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OF THE STATE OF SOUTH DAKOTA

**SOUTH DAKOTA PUBLIC  
UTILITIES COMMISSION**

In the Matter of the Application )  
of East River Electric Power )  
Cooperative, Inc. for a Permit ) EL04-009  
to upgrade 36 Miles of 69 kV )  
Electric Transmission Line and ) STIPULATION  
Associated Facilities to 115 kV )  
in Minnehaha and Lincoln )  
Counties, South Dakota )

It is hereby stipulated and agreed between the Applicant, East River Electric Power Cooperative, Inc. ("East River") and the Staff of the South Dakota Public Utilities Commission ("Staff") that the following Finding of Facts and Conclusions of Law and an appropriate Order consistent with said Findings and Conclusions may be adopted by the Public Utilities Commission ("Commission") in the above-entitled matter. In support of this Application, the Applicant does hereby offer in support thereof all testimony, exhibits and responses to Staff's data requests submitted by the Applicant. Staff offers no answering testimony and exhibits conditioned upon the Commission accepting the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1.

East River's proposed Transmission Line Upgrade Project constitutes an electric transmission line and associated facilities with a design of 115 kilovolts, and more than one mile in length does not follow section lines, property lines, roads, highways or railroads, nor is it a reconstruction or modification of existing transmission lines and existing associated facilities located on abandoned railroad rights-of-way.

PURPOSE OF FACILITY

2.

East River is proposing to upgrade an existing 69 kilovolt line to provide for increased voltage and capacity levels

necessary to reliably meet the increasing electric demand of East River's member systems serving around the Sioux Falls area.

#### DESCRIPTION OF PROJECT

### 3.

East River's proposed Project includes the conversion of approximately 36 miles of existing 69 kV overhead transmission lines to 115 kV, converting seven existing 69/12.47 kV electrical distribution substations to 115 kV, replacing approximately 25 miles of shield wire with a shield wire containing a fiber optic wire (OPGW) and the addition of two new 230/115 kV transformations. One transformation will be located at Western Area Power Administration's (WAPA) Sioux Falls High Voltage Substation and one transformation will be at the jointly owned East River/WAPA Virgil Fodness High Voltage Substation. This proposed Project will include six segments;

- (A) Segment One will upgrade East River's existing transmission line between WAPA's Sioux Falls Substation and East River's Brandon Substation. This Segment will upgrade 5.9 miles of transmission line and three substations to 115 kV. The specific location of this Segment is set forth in Section 2.7.1 of East River's Application.
- (B) Segment Two will upgrade East River's existing transmission line between the Brandon Substation and East River's Rowena Substation. This Segment will upgrade 5.1 miles of transmission line and one substation to 115 kV. The specific location of this Segment is set forth in Section 2.7.2 of East River's Application.
- (C) Segment Three will upgrade East River's existing transmission system between the Rowena Substation and East River's Split Rock Substation. This Segment will upgrade 5.7 miles of transmission line and one substation to 115 kV. The specific location of this Segment is set forth in Section 2.7.3 of East River's Application.
- (D) Segment Four will upgrade East River's existing transmission system between the Split Rock Substation and East River's Harrisburg Substation. This Segment

will upgrade 8.9 miles of transmission line and two substations to 115 kV. The specific location of this Segment is set forth in Section 2.7.4 of East River's Application.

- (E) Segment Five will upgrade East River's existing transmission system between the Harrisburg Substation and Interstate 29. This Segment will upgrade 7.8 miles of transmission line to 115 kV. Two new 230/115 kV transformations, one at WAPA's Sioux Falls Substation and one at the jointly owned East River/WAPA Virgil Fodness Substation will also be constructed in this Segment. The specific location of transmission line in this Segment is set forth in Section 2.7.5 of East River's Application. The specific location of the new transformations is set forth in Sections 2.7.1 and 2.7.6 of East River's Application.
- (F) Segment Six will rebuild East River's existing 2.5 mile 69 kV transmission line between Interstate 29 and the Virgil Fodness Substation. This Segment will create a 2.5 mile 115/69 kV double circuit line. The specific location of this Segment is set forth in Section 2.7.6 of East River's Application.

