested by the Deputy Executive Director. It is therefore

ORDERED, that Pierre shall deposit in the SDPUC regulatory assessment fee fund the minimum filing fee of \$8,000 as requested by the Deputy Executive Director.

Dated at Pierre, South Dakota, this 19th day of September, 2000.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this document has been served today upon all parties of record in this docket, as listed on the docket service list, by facsimile or by first class mail, in properly addressed envelopes, with charges prepaid thereon.

By: Rebecca Kelso

Date: 9/20/00

(OFFICIAL SEAL)

BY ORDER OF THE COMMISSION

James A. Burg
JAMES A. BURG, Chairman

Pam Nelson
PAM NELSON, Commissioner

Laska Schoenfelder
LASKA SCHOENFELDER, Commissioner

Barbara K. Spears
400 West Fifth Street
Pierre, South Dakota 57501

September 27, 2000

Public Utilities Commission
500 East Capitol
Pierre, South Dakota 57501

Gentlemen:

I received your Notice of Application; Order for and Notice of Public Input Hearing; Notice of Opportunity to Apply for Party Status EL00-023. Please send me a copy of the Application pertaining to this hearing.

The back page indicates that pursuant to SDCL 49-41B-17.1, a party may receive all material filed in this matter by making a specific request to the Commission for personal service of the material.

Sincerely,


Barbara K. Spears

BKS/sb

Sent 9/28/00

RECEIVED

SEP 28 2000

SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

PROJECT NO. 120522-04

**DATA REQUEST RESPONSES FOR THE
APPLICATION**

RECEIVED

TO THE

OCT 04 2000

SOUTH DAKOTA

**SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION**

PUBLIC UTILITIES COMMISSION

FROM THE CITY OF PIERRE

HUGHES COUNTY, SOUTH DAKOTA

FOR A

CONSTRUCTION PERMIT FOR

4.83 MILES OF 115KV ELECTRIC

TRANSMISSION LINE IN

HUGHES COUNTY, SOUTH DAKOTA

OCTOBER 3, 2000

**For Information Contact:
Frank Rowland**

**POWER Engineers, Inc.
P.O. Box 1066
3940 Glenbrook Drive
Hailey, Idaho 83333
(208) 788-3456
FAX (208) 788-2082**



South Dakota Public Utilities Commission Data Request Responses

On September 20, 2000 the City of Pierre received a request from Michelle M. Farris, PE, Unit Analyst for the South Dakota Public Utilities Commission (Commission) for additional information and/or clarification of statements made in the City's application to the Commission for a Construction Permit for a 115kV Transmission Line. The following are responses to that information request.

Item 1:

Provide a list of the property owners affected by the proposed project. Indicate if the City has obtained an easement from the property owner. If not, explain why one was not obtained.

Response to Item 1:

See attached Right of Way Status Report

**CITY OF PIERRE
115 KV TRANSMISSION LINE**

RIGHT OF WAY STATUS REPORT
AGENT: Clayton R. Sonnienschein

PROJECT: 120522-04

Parcel No.	Owner	Section / Township Range / County	Easement Signed	Remarks
700	John & Judy Thompson	21/111/79/H	10/12/99	
512 513	George, Dawn & Chris Hipple		10/12/99	
501	Robert & Marilyn Hagemann		11/14/99	
673 8527 8517 8527 8518 8529 8519 8532 8520	Barbara K. Spears		01/15/00	
395	B. M. & Thelma Beastrom		10/12/99	
545	Casey Hal & Mary Ellen Kebach		01/06/00	
694	Galen & Linda Theobald		10/13/99	
7450	Pauline Donaldson		10/18/99	
5719	Don Gallimore		12/2/99	
5718, 4809, 4791	Harvey Buhl			Easement settlement is in progress.
4467-4470, 4472, 4473	Oswald Barge, et. al. Phyllis Hanson, Walter Abbott, Boys Town, St. John Catholic Church			Easement settlement is in progress.
5583	First United Methodist Church		12/22/99	
9687	Joseph & Kathy Brandon			Easement settlement is in progress.
00 01 02	City of Pierre		10/19/00	
5470	Donald Epstein		04/18/00	
5230	DeAntoni Trust		12/1/99	
	Brain Puckett			Easement settlement is in progress.

Item 2:

Provide a schematic showing the transmission facilities serving the City of Pierre currently and as proposed. Provide details on how the power is transmitted to/from the Ash, Evans, and Western Area Power Administration (Western) substations. Provide details on how the power is looped and any redundancy in the system.

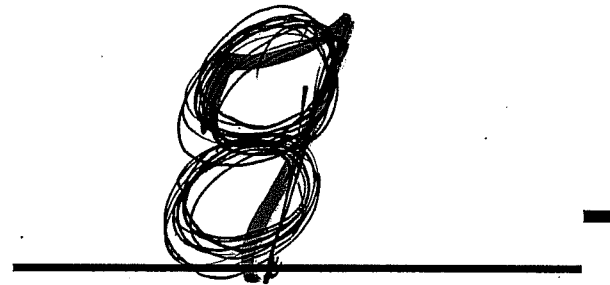
Response to Item 2:

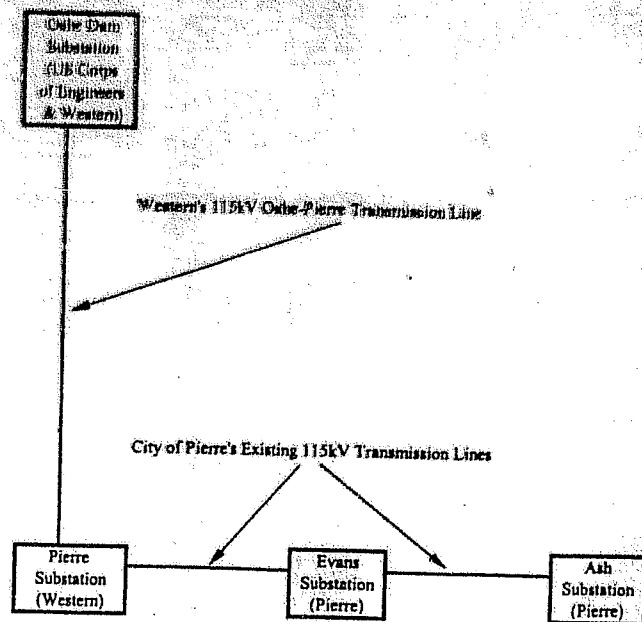
See the attached schematic of the City's existing and proposed transmission facilities.

The City's 115kV transmission line supply is currently provided through a single dedicated buy in Western Area Power Administration's (Western's) Pierre Substation. While Western may have some options for the power supply to the dedicated Pierre 115kV buy, there is no redundancy in the present City-owned 115kV transmission line system.

