



Project Highlight



Substation engineering project highlights collaboration

In addition to expertise in protection and control engineering, SEL offers comprehensive substation solutions, including project management, site planning, civil and structural engineering, equipment procurement, construction management, testing, and commissioning.

Western Farmers Electric Cooperative (WFEC) had worked extensively with SEL for years. Because of that established trust, WFEC readily embarked on the Mooreland Switching Station project with SEL to bring a wind power generation site online. The project showcased the advantages of using the flexible approach to substation engineering offered by SEL.

Challenge

When a wind power generation company approached WFEC to tie into their system, WFEC couldn't immediately accommodate them—the substation located nearest the new client sat at capacity.

An expansion required building a larger switching station adjacent to the existing substation and generation plant with minimal disruption to operations and current customers. The project would involve numerous partners, both internal and external, and the client presented tight deadlines—they needed to tie into the WFEC transmission system as soon as their wind turbines were operational so they could begin delivering power.

Solution

SEL coordinated over ten teams that logged several thousand work hours. SEL substation services included:

- All civil, structural, electrical, and protection and control engineering.
- Procurement of the control building, panels, and protective relays.
- Management of all phases of construction with engineers on site for every milestone.
- Site management to ensure safety during teardown and energizing.

During the project, the COVID-19 pandemic and supply chain disruptions constrained the availability of materials and personnel. WFEC and SEL collaborated closely to mitigate schedule delays. They developed a staged cutover process to first interconnect the wind farm with the legacy substation and then transition to the new switching station.

Results

Despite the tight deadlines and complexities presented by COVID-19, SEL successfully managed each piece of the project. WFEC and SEL executed the staged cutover process without interruption to the connected generation plant and transmission line, resulting in a safe, reliable, and cost-effective substation solution for WFEC.

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 24/7 technical support at no cost for the life of your SEL products.

Contact us

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