#### 4.

The existing transmission lines, substations and transformations in the proposed Project will require no new right-of-way (ROW).

#### 5.

The Project will replace in Segment One, 4.5 miles of wooden poles, crossarms and conductor and in Segment Five, 2.75 miles of wooden poles, crossarms and conductor. The replacement structures will consist of both single wooden pole structures with polymer side mount insulators and two pole wooden structures with wooden crossarms and porcelain insulators described in (F). The spacing of the poles being replaced will be reduced from 400'-450' to 350'. This will result in additional poles being added to the existing line.

6.

The 2.5 mile rebuild described in Segment Six will convert the existing line from its current single circuit design, comprised of four wires to a double circuit design comprised of seven wires. The current poles will be replaced with single wooden pole structures and side mount polymer insulators. The poles will average 70' in height. Twenty five miles of shield wire will be replaced with an optical ground wire. Diagrams of the different pole structures are included in East River's Application.

#### DEVIATIONS FROM DESCRIBED CENTER LINE

7.

East River does not anticipate to deviate from the specific location of the centerline of the existing transmission line as described in Section 2.7 in East River's Application.

#### ESTIMATED COST OF FACILITY

8.

The total estimated construction cost for the line and substation upgrades as well as the two new transformations is \$6,908,000. No additional right-of-way acquisition or land purchase costs are expected.

#### DEMAND FOR THE FACILITY

9.

The historic and projected summer and winter peak electrical demand for the East River's load on the east side of Sioux Falls is increasing by 5% annually. A table showing summer and winter peak kW demands for 1994 through 2003 and projected kW demands for 2010 and 2015 is included in Section 2.6 of East River's Application.

10.

This Project will allow East River to reliably and efficiently serve the current and projected load growth of East River member systems' Sioux Valley Energy and Southeastern Electric Cooperative in the Sioux Falls area. It will also

strengthen and reinforce the rest of East River's transmission system in the Sioux Falls and surrounding area providing increased reliability and capacity to East River and its member systems.

11.

If the 115 kV upgrade Project is not done or is delayed significantly beyond the projected completion date and the load grows as projected, the East River transmission system in the Sioux Falls area will have increasing operational, reliability, and system loading problems. As system loading increases, serving the load reliably and preventing thermal overloading during system contingencies will become more difficult.

#### SITE DESCRIPTION

12.

East River's proposed Project is described in Segments. The location of the Segments is shown in East River's Exhibits 4, 4a, 4b, 5, 5a, 5b, 6, 6a, 6b, 7, 7a, 7b, 8, 8a, 8b, 9, 9a, and 9b of the Application, and are summarized below:

- (A) The first Segment of the Project originates at WAPA's Sioux Falls Substation located at 4400 North Timberline Avenue and extends east paralleling the north side of Rice Street to East River's West Brandon Substation. The Project continues north to 261st Street where the line route turns east and runs on the south side of 261st Street to East River's Brandon Substation. One-half mile east of the Brandon Substation, a line tap originates and extends north approximately one-half mile, crossing Interstate 90. At that point the line tap runs west for one-quarter mile and then turns north where it continues for one-half mile to the Corson Substation. Three substations will be upgraded in this Segment, in addition to the transmission line.
  
- (B) The transmission line in Segment Two originates at East River's Brandon Substation and extends east paralleling 261st Street to 483rd Avenue where it turns south. The line continues south paralleling 483rd Avenue and the section line until it enters East River's Rowena Substation. In addition to the line

upgrades, one substation will be upgraded in this Segment.