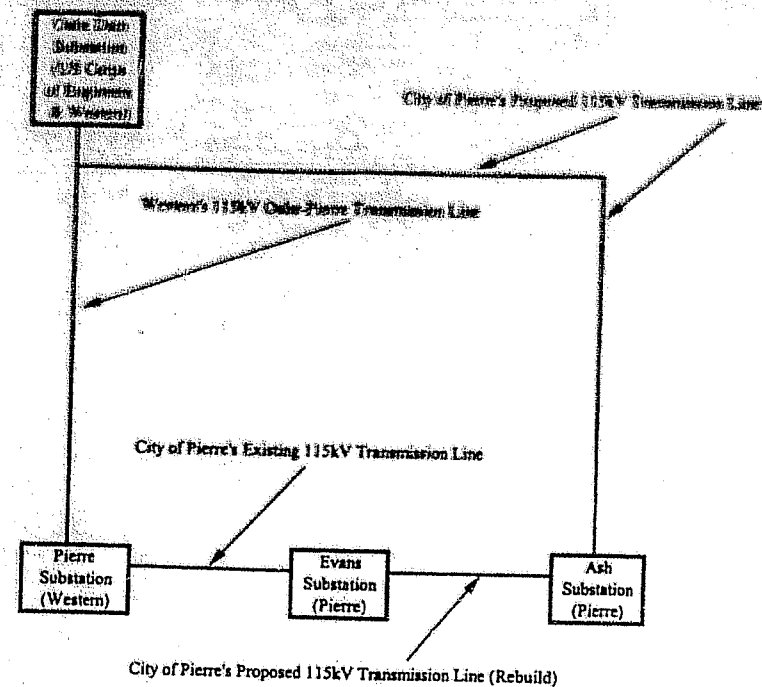
The proposed Ash to Oahe-Pierre 115kV transmission line will provide that redundancy. In addition to the 115kV loop created by constructing the proposed transmission line, the proposed 3-way switch in the Oahe-Pierre 115kV transmission line interconnection makes it possible for Pierre's Ash and Evans Substations to be supplied 115kV power from either Western's Pierre Substation or from the Oahe Dam. The presence of this 3-way switch also offers the flexibility to isolate either end of the Oahe-Pierre 115kV line for maintenance and not disrupt the redundancy to Pierre's 115kV transmission line system.

CONTINUATION





EXISTING



PROPOSED

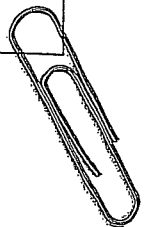
City of Pierre 115kV Transmission Line System

Continuation

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2

of pages



Item 3:

The map in Appendix B shows the Ash to Oahe-Pierre 115kV line tapping into the Western 230kV line. The application does not mention any transformers at the tap point. Please explain the tap configuration.

Response to Item 3:

The tap point label on this map is incorrect. The Western Oahe-Pierre line is a 115kV transmission line; therefore no transformation is required. The tap configuration would be as shown in Figure 5.1, page 12 of the application.

Item 4:

Provide a map showing the rights of way for both proposed lines. Include on the map the pole locations, landowner identification, distance of the line from center of roads or property lines.

Response to Item 4:

See the following map that shows the proposed right of ways, landowner identification, and approximate centerline location. Points of intersection (PIs) are shown. These are specific pole locations at line angles. Pending PUC permit application approval, the final line design will be conducted. Therefore, exact pole locations for tangent (in-line) poles are not known at this time. It is anticipated that pole spacing will be approximately 800 feet; however, that spacing will vary so as to optimize the design in response to terrain or localized land use concerns.

CONTINUATION

9 10 -

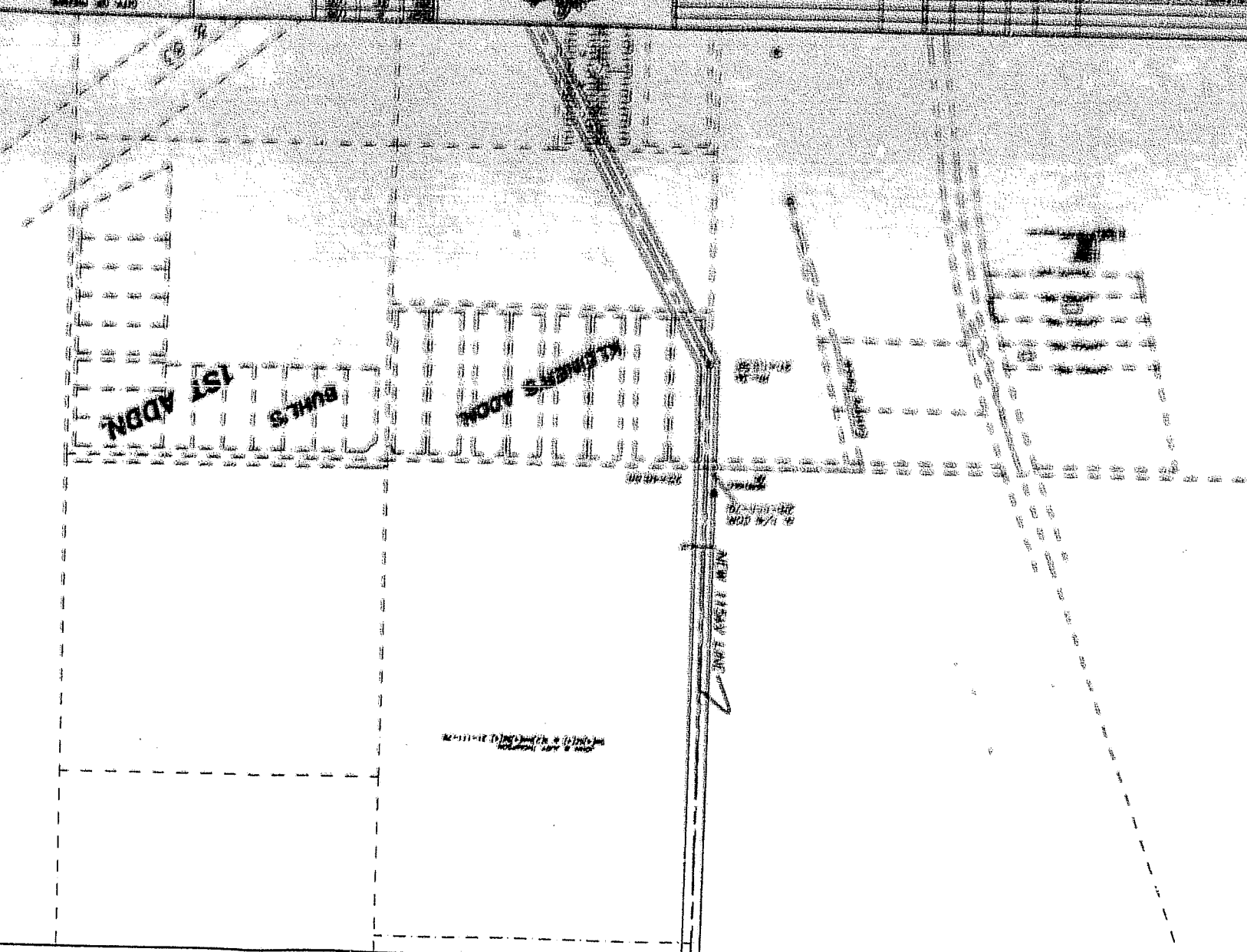
PURSE	3,06,97,88 H
BY	8
PURSE	3,06,97,88 H
	2
PURSE	3,06,97,88 H
	9
PURSE	3,06,97,88 H
	5

