North Dakota Transmission Authority
BIL 40101(d) Proposal Instructions

Background

As part of the Bipartisan Infrastructure Law – Section 40101(d), the U.S. Department of Energy's (DOE's) Grid Development Office has allocated funds to the State of North Dakota, through the North Dakota Transmission Authority (NDTA). NDTA is seeking to fund grid modernization projects that result in a more resilient electrical grid and promote a clean and equitable energy economy in North Dakota. Special attention will be given to disadvantaged, vulnerable, and underserved communities, as designated by the Justice40 Initiative and other U.S. government directives. NDTA has identified the following objectives and associated metrics for evaluating proposed projects.

Objective 1: Reduce the magnitude and duration of grid outages caused by major disruptive storm and nonstorm events.

Metrics

- Magnitude of interruptions to the critical customers (for storm and nonstorm events, separately)
- Length of time for restoration/recovery after extended outages
- Number of personnel trained to manage the resilience project once it is finished

Objective 2: Reduce the frequency and impacts of grid outages caused by major disruptive storm and nonstorm events.

Metrics

- Frequency of interruptions to critical customers
- Qualitative assessment of the physical durability of the grid (how much the grid can withstand: both initial and frequent disruptions of 1 hour or more)
- Qualitative assessment of the grid operational flexibility (how adaptable the grid is in terms of damage)
- Restoration/recovery times after frequent outages of 1 hour or more

Objective 3: Implement grid modernization projects to develop energy solutions that provide lower-cost energy access to disadvantaged or underserved communities, and promote energy sufficiency and energy justice in these communities while providing clean energy in alignment with the Biden Administration's Justice40 Initiative. Renewable energy (RE) and distributed energy resources (DERs) that are installed and managed locally give disadvantaged communities the opportunity to meet the energy needs of their community, take control of their energy resources, and enjoy the long-term environmental and economic advantages of these resources. These initiatives not only offer a source of clean, local, renewable energy but also reduce energy costs, generating savings that can be reinvested into the community.

Metrics

- The number and type of RE/DER installations under grid modernization initiatives
- The financial impact to households as a result of avoided outages
- The number of workforce development programs developed for the disadvantaged/underserved communities
- The number of energy businesses/jobs created for the disadvantaged/underserved communities from new RE/DER installations

Since many projects are often initiated based on the number of people affected, the rural areas of the state can sometimes be ignored and not be treated equitably. Although not specifically addressed in the Justice40 criteria, this aspect must be considered when funding decisions are made. Diversity, equity, inclusion, and accessibility (DEIA) must also be focused on when proposed projects are examined. Justice40, rural impact, and DEIA will all be looked at when a proposed project's potential impact on the three stated objectives is assessed.

Eligible Entities

- Electric grid operator
- Electricity storage operator
- Electricity generator
- Transmission owner or operator
- Distribution provider
- Fuel supplier
- Any other relevant entity (as determined by the secretary of DOE)

Eligible Projects

- Adaptive protection technologies
- Advanced modeling technologies
- Fire-resistant technologies and fire prevention systems
- Hardening of power lines, facilities, substations, or other systems
- Monitoring and control technologies
- Relocation of power lines or reconductoring of power lines with low-sag, advanced conductors
- Replacement of old overhead conductors and underground cables
- Undergrounding of electrical equipment
- Use or construction of DERs for enhancing system adaptive capacity during disruptive events, including microgrids and battery-storage subcomponents
- Utility pole management
- Vegetation and fuel-load management
- Weatherization technologies and equipment

Ineligible Projects

- Construction of a new electric generating facility
- Large-scale battery storage facilities not being used to supply electricity where needed during disruptive events
- Cybersecurity measures

Cost Match Requirements

Recipients must provide cost match based on the size of the utility.

Cost Match Requirements	
Utility selling >4,000,000 MWh annually	100% of award value
Utility selling ≤4,000,000 MWh annually	1/3 of award value

Reporting Requirements

If awarded, the applicant will be required to provide the following:

- Quarterly progress report due 15 days after the end of the quarter in provided progress report form template.
- Annual report on project progress that highlights the appropriate metrics for the project for 5 years from the implementation of the project or until the project is completed. Due 15 days after the end of the reporting year (October 1 – September 30).

Compliance Requirements

Since federal funds are being utilized for these projects, subaward recipients must comply with several national security, environmental, and labor requirements.

