



Customer Highlight

EMPRESA PROPIETARIA DE LA RED-SIEPAC

Modernization program improves system visibility and cybersecurity

Grid Modernization—Utilities are modernizing their systems to meet a wide range of priorities, including improving reliability, streamlining practices that drain time and money, and strengthening cyber defenses. From targeted upgrades to multiyear modernization programs, SEL delivers advanced technology, expert engineering, and project and program support tailored to each utility's goals.

Customer problem

Empresa Propietaria de la Red (EPR)-SIEPAC oversees a transmission system that supplies power to six countries in Central America. Their substations are unmanned, and in some cases, they have panels and relays in substations that belong to a local transmission utility.

With limited visibility into their system, EPR employees had to cross difficult terrain to locate transmission line faults. To address this, EPR-SIEPAC embarked on a modernization program that would help them better visualize and monitor their system—and strengthen cybersecurity.

Solution

EPR-SIEPAC chose the SEL ICON® Integrated Communications Optical Network for reliable wide-area networking. The ICON facilitates communications between SEL-411L Advanced Line Differential Protection, Automation, and Control System relays used for traveling-wave fault location. It also connects the EPR-SIEPAC control center with SEL-5045 ACSELERATOR TEAM® Software and SEL-3620 Ethernet Security Gateways used for cybersecurity services and password management. Finally, the ICON provides the necessary timing and Ethernet communications for monitoring oscillations with SEL-5703 Synchrowave® Monitoring software. The project used all SEL panels, and SEL Engineering Services supported settings implementation, factory acceptance testing, and site acceptance testing.

Results

Strategic modernization has improved EPR-SIEPAC's remote system visualization and monitoring, saving the utility time and money. With these investments, they can better detect anomalies and rapidly restore service after faults, which is important to the health and safety of their customers. When problems arise on their system, EPR-SIEPAC employees no longer need to cross difficult terrain to determine root cause, which benefits safety. Password rotation and cybersecurity audit logs also allow EPR-SIEPAC to operate their system more securely.

About SEL

SEL is a 100 percent employee-owned company that specializes in creating digital products and systems that protect, control, and automate power systems around the world. This technology mitigates blackouts and improves power system reliability and safety at a reduced cost. Headquartered in Pullman, Washington, SEL has manufactured products in the United States since 1984 and serves customers worldwide.

Cybersecurity philosophy

We build layers of defense and maintain the integrity of each layer's purpose—in other words, we apply the right technology at the right layer. We believe simpler products are easier to defend and that the safety of the power system and availability of the protection and control devices come first.

Reliability

SEL products are designed and manufactured for the world's most challenging environments, exceeding all industry standards for temperature, shock, and electric stress.

Our products have a mean time between returns for repair (MTBR) of more than 250 years, based on observed field performance. This means that if you have 250 SEL products installed in your systems, you can expect to have less than one unscheduled removal from service per year for any reason, whether it's a defect or an external factor such as overvoltage, overcurrent, wildlife damage, or environmental exposure.

Warranty

SEL backs our products and commitments with a ten-year warranty, no-charge diagnostic and repair services, local support, and a variety of test procedures and certifications.

Support

SEL support teams are stationed in regional offices around the globe and staffed with application engineers who are experts in our products and in power system applications. We offer free, 24/7 emergency technical support for the life of your SEL products, even if they're outside of our ten-year warranty.

Contact us

To learn more about partnering with SEL Engineering Services, contact esinfo@selinc.com.