

RAPPAHANNOCK ELECTRIC COOPERATIVE

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A COMPREHENSIVE CYBER SECURITY PLAN NOT ONLY PROVIDES AN INTEGRATED SOLUTION OF TECHNOLOGY AND BUSINESS PROCESSES TO SECURE REC'S SMART GRID; IT ALSO PROVIDES A GUIDE FOR FUTURE DEVELOPMENT.

RAPPAHANNOCK ELECTRIC COOPERATIVE.

Rappahannock Electric Cooperative (REC) is a member-owned utility that provides electric service to 154,000 meters in parts of 22 Virginia counties.

DEMONSTRATING A COMPREHENSIVE APPROACH TO CYBER SECURITY

Rappahannock needed assistance with developing its smart grid initiative. Specifically, the company understood that strategy development and detailed planning would be required to respond adequately to the Department of Energy's (DOE) Smart Grid Investment Grant (SGIG) reporting requirements.

One such requirement was a cyber security plan (CSP), a comprehensive approach to overall device security and lifecycles throughout the utility's smart grid. REC had to submit a plan for how it will address cyber security. This plan must be consistent with the cyber security principles the DOE outlined for all DOE SGIG awardees.

Based on guidance provided in the Funding Opportunity Announcement, REC needed to demonstrate a technical approach to cyber security that included:

- ◆ A summary of the cyber security risks and how they will be mitigated at each stage of the lifecycle (focusing on vulnerabilities and impact).
- ◆ A summary of the cyber security criteria utilized for vendor and device selection.
- ◆ A summary of the relevant cyber security standards and/or best practices that will be followed.
- ◆ A summary of how the project will support emerging smart grid cyber security standards.

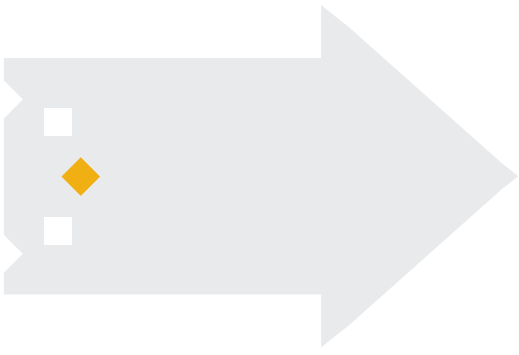
AN EXPERIENCED PARTNER.

For assistance with developing the CSP, REC turned to West Monroe Partners. West Monroe Partners leveraged its deep understanding of cyber security policies, procedures, standards, and best practices in the utility industry to create REC's CSP. In addition, it was able to draw from work in NIST and other standards groups, as well as its own experience in the telecommunications, healthcare, banking, and capital markets industries. West Monroe Partners has developed and worked on hundreds of network security plans as part of programs designed to build high-availability, low-latency, high-volume, redundantly robust, and secure networks.

GROUNDING IN AN UNDERSTANDING OF CURRENT AND FUTURE REQUIREMENTS.

The West Monroe Partners project team began by working with REC staff to review current IT security policies, procedures, and risk and intrusion mitigation plans, as well as other current-state documents. This helped both teams establish a baseline and understanding of which security controls and countermeasures were in place, as well as how current policies and procedures affected the overall security of the environment.

After understanding REC's current architecture, West Monroe Partners began documenting and developing system interface diagrams, which visually illustrate logical or physical connections between different systems. These diagrams allowed the project team to perform a threat and vulnerability assessment with REC staff to identify potential areas of concern in these systems. The assessment covered a vast array of potential vulnerabilities in different parts of the smart grid—from policies and procedures to SCADA control network operations. West Monroe Partners also discussed with REC recommendations for the future state of the smart grid and how it might fit into REC's environment.



ENERGY & UTILITIES SOLUTIONS

With the knowledge of current state, threats and potential vulnerabilities, and a vision for a future-state environment, West Monroe Partners began developing mitigation techniques and a defense-in-depth strategy. The corresponding plan of technologies, network design, and processes addressed the threats and potential vulnerabilities found during the assessment in order to bring REC's residual risk down to acceptable levels. This, coupled with industry best practices, allowed West Monroe Partners to develop an overall cyber security plan that included all of REC's current and future network components.

A COMPREHENSIVE SECURITY PLAN IN HAND.

With a comprehensive cyber security plan in hand, REC was able to submit the plan to the Department of Energy as required for completing some of the obligations associated with its Smart Grid Investment Grant award. REC's CSP represents a living, breathing document that REC can reference and modify during the development of its smart grid and beyond—serving as a reference model for the inclusion of any new systems in the future.

West Monroe Partners is an international, full-service business and technology consulting firm focused on guiding organizations through projects that fundamentally transform their business. With the experience to create the most ambitious visions as well as the skills to implement the smallest details of our clients' most critical projects, West Monroe Partners is a proven provider of growth and efficiency to large enterprises, as well as more nimble middle-market organizations. Our more than 300 consulting professionals drive better business results by harnessing our collective experience across a range of industries, serving clients out of offices across the United States and Canada.