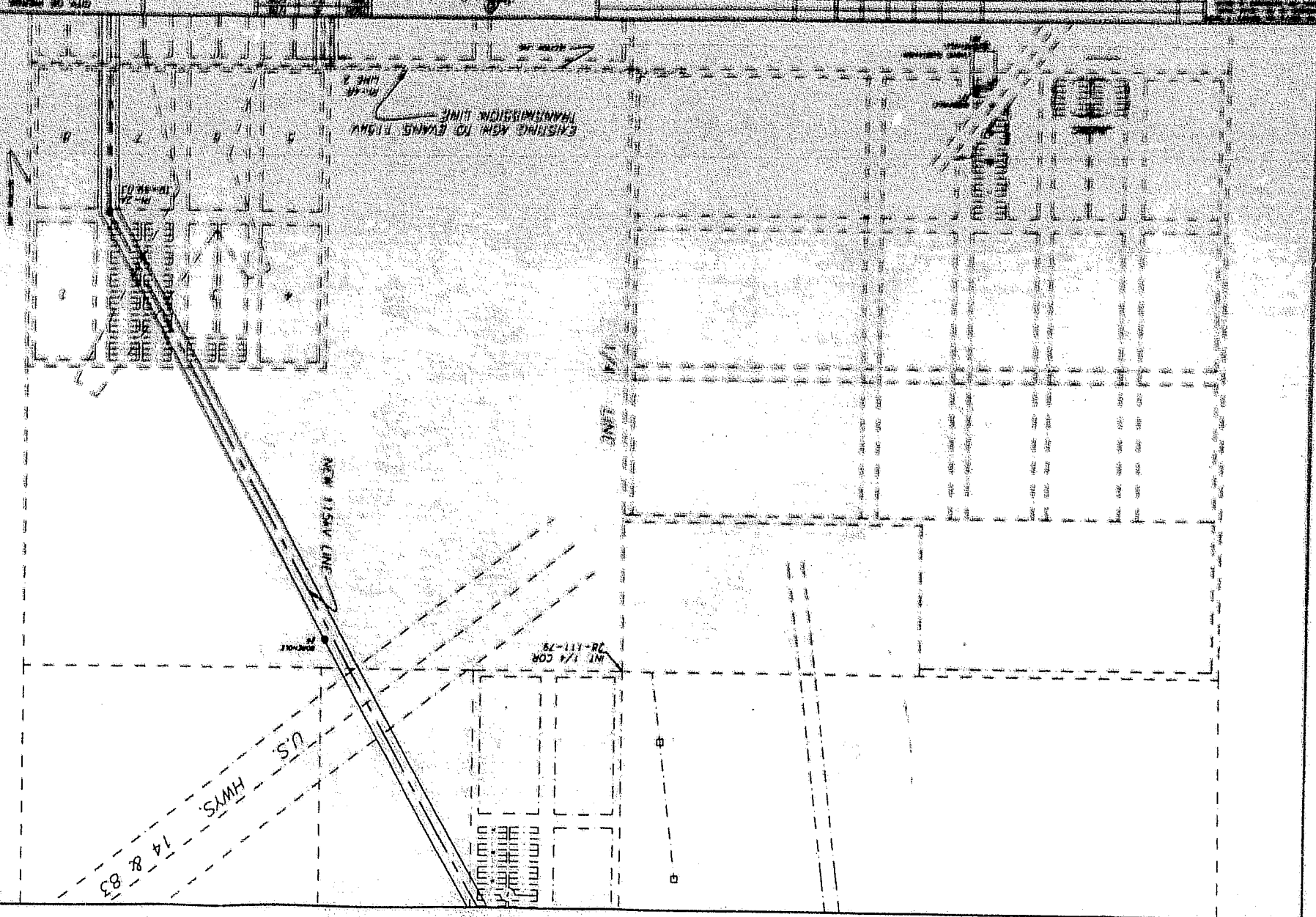
1ST ADDN
BULL'S

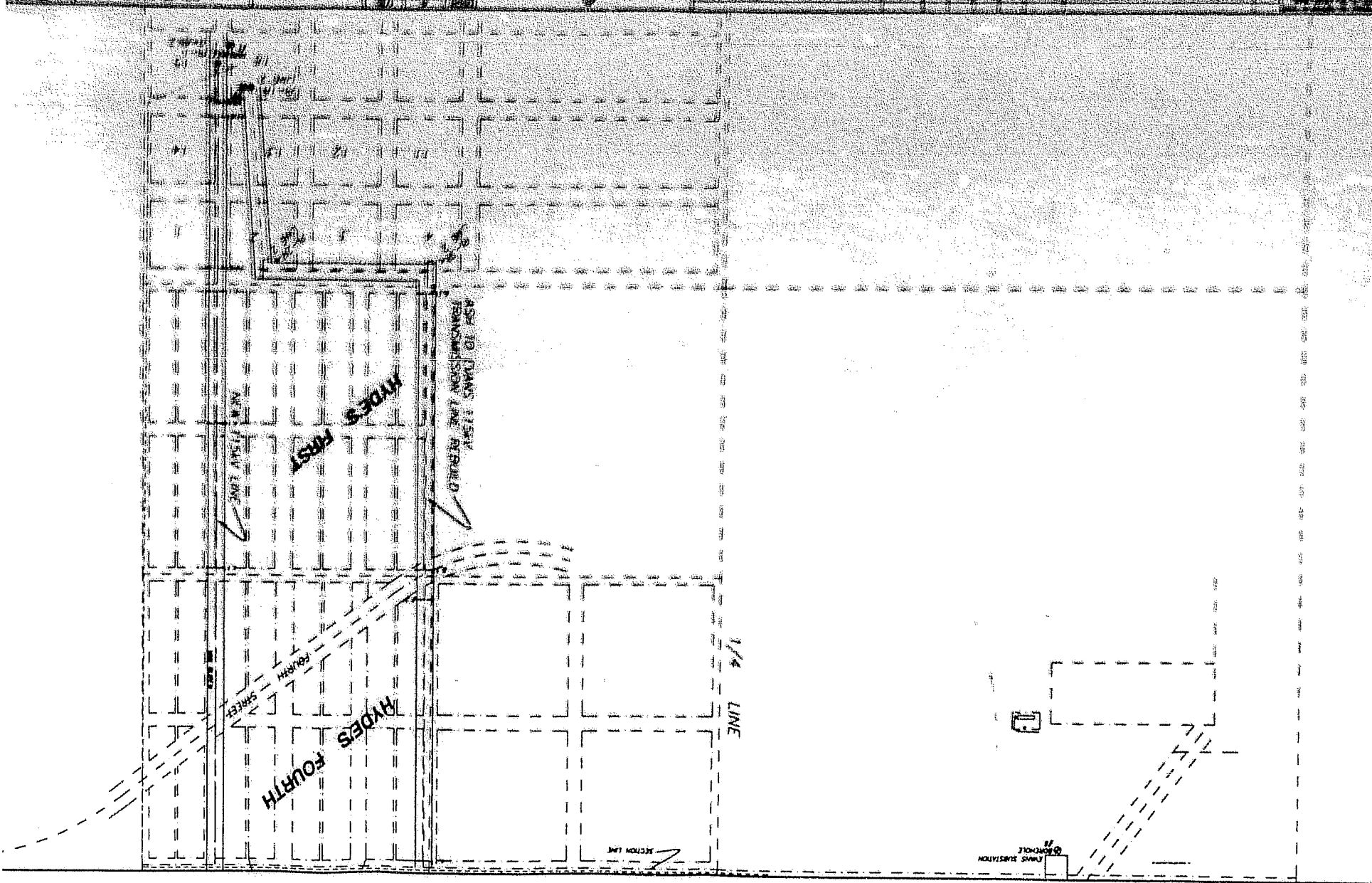
KITCHEN'S ADDN

NEW HIGH LINE

NOT TO SCALE

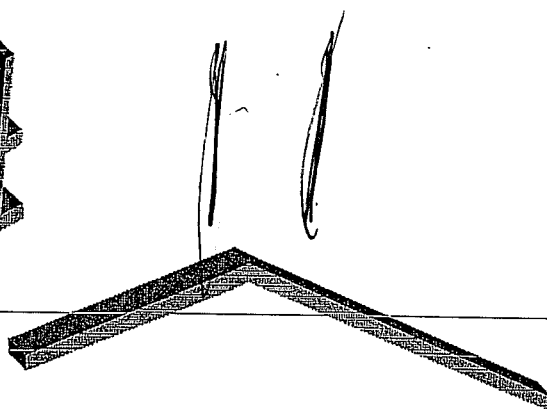




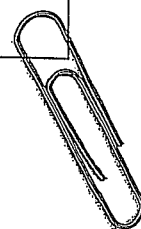


continuation

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of pages



Item 5:

Provide details on how the widths of the rights of way were determined. Provide reference to all documents or standards utilized in determining the width of the rights of way.

