

Concerned About The Safety, Reliability and Efficiency of Your Power System?

Schneider Electric
Engineering Services

Make the most of your energySM

Schneider
Electric

Our Power System Engineering Services
Provide Solid Advice and Recommendations
to Promote Safety and Help Ensure Reliable
and Continuous Power.



Power System
Studies



Power System
Assessments



Power System
Improvement
Projects

Schneider Electric Engineering Services

Power System Engineering

Electrical systems are serious business and you want serious professionals who can give you solid advice and recommendations to promote safety and to help ensure reliable and continuous power. The power system engineering team from Schneider Electric has the knowledge and experience to get the job done.



Since 1966, we've completed thousands of system studies for clients throughout the world. Our team consists of registered professional engineers, leaders of IEEE committees and a variety of industry recognized experts, many of whom have published technical articles in numerous industry publications.

In addition, we also have project management professionals, centralized engineering studies and design teams and regionally-assigned engineers. These are professionals you can count on for consistent engineering studies, designs and analysis, thanks to our comprehensive Engineering Standards. These standards are in place so that all projects for your facilities are executed using the same processes and systems no matter how many locations you have.

We have established multiple regional engineering operations located strategically in the United States. These operations are staffed by registered professional engineers and have the full support and capabilities of Schneider Electric worldwide.

What does all that mean for you? It means that whether it's a harmonics assessment at the plant next door or concurrent arc flash analyses at multiple locations, you can feel confident in our team and our company to get the job done correctly.

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Our multiple regional engineering operations are strategically located throughout the U.S. and are staffed by registered professional engineers who are licensed in the local jurisdiction and have the full support and capabilities of Schneider Electric worldwide. Having a power system engineer close by ensures familiarity with authorities having local jurisdiction, utility systems and applications.

Our Power System Engineering Services Can Address All of Your Power System Needs.



Power System Studies

Arc Flash Analysis for NFPA 70E Compliance

Five to ten arc flash explosions occur in electrical equipment every day in the United States. Facilities have a legal responsibility to provide a safe workplace for their employees and contractors, and to provide them with a place of employment which is free from recognized hazards that could cause death or serious physical injury.

An arc flash analysis identifies flash hazard boundaries and appropriate levels of personal protective equipment (PPE) for employees. Each analysis is presented in a clear, tabular format in accordance with NFPA 70E®: *Electrical Safety in the Work Place™* and IEEE® Standard 1584.

- Written report of findings and recommendations including methods to reduce arc flash incident energy levels and enhance worker safety
- PPE category recommendations for all electrical equipment within the scope of the analysis
- Arc flash incident energy equipment labels listing PPE category recommendations for attachment to existing enclosures
- NFPA 70E on-site electrical safety training for company personnel

Short Circuit and Coordination Study

Computer-based short circuit analyses are performed on all types of industrial and commercial equipment. These studies address the safety and reliability of your electrical system. Our professional engineers calculate fault levels throughout your system and address the ability of the protective devices to respond under short-circuit or overload conditions. Where underrated or misapplied equipment is identified, we make recommendations to help you adhere to the requirements of NFPA®, NEC® and other electrical industry standards.

- Develops a computer model of the electrical system including system single line diagram
- Reduces possibility of down time due to short-circuits and overloads
- Identifies underrated or misapplied electrical equipment
- Extends electrical equipment life
- Promotes workplace safety

Power Quality Analysis

Intermittent power quality disruptions can be costly. A power quality analysis identifies disturbances originating inside your facility or from the electric utility system. Our professional engineers will recommend cost-effective measures to reduce the number and severity of these disturbances. Poor power quality can impact manufacturing processes and system components, especially sensitive electronic equipment.

- Solves process disruptions due to power disturbances
- Reduces economic effects of poor power quality
- Decreases maintenance costs
- Identifies disturbances originating with the electric utility
- Identifies wiring and grounding improvements

Circuit Loading Study

A circuit loading study identifies actual electrical usage and utilizes onsite system measurements to determine available reserve capacity. These studies also identify power factor correction needs to improve system capacity, voltage regulation and loading.

- Evaluates loading concerns on the electrical distribution system
- Focuses on key power system parameters that can indicate chronic or potential power system problems
- Identifies excessive harmonic loading, poor power factor, heavily-loaded circuits, unbalanced voltages and poor voltage regulation



Power System Assessments

Power System Assessment

An onsite power system assessment evaluates the overall condition of your electrical system, providing documentation of system configuration, condition and maintenance requirement. Consider an onsite power assessment if:

- You have equipment failure
- You have recently made changes to your electrical distribution system
- There is a lack of single-lines, as-built drawings, maintenance records or other vital documentation
- You are concerned about power system reliability

- Evaluates overall condition of the electrical system and rates deficiencies
- Details methods to improve electrical system availability and reliability
- Identifies codes and standards issues and 50 common electrical system errors

Harmonics Assessment

Many facilities today utilize nonlinear or harmonic producing loads including adjustable speed drives, solid-state ballast lighting, welding equipment, computers, UPS systems and others. These devices cause distortion of the voltage and current waveforms which can result in electrical equipment mis-operation or failure. It is also common for any installations to utilize shunt power factor correction capacitors to avoid excessive power factor penalties. When combined with harmonic-producing devices, this often results in significant power system problems including harmonic resonance conditions in which extremely high levels of current and/or voltage appear in the system.

- Assesses harmonic distortion with respect to IEEE 519
- Identifies excessive harmonic loading and poor power factor
- Evaluates harmonic mitigating savings opportunities
- Optimizes the existing electrical distribution system
- Helps to ensure proper operation of sensitive equipment
- Evaluates economics of power factor correction and harmonic filters



Power System Improvement Projects

Power System Improvement Projects

Designing power systems can be complicated and time consuming. Considerations must be taken in virtually every area including safety, reliability and costs. We provide the engineering design and project management expertise required to complete the most challenging projects in a safe and cost effective manner.

- Evaluates and recommends enhancements for existing power systems
- Add/revise loads, improve system reliability and reduce arc flash hazards
- Provides turnkey design services on projects involving equipment upgrades, replacements and Brownfield Projects
- Promotes system reliability with high resistance grounding conversions

Why Choose Schneider Electric Engineering Services?

Our registered professional engineers, safety-trained and equipped, will design, specify, install and commission your upgrade project. We have over 100 strategically located professional engineers who are collectively registered in every state of the U.S. Recognized as industry experts in power system analysis, design and codes and standards, many of our engineers are leaders in IEEE, NFPA and other power system standard-making organizations.

All engineering services identified herein shall be provided by Schneider Electric Engineering Services, LLC, a wholly-owned subsidiary of Schneider Electric USA, Inc. This document is for information purposes only and is not meant to be construed as an offer to provide engineering services.

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