Research, Technology, and Economic Security (RTES)

The recipient will be required to provide information related to Build America/Buy America (BABA), foreign national participation, and foreign ownership. This information will be used by DOE to analyze risks to national security. The recipient must ensure that BABA requirements flow down to subcontractors. When necessary, the recipient may be granted a waiver from the BABA requirements.

National Environmental Policy Act (NEPA)

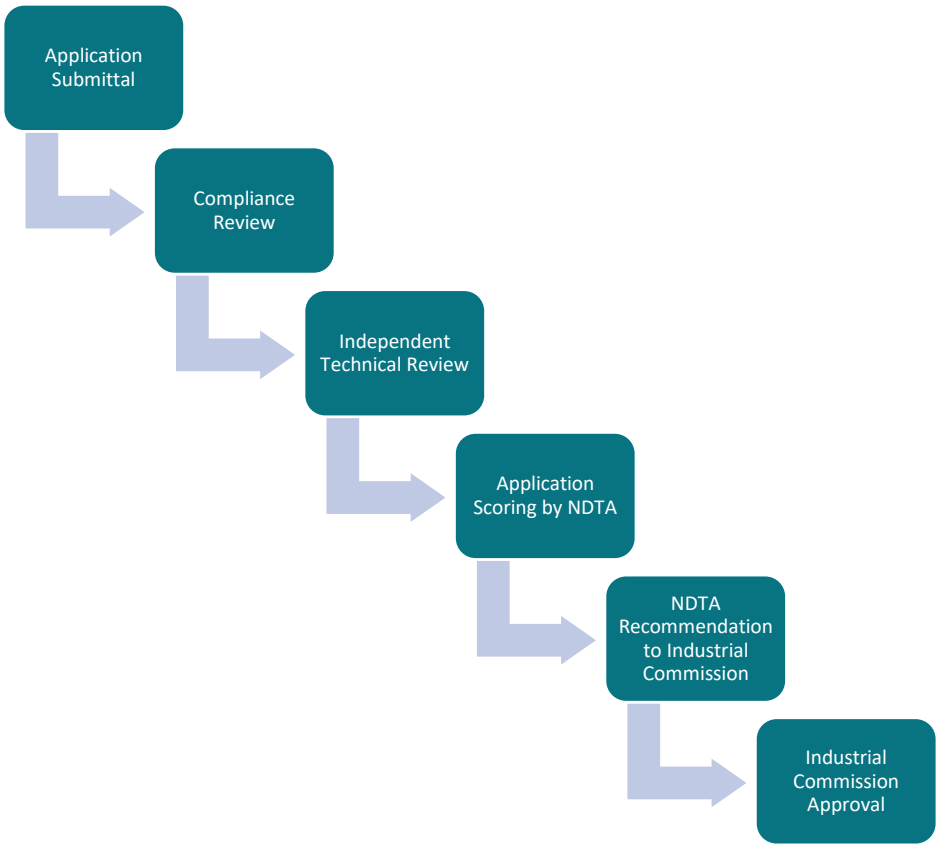
Recipients must go through a NEPA review and approval process. The NEPA compliance officer will make a categorical exclusion determination based on the environmental questionnaire provided by the recipient.

Davis–Bacon Act (DBA)

All laborers paid by DOE funds made available under this award shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the DBA. The recipient must ensure that DBA requirements flow down to all subcontractors.

Review Criteria

The project proposals will go through a compliance review. Following the compliance review, the proposed projects will go through an independent technical review. The director of NDTA will then score applications based on the review criteria, which will inform a recommendation to the North Dakota Industrial Commission (NDIC). NDIC will have final project approval.



Proposed projects will be reviewed based on the following criteria.

1. Applicants should clearly identify how the project will address each of the three NDTA objectives.
2. Level of risk mitigation: Applicants should highlight, based on stated objectives, how their project will reduce the frequency and/or the magnitude/duration of grid outages. Based on the level of risk mitigation and the customer base of the applicant, a benefit ratio will be determined in an attempt to normalize and compare applications.