- (C) The transmission line in the third Segment originates at East River's Rowena Substation and extends south paralleling 483rd Avenue to 266th Street. There the line turns west and parallels 266th Street until it crosses Highway 42 where there is a three way line switch. The line turns and continues north for approximately one mile until it connects to East River's Split Rock Substation. One substation will be upgraded in this Segment.
- (D) Segment Four originates at the line switch on the corner of 266th Street and Highway 42 and runs south for two miles paralleling Highway 42. At that point the line turns and runs west for one-half mile, paralleling 268th Street. It then turns south at the quarter line and runs south for one-half mile until it connects to East River's Shindler Substation. From here the transmission line continues to the south to East River's Harrisburg Substation. Two substations will be upgraded in this Segment.
- (E) Segment Five originates at East River's Harrisburg Substation and proceeds west paralleling 274th Street for four and one-half miles. At that point the line turns south and proceeds for one-half mile where it turns west again following the quarter line for three miles to that point where the line crosses to the west side of Interstate 29 and connects to an existing East River line switch.
- (F) Segment Six begins at the line switch located on the west side of Interstate 29 and proceeds west on the quarter line for one mile. There the line turns north following the quarter line until the line crosses 274<sup>th</sup> Street. The line then proceeds west for one mile where it turns north into the Virgil Fodness High Voltage Substation.

## ALTERNATIVE SITES

13.

East River evaluated several different approaches to upgrading the capacity in its transmission system in the Sioux Falls area, as described in Section 2.7 of the Application.

By upgrading existing transmission lines instead of building new lines, East River is able to utilize as much of the existing lines, facilities, equipment and right-of-way as possible. In doing so East River is able to minimize the impact to the community and environment.

## ENVIRONMENTAL FACTORS

14.

East River's Application described the estimated environmental impact of the Project which should be minimal, due to the utilization of existing facilities and right-of-way.

15.

The existing and proposed upgraded transmission line will meet design standards consistent with standards adopted by other states. The state of Florida has set a standard of 150 milliGauss (mG) for a magnetic field reading at the edge of the right-of-way. The resultant magnetic field with the line under full load 115 kV operating conditions for 2003 is approximately 15 mG at the transmission line and approximately 11 mG at the edge of the right-of-way. The electric field standard set by the state of Montana is 1 kV/m at the edge of the right-of-way. The electric field of the proposed line at the edge of the right-of-way is approximately .50 kV/m based upon a 30 foot right-of-way width.

## PHYSICAL ENVIRONMENT

16.

The Project lies in the southern portion of the James River Lowland ecoregion and the northern portion of the Loess Prairies ecoregion. This ecoregion is characterized by mexzid soils, warmer temperatures, and a longer growing season than the Drift Plains ecoregion to the north. These differences are reflected

in the crop types of the regions. Winter wheat, corn, and soybeans are more prevalent in this ecoregion's climate.

17.

Regional topography is generally characterized by rolling hills and plains. Topographic maps of the different Segments of the Project were provided in the Application Exhibits. The Project will not involve any new roads, grading, filling, or other changes to the topography or regional landforms.

18.

Because the Project utilizes existing transmission lines and existing right-of-way, the Project should not alter the existing environment of the land around the transmission lines and substations. It also should not cause any increased hazards to the health and welfare of human, plant, and animal communities around the lines.

19.

The electric transmission lines and substations involved in the Project were originally designed and constructed to meet utility standards. As a result, no issues relating to seismic risks, subsidence, and slope instability have been identified since original construction. All changes to the transmission lines and substations will also meet these 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 by East River.

20.

There were no geological constraints identified when the transmission lines and substations were originally constructed and it is not anticipated that any geological constraints will impact the Project.

#### CONSTRUCTION SITE ACCESS

21.

All line segments are either built in right-of-way with easements that allow access for construction and maintenance



purposes, or are built in public right-of-way along public roads that provide access for construction and maintenance.

22.

In an attempt to mitigate potential adverse impacts on soils and vegetation from excessive traffic in the Project area, access to the area will be limited as much as possible. No new roads will be created. Landowners will be compensated for any crop damage that may occur during the Project.

#### WATER RESOURCES

23.

