



**LCD22018a**

**Non-Wires Alternatives for  
Backup Power Supply -  
Request for Expression of  
Interest (RFEOI)**

**FORTIS  
ALBERTA**

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**1. Request for Expression of Interest**

- 1.1. FortisAlberta is seeking interested vendors to supply, install, own, operate, and maintain an electrical backup system for 20 years, to serve the Eden Valley community, which is a part of the Stoney Nakoda Nation. The purpose of this specification is to gauge interest and receive feedback from proponents that may wish to pursue this opportunity.
- 1.2. The Eden Valley community is a remote community which requires backup electrical supply in the event of electrical distribution outages. Eden Valley is located approximately 30 km southwest of Longview, Alberta.
- 1.3. The community of Eden Valley, and the downstream load, are served by a single feeder (392S-219LS), which is connected to the Black Diamond 392s substation. This is the only feeder supplying the community of Eden Valley and downstream loads, with no alternative back up in the event of an outage. The electrical backup system (herein identified as the System) will serve the primary function of supporting Eden Valley and the downstream loads in the event of an outage, downstream of the recloser shown herein. FAI is interested in non-wires alternatives for a backup power supply to support this community and the downstream load. The non-wires solution may serve other viable secondary functions as determined by the proponent, so long as they do not interfere with the primary function.
- 1.4. Should FortisAlberta receive qualified interest, the specifications & requirements herein may be used to develop an RFP to further assess the economic viability and/or feasibility of the proposed solutions, or as the basis for program changes to improve remote community reliability.

1.5. Timeline:

MILESTONE	DEADLINE DATE AND TIME
Issue date of RFEOI	October 19, 2022
Proponents to acknowledge receipt of RFEOI and indicate their intention to submit	October 26, 2022
<b>RFEOI Submission Close</b>	November 2, 2022
Review of Submissions – may involve Interviews & Presentations	November 2022
Proceed with Next Steps	December 2022

- 1.6. All submissions must be emailed to [contracts@fortisalberta.com](mailto:contracts@fortisalberta.com) with cc to [brent.smith@fortisalberta.com](mailto:brent.smith@fortisalberta.com), & [evgeniy.gorelov@fortisalberta.com](mailto:evgeniy.gorelov@fortisalberta.com) by the closing time above.
- 1.7. All information, including, without limitation, any drawings, specifications, calculations, instructions, notes and memoranda, provided at any time by FortisAlberta or its agents or contractors, to the Proponent, or to employees, agents or contractors of the Proponent, or prepared or obtained at any time or times by the Proponent, or by employees, agents, or contractors of the Proponent, in connection with the performance of services or in connection with the Documents shall be and remain at all times the sole and absolute property of FortisAlberta and shall not be disclosed by the Proponent

to any third party without the express written consent of FortisAlberta.

- 1.8. No publicity or discussions of the Proponent's involvement or promotion of its relationship with FortisAlberta shall be permitted until an agreement is fully executed by both parties and then only with the express written consent of FortisAlberta. The failure of any Proponent to maintain these obligations of confidentiality and prohibitions against promotion shall be cause for the immediate rejection the Proponent's Proposal and the removal of the Proponent from any FortisAlberta approved vendor list.
- 1.9. Proponent and any professional advisor thereof shall use all FortisAlberta information received only for preparing and submitting a Proposal and for no other purpose whatsoever.
- 1.10. Proponents acknowledge that its Proposals may be shared with third parties as part of FortisAlberta's evaluation and analysis process and hereby consent to same. Furthermore, Proponents understand and agree that unless any Proposal, alternatives, scenario, opportunity, idea or process ("Idea") included in its Proposal, is clearly identified in writing as proprietary to the Proponent and meets the criteria that give rise to trade secret protection under applicable law, Proponents will not be entitled to claim any compensation or make any other claim of any nature if said Idea is later used or implemented by or on behalf of FortisAlberta, in whole or in part, whether pursuant to the contract contemplated by this RFP and Instructions to Proponents or in FortisAlberta's usual business activities. For certainty and even if proprietary rights to an Idea are claimed in writing by a Proponent as referred to above, in no event will compensation be due or shall FortisAlberta otherwise be liable in respect of an Idea if FortisAlberta develops or developed the Idea itself without reference to the Proposal, had prior knowledge of the Idea, or holds or otherwise acquires proprietary rights to the Idea, or has not committed any fault or negligence with respect to its use of the Idea.

## **2. Response & Feedback**

2.1. Any interest in pursuing this project shall be communicated to FAI as in the following Format

- 2.1.1. Background and Company Profile
- 2.1.2. Preliminary details regarding the proposed solution
- 2.1.3. Ability to meet the requirements of the specifications identified herein with reference to:
  - 2.1.3.1. Scope
  - 2.1.3.2. Minimum Requirements
  - 2.1.3.3. Performance Guarantee
  - 2.1.3.4. Appendices
- 2.1.4. Suggested options regarding payment structures for the proposed solution

2.2. To assist FortisAlberta in evaluating the best options in moving forward, and to ensure inclusion in any future opportunities, proponents are requested to provide comments and feedback on this Expression of Interest which include, but are not limited to:

- Restrictive elements of this Expression of Interest
- Any economic constraints that may impact remote community reliability
- How to make this project more appealing for the proponents, if FAI decides to proceed to the RFP stage

- Provide reasons for the decision to respond with interest, or why this project is not of interest at this time. These comments and considerations may be used to develop an RFP with different criteria than specified herein, if an RFP is issued for this project.