Response to Item 5:

The formula to determine the width of right of way requirement calculates the horizontal displacement of the conductor due to the force of a 6 psf wind upon the maximum span of conductor (final sag at 60° F) added to values for structure deflection, insulator swing and horizontal electrical clearance.

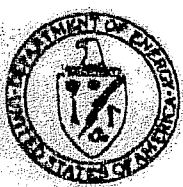
National Electrical Safety Code -1997, Rule 234G1

Item 6:

Provide a copy of the agreement between the City of Pierre and Western to tap into the Western line.

Response to Item 6:

See attached copy of correspondence between the City and Western.



Department of Energy
Western Area Power Administration
Upper Great Plains Region
P.O. Box 35800
Billings, MT 59107-5800

6520.13

DEC 06 1999

B6203.BL

Mr. Todd Chambers
Electrical Engineer
Pierre Municipal Power
and Light Department
P.O. Box 1253
Pierre, SD 57501-1253

Dear Mr. Chambers:

Enclosed, for your records, are one executed and two authenticated copies of Contract No. 99-UGPR-252 between Western Area Power Administration (Western) and the City of Pierre, South Dakota, (Pierre).

Contract No. 99-UGPR-252 provides for the modifications on Western's Oahe-Pierre 115-kV transmission line in preparation of a future tap by Pierre.

If you have any questions, please telephone Nancy Senitte at (406) 247-7429

Sincerely,

Robert J. Harris
Power Marketing Manager

Enclosures

UNITED STATES
DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION

Pick-Sloan Missouri Basin Program-Eastern Division

CONTRACT FOR MODIFICATIONS ON WESTERN'S OAHÉ-PIERRE 115-KV
TRANSMISSION LINE FOR
THE CITY OF PIERRE, SOUTH DAKOTA

1. PREAMBLE: This Contract is made this 16th day of November, 1999, pursuant to the Acts of Congress approved June 17, 1902 (32 Stat. 388), December 22, 1944 (58 Stat. 887), August 4, 1977 (91 Stat. 565), and Acts amendatory or supplementary to the foregoing Acts between the UNITED STATES OF AMERICA, acting by and through the Administrator, Western Area Power Administration, Department of Energy, hereinafter called Western, represented by the officer executing this Contract or a duly appointed successor, hereinafter called the Contracting Officer and the CITY OF PIERRE, SOUTH DAKOTA, a Municipal Corporation duly organized under and by virtue of the laws of the State of SOUTH DAKOTA, hereinafter called Pierre; their successors and assigns, each sometimes called Party, and both sometimes hereinafter collectively called Parties.

2. EXPLANATORY RECITALS:

2.1 The Parties previously entered into Contract No. 90-BAO-571 (Original Contract), dated February 8, 1991, as it may have been amended from time to time, which provides, among other things, for the sale of firm electric power and energy to Pierre.

2.2 The Parties agree that Western will convert structures 73/4 and 73/5 on the Oahe-Pierre transmission line into 3-pole wood dead-end structures. The conversion is in preparation of a future tap by Pierre between the two structures.

3. AGREEMENT:

3.1 The Parties agree to participate in the completion of the replacement of the structures under the terms and conditions set forth herein.

3.2 This Contract shall be subject to all terms and conditions of Contract No. 90-BAO-571 dated February 8, 1991, between Pierre and Western.

4. TERM OF CONTRACT: This Contract shall become effective on the date of execution, and shall remain in effect until November 1, 2000, or completion of the Project, whichever occurs first.

5. RESPONSIBILITIES OF WESTERN: Western, at Pierre's expense, shall replace structures 73/4 and 73/5 on the Oahe-Pierre 115-kV transmission line. This includes the removal of the two existing H-frame wood pole structures, installation of two 3-pole wood dead-end structures with associated hardware and insulator assemblies, and installing a new conductor and overhead ground-wire between the new structures.

6. RESPONSIBILITIES OF PIERRE: Pierre shall be responsible for all costs associated with the transmission line modifications.

7. BILLING AND PAYMENT: The fixed fee cost of replacing two existing H-frame wood pole structures with two 3-pole wood dead-end structures at locations 73/4 and 73/5 on the Oahe-Pierre 115-kV transmission line is \$49,000. Payment is required

before Western will begin the work specified in this Contract.

IN WITNESS WHEREOF, the Parties have caused this Contract to be executed the
day and year first above written.

WESTERN AREA POWER ADMINISTRATION

By *Gerald C. Wagon*

Title Regional Manager

Address P.O. Box 35800

Billings, MT 59107-5800

(SEAL)

CITY OF PIERRE, SOUTH DAKOTA

By *Allen J. Spaw*

Title Mayor

Address P.O. Box 1253

Pierre, SD 57501

Attest:

By *Keith J. Smith*

Title Trust Officer

Item 7:

Provide a map showing the location of the proposed line in relation to the planned Highlands Ridge development on Fourth Street. Provide distances from the lots to the proposed line.

Response to Item 7:

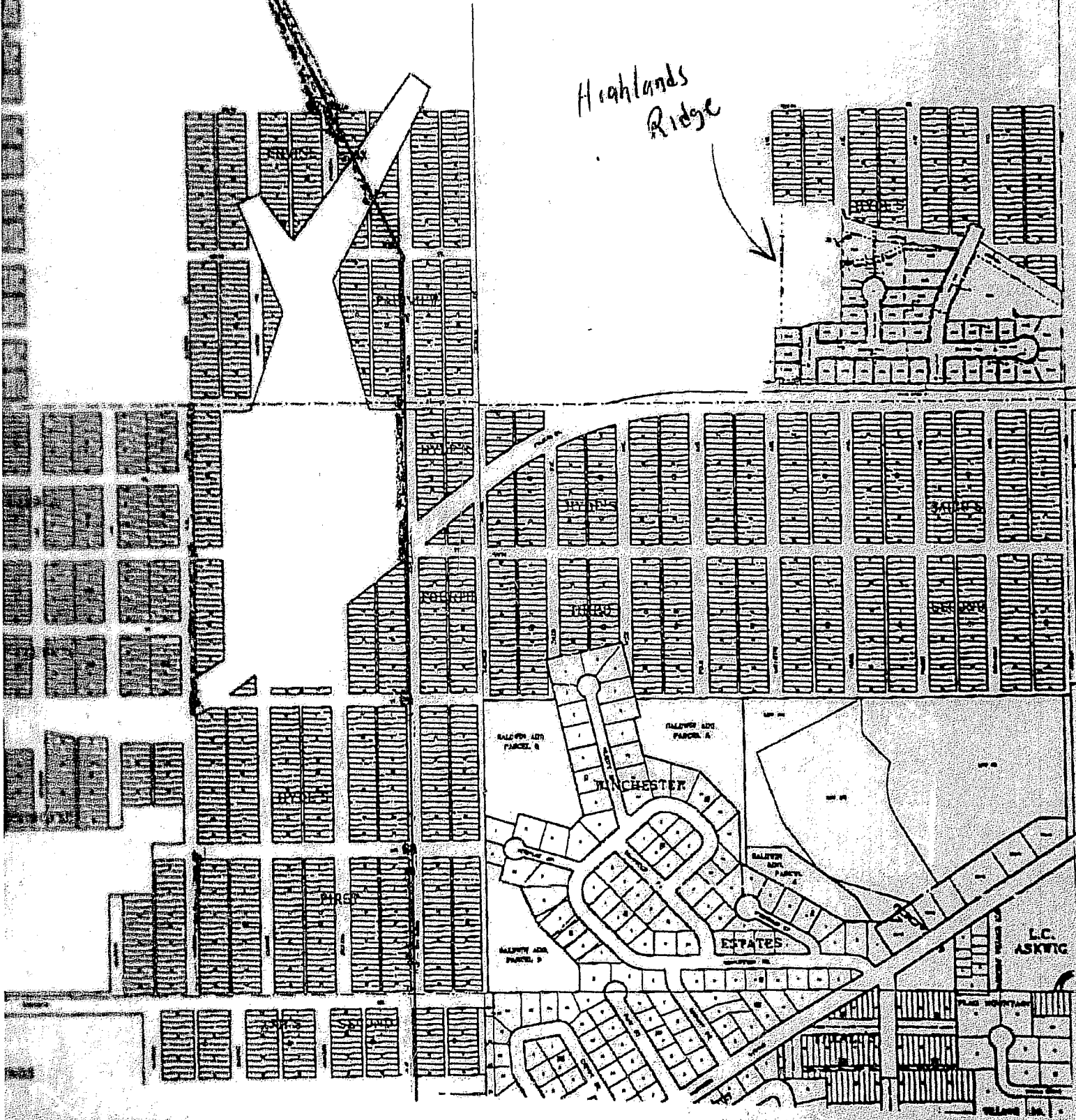
See maps below



← 1/2 mi. →

Ash to Oahe-Pierre Line

Highlands
Ridge



CONTINUATION

12 -

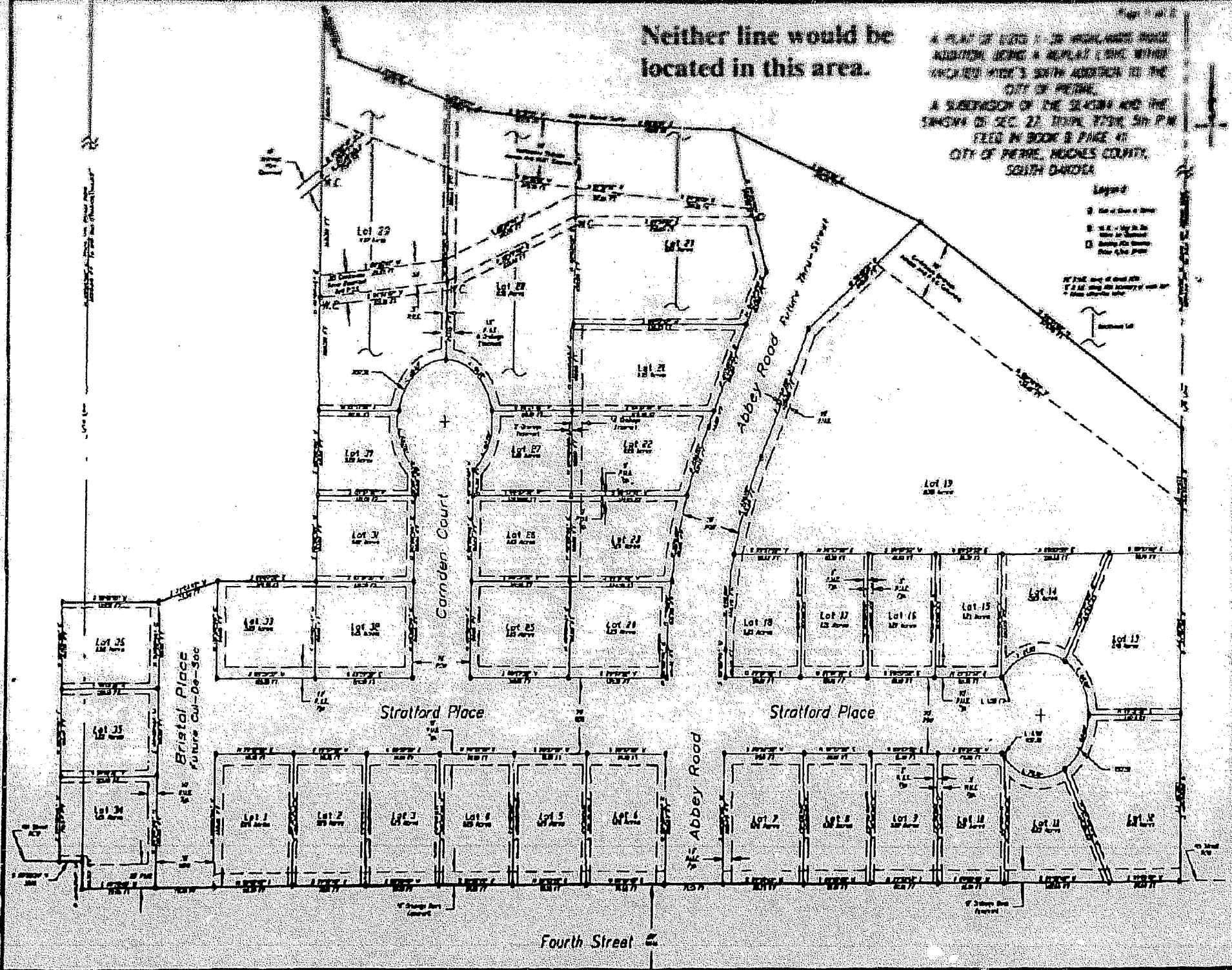
Neither line would be located in this area.

A PLAN OF LOTS 1-20 HIGHWAY 2000
ADDITIONAL BEING A REPLAT LOTS WITHIN
WILLARD WATTS'S SOUTH ADDITION TO THE
CITY OF PIERRE.
A SUBDIVISION OF THE SEASONS AND THE
TOWN OF SEC. 22 TOWNSHIP 57N. 54N. PM
FILED IN BOOK 2 PAGE 41
CITY OF PIERRE, HUGHES COUNTY,
SOUTH DAKOTA

Legend

- 1. Lot or Block of Land
- 2. U.S. - 1/4 Sec. 22
- 3. Boundary of Town
- 4. Boundary of Block

NOT TO SCALE
T. 57 N. 54 N. PM
S. 22 T. 57 N. 54 N. PM



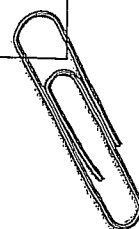
Continuation

#

13



of pages



Item 8:

Did the U.S. Fish and Wildlife Service, South Dakota Game, Fish and Parks, or the Corps of Engineers provide comments regarding the environmental assessment? If so, please provide a copy of those comments.

Response to Item 8:

These agencies were consulted during project scoping. Copies of their respective comments are included below.



RECEIVED 1999

APR 19 1999

Project as described will have no significant impact on fish and wildlife resources. It does not involve any federally listed threatened or endangered species or their habitats. If project design changes, please submit plans for review.

4-16-99

Date

Field Supervisor

Dave Allardyce
US Fish and Wildlife Service
430 S. Garfield
Pierre, SD 57501

Subject: 120522-01 Ash Substation to Western Area Power Administration Tap
115kV Transmission Line

Dear Mr. Allardyce,

On October 22, 1998, POWER Engineers, on behalf of the City of Pierre, South Dakota (City) submitted a request to your office for an environmental review of the City's transmission line upgrade project.