3. Facilities and equipment: Applicants should demonstrate sufficient resources, facilities, and equipment to complete the project.
4. Amount of cost match proposed: Applicants must propose at least the minimum required cost match. Applicants that propose cost match more than the minimum will receive additional consideration.
5. Estimated number of jobs created: Applicants should attempt to quantify temporary (and permanent) job creation as part of their proposed projects in their application.
6. Project cost: Proposed project cost will be a component of application screening. In addition to total project costs, the committee will evaluate the potential to partially fund projects to distribute available funds more broadly.
7. Expertise: The background and experience of the project principals with regard to technical qualification.
8. Least significant negative environmental impacts: The reviewers will perform a high-level evaluation of the environmental impacts associated with the project to identify significant concerns to be addressed.

Submit proposals electronically to Claire.Vigesaa@NDTransmissionAuthority.com.

Questions can be addressed to Claire Vigesaa (406)-489-3881.

North Dakota Transmission Authority

North Dakota Industrial Commission

BIL 40101(d) Application

Project Title:
Kenaston Switchyard 60kV Breaker Additions

Applicant:
Burke-Divide Electric Cooperative, Inc.

Date of Application:
11/20/2023

Amount of Grant Request:
$410,000

Total Amount of Proposed Project:
$820,000

Duration of Project:
4 months

Point of Contact (POC):
Eric Sieg, Operations Manager

POC Telephone:
701-939-6671

POC Email:
eric@bdec.coop

POC Address:
9549 Hwy 5
P.O. Box 6
Columbus, ND 58727

TABLE OF CONTENTS

Please use this table to fill in the correct corresponding page number.

Applicant Description

Burke-Divide Electric Cooperative, Inc. (BDEC) is a not-for-profit rural electric distribution cooperative that provides power to 3,470 members in Ward, Renville, Mountrail, Burke and Divide Counties in Northwest North Dakota.

BDEC has a total sale of 189,359 MWh annually. BDEC owns and operates 129.37 miles of Transmission line, 2,442.35 miles of Distribution line, and 16 substations. BDEC receives power from Basin Electric Power Cooperative and Montana-Dakota Utilities (MDU).

Project Description

BDEC plans to install two (2) breakers on its 60kV system that feeds out of Kenaston Switchyard. The Kenaston Switchyard is a joint owned substation with Basin Electric Power Cooperative (BEPC).

The breaker additions will be on the BDEC side of the 115/60kV transformer. Currently, the only fault clearing device in place in the Kenaston Switchyard allows all faults to travel back through the 115/60kV transformer to a Basin Electric owned breaker on the 115kV side. When this happens, power is lost to three (3) BDEC substations which collectively provide power to 1,077 meters.

BDEC plans to add two (2) breakers on its 60kV system splitting its transmission line out of the Kenaston Switchyard into two (2) directions one (1) span outside of this sub. The addition of these breakers will help isolate the cause/location of the fault, reduce the number of members affected by an outage, and, hopefully, reduce the duration of an outage.

BDEC also plans to add an additional 3-way switch just outside the sub on the 60kV line for added system flexibility.

Standards of Success

With the addition of these 60kV breakers; BDEC will have a greater sense of security due to the fact that not all faults will be traveling back thru the 115/60kV transformer that supplies power to the three (3) substations on the 60kV system within this area. Also with these breaker additions it will allow BDEC to split its 60kV system which will greatly reduce exposures during severe weather events. Instead of the current 115kV breaker opening up and turning power off to three (3) substations; the goals are only the affected portion of line would see power interruptions and those members not directly affected were able to be served without interruption. Installation of these breakers will also allow BDEC to monitor the breaker operations via our SCADA system which will notify us if and when any operations have occurred.

Project Timeline

This project is in BDEC's 2024-2027 Construction Work Plan with a tentative start date in the 2nd quarter of 2025 and completion being in the 3rd quarter of 2025. This is due mainly to material lead-times. No materials have been ordered as of the date of this grant application.

During the construction of this project, BDEC will use existing backfeeds currently in place on this 60kV system. Once this project begins, it is important that it stays on schedule so that power feeds can be switched back to normal as quickly as possible to ensure BDEC is able to continue to provide reliable power to its membership.

Project milestones would be to have all material needed for this project in BDEC's possession in our material yard by the end of 2024 so that construction can be scheduled to begin in 2025 and continue until its completion.