As East River's proposed transmission Project is an upgrade to existing transmission facilities and does not involve any new roads, grading, filling, deforestation, or significant vegetation removal, there will be no changes to the current drainage patterns.

24.

The construction, operation or maintenance of the proposed Project will not result in discharges to surface or ground waters or placement into such waters.

25.

The proposed transmission upgrades will not use either municipal or private water and therefore, will have no impacts on any planned water uses by communities, agriculture, recreation, fish, or wildlife.

#### ECOSYSTEMS

26.

There should be no adverse long-term impact on the vegetation and wildlife composition within the Project area. 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.

27.

No displacement or adverse affect on wildlife or aquatic species is anticipated. The Project will not impact ecologically unique or sensitive habitats including wetlands and aquatic habitats.

28.

The proposed Project should not adversely impact any aquatic ecosystems. The Project does not directly change or impact any wetlands, streams, or rivers. Also, the Project does not require any new roads, grading filling, or other changes to the existing terrain that could cause erosion or sedimentation problems or would change any existing drainage patterns.

29.

At river crossings and when working near any wetlands, streams, rivers, aquatic ecosystems and drainage areas, East River will utilize construction practices to minimize any impact to them and the land and vegetation adjacent to them. East River will comply with all applicable federal, state and local rules and regulations and will follow the specific measures listed in Section 2.16 of the Application.

#### WASTE DISPOSAL/CLEANUP

30.

Trash, scrap and all other non-vegetation debris will be picked up and disposed of daily to avoid accumulation of trash and blown trash along the right-of-way.

31.

Upon completion of the construction phase, all land within the right-of-way shall be restored immediately after construction and restoration will continue until the surface is substantially restored to its original condition, and any excess subsoil shall be removed from the site. In areas where rapid natural plant succession appears questionable, and when in accordance with landowner wishes, reseeding will be done and is expected to consist of locally adapted herbaceous native species, primarily grasses.

## LAND USE

32.

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

33.

There will be no homes of persons displaced as a result of the construction, operation, or maintenance of the transmission facilities that are part of this Project.

34.

The land in the right-of-way can be used for the same purpose as prior to this Project. The land will still be subject to the restrictions that exist with the current easements and have been in effect since the lines were originally constructed. These restrictions include that trees and structures that might interfere with the safety, operation or maintenance of the line may not be permitted in the right-of-way.

## AIR QUALITY

35.

No significant or long-term impacts to air quality will occur as a result of this Project. Some fugitive dust may be generated during construction from construction traffic on unpaved roads.

## TIME SCHEDULE

36.

Construction will begin in the fall of 2004, with the Project constructed in six Segments with all Segments estimated to be completed by the end of 2008.

## COMMUNITY IMPACT

37.

No significant adverse impact to the local communities and governmental facilities or services is anticipated as a result of this Project.

38.

The Project will result in increased reliability of electrical service to cooperative consumers in the area and provide additional power transmission capacity for a rapidly expanding area of the state, thus providing a social and economic benefit to the area.

39.

There will be no significant immediate or long-term impact on property and other taxes of the affected taxing jurisdictions are anticipated as a result of the Project. No corresponding loss of property taxes is expected.

40.

The electric lines involved in the Project were originally sited along right-of-way and property lines. As a result, the Project is not expected to interfere with agricultural operations or result in the loss of croplands. Should damage occur to crops during construction of this Project, landowners are reimbursed for damages as a normal part of easement costs.

41.

The proposed transmission Project is not expected to impact the population, income, and occupational distribution on the short-term. However, long-term population increases could result from increased power availability in the area.

42.

There are no anticipated impacts to cultural resources as a result of the Project. East River is required by Federal regulation to have in place a "Spill Prevention Control and Countermeasure Plan" (SPCC) for all of its substations. Should

an accidental release of contaminants occur, East River will follow applicable Federal, State and local regulations.

#### EMPLOYMENT

43.