### **3. Scope**

- 3.1. If engaged to carry out the scope, the successful proponent (herein identified as the Supplier) will be responsible for identifying and providing all equipment, components, and services necessary to supply, install, own, operate, and maintain an electrical backup system. The Eden Valley community requires a minimum supply of 676kW for a minimum of 3.56 hours measured at the 20-year end of life of the System. The system will provide power to Eden Valley in the event of an electrical distribution outage and requires a three-phase connection to the FAI distribution system.
- 3.2. The required load at the beginning of the System's service life requires an estimated 449kW of support for a duration of 3.56 hours. The difference between the beginning and end of life supply requirements may be used to pursue other revenue streams, provided that the System can backup the required load at the 20 year end of life specified herein. FAI has estimated that a load growth of 2.1% will occur annually over the life of the System and the Supplier shall consider this if pursuing other revenue streams with the System.
- 3.3. The System is to be metered as a Distribution Connected Generator, as per FAI's Terms and Conditions.
- 3.4. The compensation structure for the Supplier will be determined at the time of tender. It is expected that the compensation will include both a monthly payment schedule for performance, and a penalty schedule for non-performance as defined below. FAI anticipates that the Supplier will be responsible to own and operate all infrastructure downstream of the FAI MVI.
- 3.5. Energy export or consumption to/from the distribution grid while the System is energized may be permitted at the Supplier's discretion. The Supplier shall be responsible for ensuring compliance with all regulatory requirements. Application for the required distribution system access will follow the FAI standard connection processes. The maximum allowable export from the System to the connected distribution grid without any distribution system upgrades is estimated to be 400 kW at a leading power factor of 95% at the recloser location indicated in Appendix A. The final location of the System may impact the available export capacity. The Supplier shall ensure the System has enough capacity to backup the Eden Valley community for the duration and loading specified herein. An application through the FAI DER process will be required to determine the final export capacity.

### **4. Minimum Requirements**

#### 4.1.1. The Supplier must:

- Design the System and all subsystems necessary for the installation and operation of the System
- Select the System location, within the area identified below and in Appendix A.
- Connect to FAI's distribution system downstream of the FAI supplied recloser indicated in Appendix A. This point may be changed from the location indicated in Appendix A, subject to FAI

approval. The System shall maintain the specified backup load when determining the final location.

- Meet all regulatory requirements needed to supply, install, own, operate, and maintain the System
  - Meet all Federal, Provincial, and Indigenous requirements needed to supply, install, own, operate, and maintain the System, and obtain all required associated approvals.
  - Meet all electrical connection and operation requirements as required by the AESO and the AUC
  - Meet all FAI standards including, but not limited to:
    - DER-02
    - DER-02A
    - DER-02B
  - Identify and meet all necessary engineering, environmental, safety, and engagement standards as applicable, including but not limited to:
    - AESO Rules and Standards
    - Alberta Building Code
    - ASTM
    - AUC Rules
    - CSA
    - IEEE
    - NFPA
    - UL
    - The System shall be rated for -40 degrees Celsius or lower and +40 degrees Celsius or higher.
  - Provide qualified personnel to install, maintain, and operate the System.
  - All reports, studies, details, and technical documents shall be prepared by a qualified person or under the direct supervision and direction of a qualified person.
  - Ensure the 20-year end-of-life operation shall meet the minimum backup requirements of 676kW for a minimum of 3.56h
  - Design the System so that it shall seamlessly transition from grid power to backup power supplied by the System and from the System to grid power
  - Design the System so that it shall meet the minimum performance requirements as specified herein for a 20-year duration, during electrical distribution outage scenarios.
  - Design the System so that it shall only serve the load downstream of the FAI recloser, as indicated in Appendix A
  - Ensure that the backup power is available to meet the minimum power output during an electrical distribution outage for the duration specified herein
  - Remediate the site at the end of life in accordance with all applicable legislation and standards at the time of remediation.
  - Be responsible for all costs associated with third parties required to supply, install, operate, and maintain the System, for the life of the System.
  - The System shall be able to black start and supply the entire load in an islanded condition.
  - The System must be able to operate in an islanded system and transition back to the grid as specified herein.
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## 5. Performance Guarantee

The System shall be able to operate for a minimum of 98.8% of the time at Eden Valley, every year. System performance requirements have not been met if the System is unable to operate for 98.8% of the year. The allowable downtime also includes any required maintenance, testing, and repairs of the System. For the purposes of calculating down time, FAI will allow for a total of 438 hours, annually. Unused downtime for one year cannot be transferred to another year or used to average overall performance over several years.

The System downtime shall not be included in the minimum operating time if the System has completely discharged using the parameters described in this specification and the grid remains de-energized, however the System must be able to charge, or refill its energy reserves and operate normally once power is restored to the grid. The System is considered fully discharged when it stops supplying power to the grid as a result of completely expending its energy reserves. In this case, the downtime shall begin from the time the grid becomes energized at the System interconnection with the utility plus the manufactures maximum specified reconnection time. The vendor is required to ensure the System can operate for this minimum amount of time, annually, for a period of twenty years. The vendor is responsible to correct any deficiencies in System operation that prevents the System from meeting the minimum operating threshold.

## 6. Appendices

### 6.1. Diagrams

The below figure represents the general area of the project and shows the area of the Eden Valley community which is to be served by this project. In addition, 10 services totalling 135 kW of connected capacity, located west of Eden Valley, are also to be served by the System. These services are included in the stated 676 kW requirement.



Figure 1: Relative Project Location



The below diagram shows the satellite view of the Eden Valley community and the approximate location of the System.



Figure 2: Satellite View of Eden Valley

The below diagram shows the electrical configuration throughout the Eden Valley community and the approximate location of the Point of Interconnection.



Figure 3: Eden Valley Circuit Configuration