Project Budget

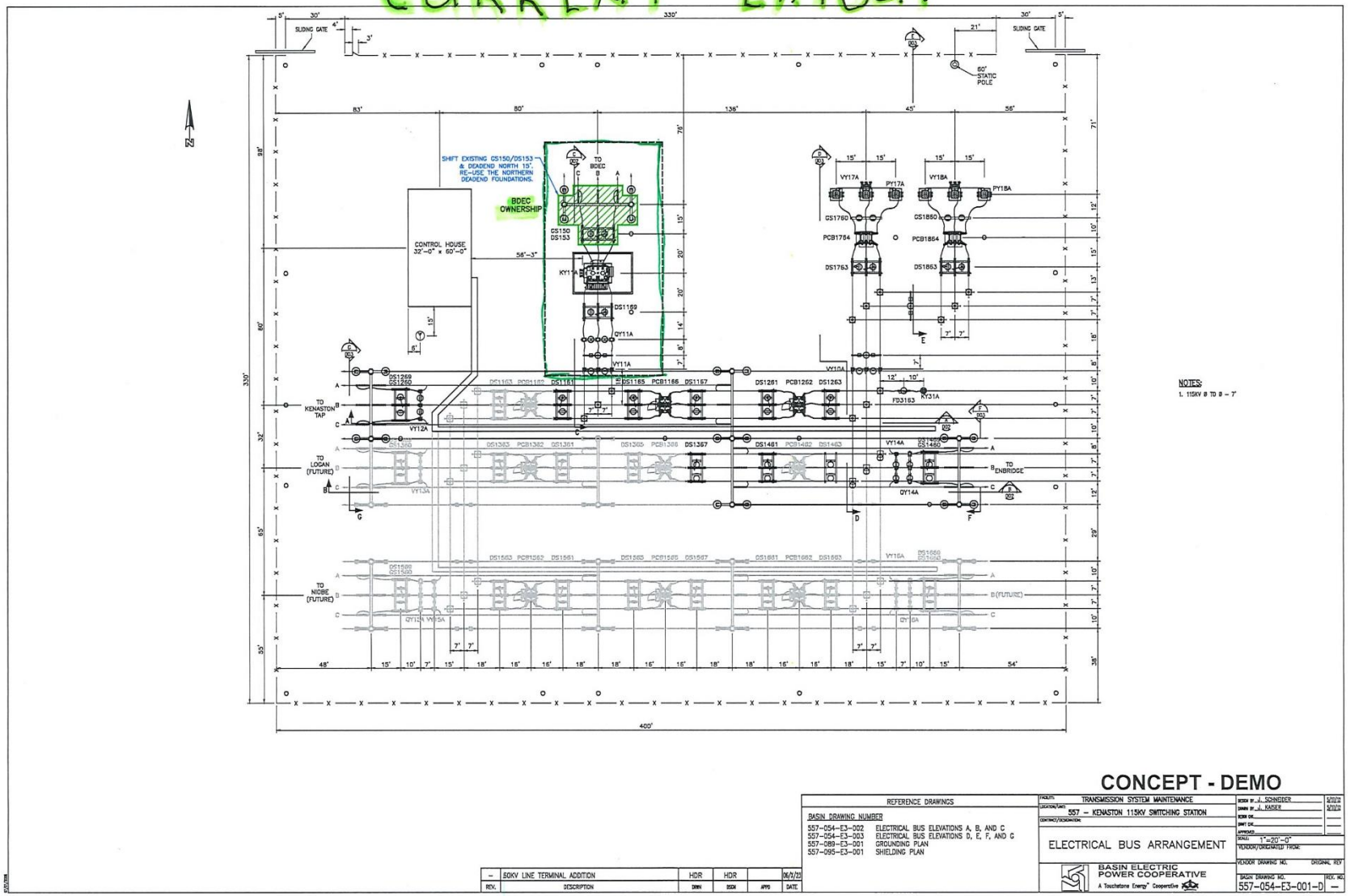
This project is estimated at a total cost of $820,000.

This includes costs to rework the substation steel infrastructure to accommodate the dual breaker additions, installation of two (2) 60kV breakers and associated relaying equipment, and the installation of a 3-way switch and LAM pole directly outside the substation structure for additional system flexibility.

Burke-Divide Electric Cooperative is requesting $410,000 from the North Dakota Transmission Authority to offset the cost of this project.

Burke-Divide Electric Cooperative will cover the remainder of the project costs through borrowed funds from RUS.

CURRENT LAYOUT



PROPOSED CHANGES LAYOUT