Your office responded by saying that the "Project as described will have no significant impact on fish and wildlife resources. It does not involve any federally listed threatened or endangered species or their habitats. If project design changes, please submit plans for review."

Upon further field evaluation, it has become necessary for the City and POWER Engineers to alter the route previously submitted to your office.

The purpose of this letter is to request from your office an environmental review of the revised route. I have included a detailed map and description of the revised route for your reference.

LET AMZMA
JHW WISE
LYN A
file 120522-01
-24-04-05

PROJECT DESCRIPTION

The City's proposed Ash Substation to Western Area Power Administration's (Western) Oahe-Pierre Tap 115 kV transmission line project would include the rebuilding of an existing line segment, and the construction of new segments. This combination was selected on the basis of a comparative route selection and evaluation study. The route which will be addressed in the City's environmental compliance document and siting permit application represents the preferred option which was selected from eight alternatives on the basis of specific routing criteria. The preferred option best fulfills the City's requirements while minimizing environmental, land use, and socioeconomic impacts.

Based on current planning, the section of the City's existing 115 kV line between the Eighth Street and Madison Avenue intersection and the Ash Substation would be removed. This section of 115 kV transmission line would then be rebuilt beginning at the Eighth Street and Madison Avenue intersection. The new line segment would then continue south along the east side of the platted right-of-way of Madison Avenue. At the

April 9, 1999

Page 2

intersection of Madison Avenue and Elizabeth Street, the rebuilt line route would turn to the east and continue along the south side of the Elizabeth Street right-of-way to the platted alley that exists between Jackson and Van Buren Streets. The rebuilt line would run south in this alley to reach the Ash Substation. Relocating the City's existing 115 kV line and rebuilding it along the proposed route would eliminate the overhead crossing of two major lines, thus increasing reliability and reducing visual impacts.

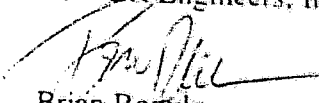
The new line would start at the Ash Substation and head in a northerly direction for approximately three-quarters of a mile on the east side of the platted right-of-way of Van Buren Street. At a point approximately 600 feet north of the intersection of Eighth and Van Buren, the line would extend north-northwest for approximately two thirds of a mile before turning due north. The line would continue due north from this point on the half section lines bisecting Sections 28 and 21, T11N, R79W. This portion of the line would be approximately 1.36 miles long, extending to the intersection of the half section line and Perch Place Road. The line would cross Perch Place Road, and head west along the north side of Perch Place Road to reach Western's Oahe-Pierre 115 kV transmission line. Western's existing line would serve as the termination of the City's project.

It should be noted that the entire project is located within the central portion of Hughes County more than one mile from the Missouri River floodplain. The principal land use classifications in and along the corridor include single family residential in the vicinity of the Ash Substation, rangeland and croplands, and other linear facilities such as roads and existing powerline rights-of-way.

Please use the enclosed addressed envelope to return the results of your findings to my attention.

Thank you for your prompt attention in this matter.

Sincerely,
POWER Engineers, Inc.


Brian Rozyla
Environmental Specialist

Roze/br
cc: Lynn Askew (POWER)
Les Hinzman (POWER)
John Wiese (POWER)
Todd Chambers (City of Pierre)
File: 120522-01-24-02-02



DEPARTMENT OF GAME, FISH AND PARKS

Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

COPY

RECEIVED

APR 16 1999

April 12, 1999

Brian Rozyla
Power Engineers, Inc.
PO Box 1066
Hailey, Idaho 83333

Subject: 120522-01

Dear Mr. Rozyla:

I am writing in response to your letter of April 9 concerning the rerouting of the Ash Substation to WAPA 115kV Transmission Line. I have reviewed the new route and checked our databases for any occurrences of rare, threatened or endangered species in the area. There are no records of rare or T&E species in that area. The power line is still very near the Hilger's Gulch kid's fishing pond and there may be an impact on the fishing area. Bird strikes are always a concern with transmission lines. The impact on the use of the fishing pond and potential for bird strikes are the main concerns. We have minimal concerns over loss of habitat for wildlife or loss of wetlands. Any steps that can be taken to reduce bird strikes and to lessen impact on the fishing pond should be taken.

If you have any questions or need additional information, please contact me at (605) 773-4345.

Sincerely,

Doug Backlund
Resource Biologist



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

REPLY TO
ATTENTION OF

April 14, 1999

RECEIVED
APR 19 1999

South Dakota Regulatory Office
28563 Powerhouse Road, Room 120
Pierre, South Dakota 57501

POWER Engineers, Incorporated
Attn: Brian Rozyla
3940 Glenbrook Drive
PO Box 1066
Hailey, Idaho 83333

Dear: Mr. Rozyla

Reference is made to the additional information received April 12, 1999, concerning Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act permit requirements. After reviewing the City of Pierre's proposal to change the routing of the proposed 115 kV electrical transmission line this office has determined that a Department of the Army permit will not be required for the modified route. The proposed project is located in Sections 16, 17, 21, 28, 33, Township 111 North, Range 49 West, Hughes County, South Dakota.

However, if in the future you anticipate doing work or placing material in any waters of the United States, please provide this office with an application for review for possible permit requirements.

Although an individual Department of the Army permit pursuant to Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act is not required for the modified project, this does not eliminate the requirement that you obtain other applicable Federal, state, tribal and local permits as required.

If you have any questions concerning this matter, please feel free to contact this office by writing to the above Regulatory Office address, or telephone (605) 224-8531, and reference action ID 199930007.

Sincerely,

Steven E. Naylor

Steven E. Naylor
Regulatory Program Manager,
South Dakota

LES HANZMAN
LW ASKOW
JOHN WIESE
FILE 120522 04 24 01 01

Item 9:

Please provide all comments received regarding the construction of the proposed lines.

Response to Item 9

See copies of comments received below.

CITY COMMISSION ROOM
PIERRE, SOUTH DAKOTA
DECEMBER 3, 1997

The City of Pierre Board of Commissioners met in special session with Commissioners Rapp, Simon, Thomsen and Mayor Drewes present for roll call. Commissioner Weiss was absent. Approximately 11 people were in attendance.

This being the time and place set for the hearing on the 115k V transmission line routing, Mayor Drewes opened the hearing, and asked Power Engineers' Lynn Askew, Brian Rozyla and Les Hinzman to present the proposal.

Godfrey Roberts and Carla Sahr appeared and stated that they approved of the project, but not at the Madison Avenue route, and proposed that the line be put underground.

John Thompson, who owns 100 acres outside the city limits, agreed with Mr. Roberts and expressed his concern about property values because of the overhead lines.

Bruce Johnson, Grandview Addition, also agreed that the line should be underground.

Discussion was held regarding maintenance of an overhead line and the dangers of slides and maintenance of the underground line. It was mentioned that the cost of the underground line would be four to seven times more than the cost of the overhead line.

Bob Sahr readdressed property values and the fact that the line should be put underground. Carla Sahr questioned whether the costs could be shared with telephone and cable TV.

Commissioner Thomsen moved and Commissioner Rapp seconded to adjourn.
Unanimous Approval.


