RAPPAHANNOCK ELECTRIC COOPERATIVE

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REQUEST FOR PROPOSAL (RFP)

GRID MODERNIZATION – DISTRIBUTED ENERGY RESOURCE MANAGEMENT SYSTEM (DERMS)

Issued XXXXXX

Proposals due XXX

Rappahannock Electric Cooperative
PO Box 7388
Fredericksburg, VA 22408

Purpose Statement

The primary intent of the Distributed Energy Resource Management System (DERMS) is to optimize the integration and management of distributed energy resources (DERs) within the electric grid, providing a means for cost control. By leveraging advanced data analytics, real-time monitoring, and automated controls, DERMS aims to enhance grid reliability, promote sustainable energy use, provide cost containment, and facilitate the transition to a low-carbon energy future.

Critical Desired Functions:

1. **Real-Time Monitoring and Control:** Provide continuous oversight and management of DERs to ensure optimal performance and reliability.
2. **Demand Response Management:** Enable dynamic demand response strategies to balance supply and demand effectively.
3. **Grid Stability and Resilience:** Enhance grid stability through proactive management of energy flows and DER contributions during peak loads or disruptions.
4. **Forecasting and Analytics:** Utilize predictive analytics to anticipate energy production and consumption patterns, facilitating better planning and operational efficiency.
5. **Interoperability and Integration:** Support seamless communication between various DER technologies, utilities, and grid operators to create a cohesive energy ecosystem.

Overall Strategy Rationale: The strategy behind DERMS centers on maximizing the value of distributed energy resources while ensuring grid reliability and sustainability. By fostering an environment where renewable energy sources and energy storage systems can be efficiently managed, DERMS not only mitigates the challenges posed by increased DER penetration but also empowers members and communities to eventually participate in the energy market. This approach aligns with broader energy policies aimed at reducing greenhouse gas emissions, enhancing energy security, and promoting economic growth through clean energy initiatives. Additionally,

Background Information

REC is a member-owned utility that provides electric service to nearly 180,000 connections in portions of the following 22 Virginia counties: Albemarle, Caroline, Clarke, Culpeper, Essex, Fauquier, Frederick, Goochland, Greene, Hanover, King & Queen, King William, Louisa, Madison, Orange, Page, Rappahannock, Rockingham, Shenandoah, Spotsylvania, Stafford, and Warren. This project will have construction and system modernization impacts across REC's entire distribution system.

Automation approaches enable the building of the utility of the 21st century. It involves "smart" systems to measure consumption at different times of the day, new communications networks to send data to and from utilities, and new database systems to manage and use the valuable new data that advanced systems generate. It may also involve new "smart" systems that can respond to signals automatically to turn themselves on or off, up or down. These initiatives have become a reality due to the advancements in communications technologies, coupled with the reduction in the cost of communication components. Adherence to widely adopted industry standards for communication interfaces creates the possibility of

an open architecture. Specifically, the inclusion of Ethernet interfaces in devices deployed across the utility network can facilitate diverse, redundant access to infrastructure devices.

Like many other electric cooperatives, Rappahannock Electric Cooperative (REC) is seeking to develop an updated and modernized electric grid in support of members and will be seeking solutions from vendors who can deliver the capabilities needed for its system. For this reason, REC has an interest in a Distributed Energy Resources Management System (DERMS) for use by both the Cooperative and potentially its affiliates.

Proposal Requirements

Proposals shall be submitted in compliance with the requirements set forth in this RFP. Proposals shall include responses to each of the sections below. Proposals that do not conform to these requirements or are incomplete will not be considered.

A. Executive Summary

Provide the following information in the executive summary:

- A summary of your proposal.
- Outline your view of the critical technologies, operating environment, and essential elements for successful DERMS.
- Why your firm is qualified to handle this project – differentiators and strengths of your company and project team.
- Which subcontractors, if any, are part of the proposed project team.
- An affirmation of no conflict of interest.

B. Company Overview

Provide the following information in your response:

- Name of firm and mailing address, phone and fax number of the proposer's principal place of business.
- A brief company history, including ownership, size, and number of national offices. Recent acquisitions or changes in ownership should be clearly disclosed.
- Overall company experience in utility automation, network operations, systems integration, and/or system installation.
- Confirmation that your company and personnel are legally allowed to do business and work, respectively, in the Commonwealth of Virginia.
- The company's capital position and financial health. Provide annual reports and/or financial statements for the division of the company directly responsible for the product or services proposed in this RFP for each of the last three fiscal years as an appendix.
- State whether there are pending or prior legal disputes or lawsuits with any existing or previous clients. If so, state all such disputes, including dates, as well as any facts and outcomes regarding these disputes.
- State the standard method or methods of resolving disputes, should they arise.
- Identify specific subcontractors and the specific requirements of this RFP for which each proposed subcontractor will perform services.

- Describe the relationships amongst the different entities proposing jointly, how long you have worked together, what projects were successfully implemented jointly, projects that were not successful, and whether any of the companies submitting jointly have vested interest in one another.
- List any utilities (particularly any Electric Cooperatives) using your DERMS solution.

C. References

Vendors should provide a minimum of three (3) references (if possible, five (5) references) from similar projects performed for utility clients within the last three (3) years. Provide references of a similar nature for any/all sub-contractors you anticipate using during this project. These references shall be provided with the following information:

- Utility/Subcontractor name
- Address
- Telephone
- E-mail address
- Project name
- Project start and end dates
- Project scope
- Project results
- Option for site visit

D. Supporting Materials

Provide the following information in your response:

- Draft work plan
- Brochures or other collateral regarding your DERMS solution
- Pricing for pilot and full-scale implementation
- Documentation on built-in APIs for third-party integration

For pricing information please clearly explain:

- What features are included in your base offering
- The pricing for the base offering and any additional upgrades/modules
- The ongoing maintenance/service cost for your system
- The average annual historical cost increase of your software/hosting services/maintenance fees expressed as a percentage
- The cost, if any, for software upgrades for new system releases
- Detail if the price does not include any third-party software licenses for DERMS implementation and ongoing use
- The cost of integrations between DERMS and other REC systems

DERMS

Detailed technical requirements are included in Appendix B, which is a separate Excel document and is required as part of the proposal package. **All questions/requirements will need to be completed in order for the Proposal to be considered.**