This Project will utilize existing work force employed by East River and supplemented by workers employed for the construction season. No permanent additional employment is expected as a result of the Project.

#### FUTURE MODIFICATIONS

44.

East River does not anticipate any future additions or modifications to this Project that would be subject to approval at this time.

#### VEGETATION CONTROL

45.

East River annually trims vegetation away from its lines that restrict access or pose danger to its lines. It is expected that no additional vegetation will be removed for the Project or that any vegetation outside the existing easement areas will be involved in this Project.

46.

It is East River's policy to use mechanical methods to clear the right-of-way. However, where the use of mechanical or hand methods are impractical, the selective use of herbicides may be necessary. In these instances, the appropriate Federal and State agencies will be notified, only approved herbicides will be used, and all recommended precautions will be taken.

#### TRANSMISSION FACILITIES

47.

The Project will include the following three different structure types: 1) A single pole wooden structure configured with three side mount insulators, 2) A single pole wooden

structure configured with wooden crossarms and suspension insulators, and 3) A two pole wooden structure configured with a horizontal crossarm and suspension insulators.

48.

Segment Six will utilize a single pole wooden structure configured with side mount insulators that will support a 69/115 kV double circuit.

49.

Segment One of the Project will have the existing 4/0 conductor replaced with a 477 MCM equivalent conductor. Segment Five will have a 2.75 mile portion of its 4/0 conductor replaced with a 477 MCM equivalent conductor.

50.

Segment Six will have three 477 equivalent conductors added to the structures to create a 69/115 kV double circuit.

51.

Diagrams of the structure configurations, switch configurations and Optical Ground Wire are included in East River's Application.

#### BROADCAST SIGNAL INTERFERENCE

52.

The Project is an upgrade of existing electric lines and substations. East River is unaware of any broadcast signal interference with its existing system and does not anticipate any interference. However, if after the Project is completed it can be shown that the operation of the transmission facility is the source of unacceptable radio or television interference, East River will take all appropriate action to restore or provide reception levels equivalent to reception levels in the immediate area prior to construction of the proposed facility.

RIGHT-OF-WAY OR CONDEMNATION

53.

All easements or permits for the existing transmission line have been previously obtained. No condemnations are anticipated.

PROPOSED CONCLUSIONS OF LAW

1.

The Commission has jurisdiction over the subject matter and parties to this proceeding pursuant to SDCL Chapter 49-41B and ARSD 20:10:22. Subject to the findings made on the four elements of proof under SDCL 49-41B-22, the Commission has authority to grant, deny or grant upon such terms, conditions or modifications of the construction, operation or maintenance of the transmission facility as it may deem appropriate.

2.

The proposed transmission line is a "transmission facility" as defined in SDCL 49-41B-2.1 (2).

3.

East River Electric Power Cooperative's Application complies with the applicable requirement of SDCL Chapter 49-41B and ARSD 20:10:22.

4.

The proposed transmission upgrade will comply with all applicable laws and rules, including all requirements of SDCL Chapter 49-41B and ARSD 20:10:22.

5.

The proposed Transmission Upgrade Project, if constructed in accordance with the terms and conditions of this permit, will not pose a threat of serious injury to the environment or to the social and economic conditions of inhabitants or expected inhabitants in the siting area.

6.

The proposed Transmission Upgrade Project, if constructed in accordance with the terms and conditions of this permit, will not substantially impair the health, safety or welfare of the inhabitants of the siting area.

7.

The proposed Transmission Upgrade Project, if constructed in accordance with the terms and conditions of this permit, will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

8.

The Commission has the authority to revoke or suspend any permit granted under the South Dakota Energy Facility Permit Act for failure to comply with the terms and conditions of the permit pursuant to SDCL 49-41B-33.

9.

East River Electric Power Cooperative has met its burden of proof pursuant to SDCL 49-41B-22 and is entitled to a permit as provided in SDCL 49-41B-25, subject to the following:

STIPULATE TO THE FOLLOWING  
TERMS AND CONDITIONS

1.