Kenneth L. Hericks
Finance Officer

LAW OFFICES
RITER, MAYER, HOFER, WATTIER & BROWN, LLP
Professional & Executive Building
319 South Coteau Street
P. O. Box 280
Pierre, South Dakota 57501-0280

R. C. RITER (1912-1994)
E. D. MAYER
ROBERT D. HOFER
ROBERT C. RITER, JR.
JERRY L. WATTIER
JOHN L. BROWN

TELEPHONE
605-734-6633
TELECOMMER
605-734-7100

June 9, 1998

HAND DELIVERED

Mr. Todd Chambers
City of Pierre
222 East Dakota
Pierre, SD 57501

Re: In the Matter of the Petition for Declaratory Ruling
Filed by the City of Pierre Regarding a Transmission Line
EL-98-004

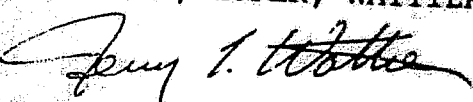
Dear Todd:

Please find enclosed a copy of the Response to City's Additional Submissions and Evidentiary Objections to Additional Submissions which I received from Tom Maher yesterday afternoon in regard to the above referenced matter.

Please review Mr. Maher's filings so that we might discuss the same.

Very truly,

RITER, MAYER, HOFER, WATTIER & BROWN, LLP

By: 

JLW/ced

Enclosures

Take copy

LAW OFFICES OF
MAHER AND ARENDT
201 NORTH FULD, SUITE 1
PIERRE, SOUTH DAKOTA 57501-1571

THOMAS M. MAHER
AL ARENDT
THOMAS P. MAHER

June 8, 1998
Hand Delivered

(605) 224-0411
FAX (605) 224-0435

Mr. William Bullard
Executive Director
South Dakota Public Utilities Commission
State Capitol Building
Pierre, South Dakota 57501

Re: In the Matter of the Petition for Declaratory Ruling Filed
by the City of Pierre Regarding a Transmission Line
EL98-004

Dear Mr. Bullard:

Pursuant to agreement, we have filed original Response to
City's Additional Submissions and Evidentiary Objections to
Additional Submissions on behalf of the Intervenor regarding the
above-referenced matter, and herewith enclose ten copies of both
the Response and Evidentiary Objections. I am also enclosing
original corrected pages 4 and 11 to the Response.

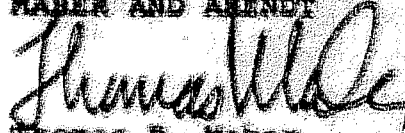
Also, enclosed for filing is original and ten copies of my
Certificate of Service.

I have today hand delivered a copy of both the Response and
Evidentiary Objections to Mr. Wattier.

Thank you.

Very truly yours,

MAHER AND ARENDT


Thomas P. Maher

TPM:plm
Enclosures

cc: Mr. Jerry L. Wattier
cc/encl: Mr. Brent A. Wilbur
Mr. Terry Barge
Mr. and Mrs. Bernard Beastro
Mr. Harvey Buhl
Mr. and Mrs. Brian Puckett

Watter

*Received
5:00 pm 6/8/98*

LAW OFFICES OF
MAHER AND ARENDT
201 NORTH EUGENE, SUITE 1
PIERRE, SOUTH DAKOTA 57501-2371

THOMAS M. MAHER
AL ARENDT
THOMAS P. MAHER

(505) 224-1244
FAX: (505) 224-1244

June 8, 1998
Via Fax 773-3809 & U.S. Mail

Mr. William Bullard
Executive Director
South Dakota Public Utilities Commission
State Capitol Building
Pierre, South Dakota 57501

Re: In the Matter of the Petition for Declaratory Ruling Filed
by the City of Pierre Regarding a Transmission Line
EL98-004

Dear Mr. Bullard:

Enclosed please find original and 10 copies of the following documents on behalf of intervenors regarding the above-captioned matter:

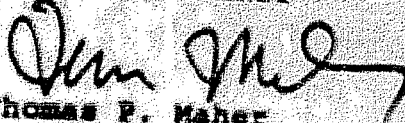
1. Response to City's Additional Submissions; and
2. Evidentiary Objections to Additional Submissions.

By copy of this letter, I am faxing copy of same to Mr. Hofer and Mr. Wilbur.

Thank you.

Very truly yours,

MAHER AND ARENDT


Thomas P. Maher

TPM:plm
Enclosures

cc/encl: Mr. Robert D. Hofer (Fax 224-7102)
Mr. Brent A. Wilbur (Fax 224-6289)
Mr. Terry Barge
Mr. and Mrs. Bernard Beestrom
Mr. Harvey Buhl
Mr. and Mrs. Brian Puckett

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE PETITION	)	EL98-004
FOR DECLARATORY RULING FILED	)	
BY THE CITY OF PIERRE	)	EVIDENTIARY OBJECTIONS TO
REGARDING A TRANSMISSION LINE	)	ADDITIONAL SUBMISSIONS
	)	

COMES NOW Intervenorrs Harvey Buhl, Bernard and Theima Beastrom, Terry Barge, and Brian and Mary Puckett, by and through their attorneys of record, Thomas M. Maher and Thomas P. Maher of the Maher & Arendt law office, Pierre, South Dakota, and for their evidentiary objections to City of Pierre's additional submissions herein, state as follows:

New Map for Segment A

It is fundamental that a sufficient foundation and authentication must be laid in order for a document to be properly considered in evidence.

The rules relating to the authentication and identification of evidence are specialized rules of relevance. Absent proper authentication or identification, the evidence is simply irrelevant.

John W. Larson, *South Dakota Evidence*, pg. 733, §900.1 (1997).

Intervenorrs object to consideration of the new map for Segment A, as same is without sufficient foundation to accept the map into evidence. There is no showing, whatsoever, regarding who prepared it. It is not dated. No foundation is offered by City to show from what basis of information this apparently computer generated document came, nor that its contents are true and

correct. The map is not self-authenticating. It does not bear the file stamp or seal of any public office.

For these reasons, the City's new map is irrelevant and should be excluded from the consideration as evidence in this case.

This new map appears to be a recent production which has been prepared wholly for this legal proceeding. This is an undated map, with no indication of who prepared it, nor any foundation to show that what is shown on the map in terms of the location of the proposed line, platted streets, property lines, land ownership, distances, etc. are true and correct. As a result, even if it is considered in this case, the City's new map can only be considered for illustrative purposes.

If the City and its engineers have the ability to prepare such maps, why was this same information withheld or simply not prepared for this Commission regarding Segments B, C, D, E, F, G, H, I, J, K, and L?

Affidavit of Hughes County Register of Deeds

Intervenors object to any information submitted to the effect that streets exist. There is no legal basis to consider whether a street is now "Van Buren", but was previously "Seventh", or that "Pleasant" was formerly "Oak". There is further no competent basis for this Commission to even conclude that a platted street "X" was formerly street "Y".

There is no competent evidence that any of these "streets" were ever formally accepted and dedicated, as required by the Dittman case. The entire area that is the subject of the City's proposed transmission line exists only as grass and yucca.

CONCLUSION

The City's new map of Segment A and the list of streets are without adequate foundation. As a result, they are not properly in evidence and should not be weighed as evidence in this case.

Dated this 8th day of June, 1998.

MAHER & ARENDT


Thomas M. Maher

and


Thomas P. Maher

Attorneys for intervenors:
Harvey Buhl, Bernard and Thelma
Beastrom, Terry Barge, and
Brian and Mary Puckett
201 North Euclid Ave., Ste. 1
Pierre, SD 57501
Tel. (605) 224-0491
Fax. (605) 224-0493

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE PETITION
FOR DECLARATORY RULING FILED
BY THE CITY OF PIERRE
REGARDING A TRANSMISSION LINE

)
)
)
)
)

EL98-004

RESPONSE TO CITY'S
ADDITIONAL SUBMISSIONS

COMES NOW Intervenor Harvey Buhl, Bernard and Theima
Beastrom, Terry Barge, and Brian and Mary Puckett, by and through
their attorney of record, Thomas M. Maher, and for their Response
to City's Additional Submissions, state as follows:

City's New Map

The Intervenor has separately filed their evidentiary
objections to the Exhibits and materials submitted by the City at
this late date, which includes objection to the City's new map as
evidence.

