



Investment in Engineering Pays Back

Mark Zeller

INTRODUCTION

Technology is changing at a rapid pace, and intelligent electronic devices (IEDs) are smarter, faster, and include features only imagined a year ago. How do you make sure you are not missing a significant cost-saving technology? How can you be sure the system you install will meet your needs well into the future? SEL Engineering Services is building fast, secure, and efficient systems for customers on a daily basis, including:

- Remedial actions based on data from devices already used for protection
- Optimized use of protective relays for primary and backup coverage
- Advanced skill set for minimum time and cost
- Best practices for communication using built-in, secure communications channels
 - MIRRORING BITS[®] communications and IEC 61850
 - DNP3
 - Modbus[®]
 - Fiber-optic and copper links

PROBLEM

Selecting an off-the-shelf solution can cause you to miss new opportunities for protection, automation, and control using advanced functions and configurations.

SEL SOLUTION

The SEL Engineering Services Division has over 100 engineers and support staff with the latest training and knowledge of SEL relays, information processors, and security devices. They also have the field experience needed to implement these systems quickly and efficiently. SEL Engineering Services offers the complete solution from concept, design, and simulation through construction, checkout, and commissioning. It is all about your complete satisfaction. SEL systems are robust and reliable so you will not need continuous tinkering to keep the system going. If you do need assistance in the future, SEL has more field service engineers than any other relay manufacturer in North America, with offices worldwide to serve you.

Remedial Action Scheme (RAS)

Customers today do not need to settle for simply protecting electrical systems and equipment. A RAS lets you proactively change operating and system protection characteristics to minimize the impact of system disturbances, interruptions, and deviations and keep the remaining system as functional as possible. SEL has fast, secure systems in operation at major facilities around the world.



Figure 1 Jim Bridger Power Plant has the fastest triple-redundant system in the world, improving output by 50 percent

Systems installed by SEL Engineering Services include power plants, pharmaceutical manufacturing facilities, petroleum refineries, and many others. RAS systems can recognize system instability and quickly island, shed load, control generators, alter protection settings, and stabilize critical systems with complete station control as fast as 14 milliseconds. Control functions can be dynamically adjusted by the system to account for changes in process or configuration.



Figure 2 SEL Engineering Services has installed systems on a wide variety of power systems around the world

Real Time Digital Simulator (RTDS®)

An RTDS provides the confidence you need to implement protection and control schemes that make a real difference in keeping the system operating.



Figure 3 System testing on an RTDS, one of the six owned by SEL

RTDS testing can prove protection and control schemes work as expected. Additionally, these schemes are tested under all operating, load, and system configurations. This additional testing provides confidence that the installed systems work under normal and unusual conditions. RTDS testing can reveal flaws in protection and control schemes that can be corrected before the system is built, saving time and money.

INVESTING IN ENGINEERING PAYS BACK

Involving SEL Engineering Services in your project is a wise investment. SEL Engineering Services has a large, well-trained staff of engineers working around the world in a variety of industries. Our engineers are familiar with the latest technologies in protection, communications, and testing, providing excellent resources to help improve your project.

Using SEL Engineering Services can save time and money by:

- Optimizing system components for best price and performance.
- Applying in-depth knowledge of SEL and other communications options.
- Using proven system configurations.
- Using RTDS to test and optimize system settings.
- Developing systems utilizing protective relays for additional control functionality.
- Locating engineers around the world.
- Completing projects with integrity and customer satisfaction.

If you are not sure that SEL Engineering Services can help your project, talk to one of our engineers for an honest, straightforward evaluation of how SEL can contribute to the success of your project. Directly contact us at Info@SELEngineering.com.