East River Electric will obtain all governmental permits which may be required by any township, county, state or federal agency or any other governmental unit for construction activity prior to engaging in the particular activity covered by that permit. Copies of any permits to be obtained by East River Electric Power Cooperative shall be sent to the Commission.

2.

In order to ensure compliance with the terms and conditions of this permit pursuant to SDCL 49-41B-33, it is necessary for the enforcement of the Order that all employees, contractors and agents of East River Electric Power Cooperative involved in this



transmission line project be made aware of the terms and conditions of this permit. The Commission finds that each affected landowner or tenant within the transmission line right-of-way must be apprised of the time and place of East River's construction activity and provided a mechanism for lodging inquiries or complaints with both East River Electric and the Commission in the event a landowner or tenant observes what appears to be a violation of the terms and conditions of this permit.

East River Electric shall ensure that its employees, contractors and agents involved in right-of-way negotiations and acquisitions, right-of-way clearing, line construction and right-of-way and line maintenance understand fully and comply with the terms and conditions of this permit.

3.

If during construction East River Electric or its agents discover what may be an archaeological resource, East River Electric or its agents shall immediately cease work at that portion of the site and notify the Commission and the State Archaeologist. If such an archaeological resource is discovered, East River Electric shall develop a plan which is acceptable to the State Archaeologist to salvage, avoid or protect the archaeological resource. If such a plan would require a different route than that approved by the Commission, East River Electric must seek Commission approval for the new route before proceeding with any further construction.

4.

In order to mitigate interference with agricultural and ranching operations during and after construction, East River Electric shall locate all structures, to the extent feasible and prudent, to minimize adverse impact and interference with agricultural operations, shelter belts and other land uses or activities. East River Electric shall take appropriate precautions to protect livestock and crops during construction. East River Electric shall repair all fences and gates removed or damaged during construction or maintenance unless negotiated with landowner or designee. East River Electric shall be responsible for the repair of private roads and lanes damaged when moving equipment or when obtaining access to the right-of-way.

5.

East River Electric shall provide each landowner across whose property the facilities are to be upgraded with the following information:

1. A copy of the Commission's Order.
2. Detailed safety information describing (a) reasonable safety precautions for existing activities on or near the right-of-way; (b) known activities or uses that are presently prohibited within the right-of-way; (c) other potential dangers or limitations within the right-of-way.
3. Construction/maintenance damage compensation policies and procedures.
4. The Commission's address and phone number.

East River Electric shall also comply with all other terms and conditions as set forth in the Findings of Fact.

6.

The terms and conditions of the permit shall be made a uniform condition of construction, subject only to an affirmative written request for an exemption addressed to the Commission. A request for an exemption shall clearly state which particular condition should not be applied to the property in question and the reasons for the requested exemption. The Commission shall evaluate such requests on a case-by-case basis.

7.

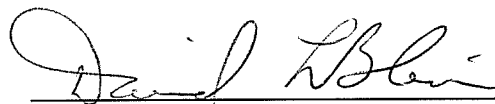
Before commencing construction, East River Electric shall furnish an indemnity bond in the amount of Ten Thousand Dollars (\$10,000) to comply with the requirements of SDCL 49-41B-38.

8.

If radio or television interference is caused by the presence or operation of the transmission line, East River Electric shall take all appropriate action to restore or provide

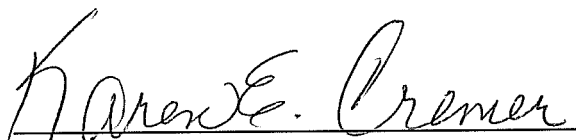
reception equivalent to reception levels in the immediate area just prior to construction of the transmission facility.

DATED June 1, 2004



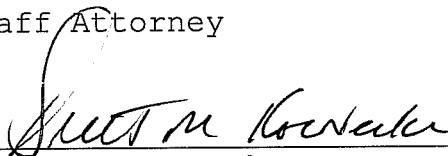
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