Even if the new map is considered substantive evidence,
plainly, on its face, the proposed map does not correspond to the
map of the proposed transmission line submitted at the hearing in
this matter. This new map does not show the measurement across
the northern portion of the wetlands area, which the City agrees
is non preferred, and does not end at one of the south points of
the wetlands area as shown described on the attachment prepared
by Power Consultants to their letter of March 10, which was the
basis for the Petition in this matter.

The proposed map does not show the measurement in the "south
portion" of the wetlands and does not show the ownership line of

the claimed City property. There is also no measurement of the portion of the line which is in the wetlands on the south portion, and there is no logical reason why the north portion of the wetlands would be non preferred and the south portion be "preferred" and not measured.

Further, the proposed map must be inaccurate in extending past the north portion of the wetlands as the map does not show an ending point of Segment A.

No Measurements Provided for Connections to Ash Substation

The proposed map also does not properly measure the beginning point of Segment A. A reference to Power Consultants' letter of March 10, 1998, "Exhibit A", shows a rectangular line with a portion of the line drawn to point 1. There is no measurement of that part of Segment A, as described on the attachment to the City's Exhibit (Exhibit 4), which purports to be Segment A and on which the Commission has requested this additional information. In particular, the Affidavit of Todd Chambers does not tell this Commission if the line drawn from the rectangular figure to point 1 is transmission line and does not state any measurement. Clearly, that portion also, and everything to the north until platted lots, does not "follow" any property line, and no property line is designated as exempting that portion. Even if the City owns the "Ash Substation", there is still a length of transmission line or other associated facilities that will be necessary to connect to the point where

the line purportedly follows platted Van Buren. Please see highlighted portion of "Exhibit A". Also in the March 10, 1998 letter, it is admitted that Segment A is 167 feet east of the Ash Substation. See page 1, Exhibit 4 to Chambers Deposition.

Also, please note that the City has also failed to provide a measurement for the length of line and associated facilities required from the termination of Segment J to the Ash Substation. Please see "Exhibit B", incorporated herein by reference. Please note, in the March 10, 1998 letter, it is admitted that Segment A is 75 feet north of the Ash Substation. See page 2, Exhibit 4 to Chambers Deposition.

As a result, these unmeasured points will require a minimum of 242 feet of additional line and associated transmission facilities.

By Intervenor's visual comparison only, it appears that the unmeasured distances are close the length of Segment C, with is 300 feet. The City has presented no evidence regarding these lengths.

In this, there is no showing at any portion that where this proposed line crosses any of the blank areas between the platted lots that it is following any property lines. The City's best argument would be that it is 342 feet from the section line. We submit, as a matter of law, being 342 feet off of a section line does not meet the intention of the statute.

Further, the Exhibits show that various streets, with different names, were platted in these original plats. The City has offered no evidence that those original streets were even accepted by the City as City street as required by the Dittman case. Please note the plat to Ash's Second Addition to Pierre, which is attached to the Affidavit of the Hughes County Register of Deed's, includes several notes of streets, unknown portions of which, have been vacated.

Further, the City has not provided any ordinance or statute for any legal basis to claim that Phillips Avenue is Van Buren Avenue. Apparently, the City is claiming some kind of a "cross-referencing sheet", but such would have no legal authority and has not been submitted to this Commission and is not properly before the Commission.

Further this proposed "map" of Segment A alone shows that this section itself exceeds 1,010 feet in these categories from the scale attached to the Exhibit, and assuming the scale to be correct for purposes of this argument only, the additional area in the southern portion of the wetlands is at least 205 feet.

It is respectfully submitted also that it is the City's obligation to present on all of this line proper title work and proper drawings that will allow the Commission to determine if it has met its burden of proof. They have failed to provide on this line alone two clear measurements that they are counting as "preferred", one of which is the southern portion of the wetlands measurement, and the other is the measurement from the

rectangular mark line to point 1. They have also failed to properly show the ending point of Segment A.

Further, in that regard, they have absolutely failed to submit any property lines that they claim to be following as to Segments C and D. In that regard, in Segment C (2,248 feet long) they admit 1,948 is non preferred, but have not submitted any map or proof of a property line that they are following that approximate 300 feet they claim is "preferred". Further, in Segment D (1,993 feet long) they claim that all of said area is "preferred". However, the vacation of that plat vacates both the right-of-way of Leslie Avenue and the lots. Therefore, there are no lots in that subdivision to "follow". Therefore, in Segments C and D alone there is 1,993, plus 300 feet, for a total of 2,293 of transmission line which the City has not met its burden of proof on for this Commission.

The documents submitted affirmatively would show, if accepted, that substantial portion of these streets have been vacated. In fact, the Affidavit of the Register of Deeds states that "specifically the records of this office show that Van Buren Avenue (then known as Seventh Street) was vacated south of Pleasant Street (now known as Oak Street). This would be a portion of Van Buren which is located "two platted blocks south of Elizabeth Street". Referencing Exhibit D attached to Affidavit of the Hughes County Register of Deeds shows, at minimum, that everything south of the first two platted block was

vacated. Therefore, everything within the vacated portion is also non preferred. This would total 80 feet, plus whatever the measurement is from the rectangular mark on "Exhibit A" attached hereto, to point 1.

The map attached to the Affidavit of Todd Chambers may be accurate in that all of the portion of said line in the green section of said map is 342 feet away from the section line north of Tenth Street. At Tenth Street and south to the southern portion of the north wing of the wetlands area, the transmission line certainly does not follow Lots 46, 47 and 48, since the end of said lots is cut off and runs at an angle to the northeast. Further, the dotted property line of the "wetlands" also runs at an angle down to the point of the triangular shaped lots, being Lots 13-22, which are also at an angle.

Finally, no measurement is given from the south end of Lot 24 (Block 7) of Ervin's Fairview Addition to the north point of Lot 9 (Block 7) of Hyde's Fourth Addition. However, corresponding that distance to other measurements, it is apparent that that distance alone is 745 feet and is in the southern portion of the wetlands. If the map is correct that a portion of Segment A shown in the green portion of said map and using the scale shown on the map for purposes of this discussion, this distance by measurement is 4.75 inches, which on a scale of 1 inch equal 200 feet, would be a distance of 950 feet alone. Therefore, if the map is accurate, as counsel has stated we must

"assume" it is, that section (alone) would show another 950 feet that is 342 feet away from land known owned by Don Gallimore.¹ However, the City's exhibit shows Gallimore property as extending far east of that section and the section line is certainly not a property line of Gallimore. In fact, it would appear a distance out in the middle of his pasture-- clearly, the westerly one-third of his property.

Further, the Exhibits show on their face eleven different vacation of streets in all or in portions on the Ash Second Addition alone. In particular, clearly there are vacations on Elizabeth and Madison and these references are merely copied, in unreadable fashion, on the plat. Clearly, portions of J and K travel portions of Madison and Elizabeth and it is the burden of the City to establish that no applicable portions of these streets have been vacated. This Exhibit, on this subdivision alone, establishes that portions of both streets have in fact been vacated. Interestingly, the portion of the "rebuild line" has not been drawn in on Chambers' Exhibit 1. To meet this burden of proof, the City should have submitted and its consultants claimed to be capable of submitting to the Commission title analysis similar to this on each section of property. Intervenors have objected that the maps used by the City are in fact inaccurate and without foundation and the documents submitted by the City clearly establish that there are

¹ Please see City Attorney's June 2, 1998 correspondence, attached.