



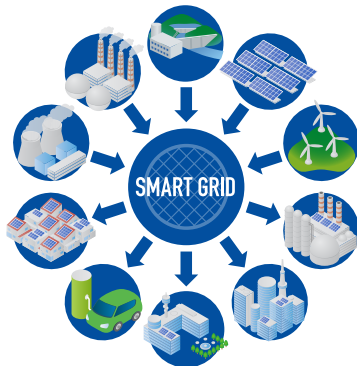
Sargent & Lundy

Industrial and Commercial Power Systems Analytical Services

AREAS OF EXPERTISE

Industrial Electrical Auxiliary System Performance
 Commercial/Institutional Distribution Systems
 Microgrid Planning and Design
 Generation Performance and Protection
 Interconnection with the Utility Power System
 Protective Relaying
 Arc Flash Analysis
 Lightning, Grounding, and Cathodic Protection
 Power Quality
 Equipment Failure Forensic Analysis and Remedial Actions
 Reliability of Power Supply Analysis

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Sargent & Lundy offers numerous analytical support capabilities in relation to all phases of industrial, commercial, and institutional distribution power system operations and planning. We understand that maintaining safe and reliable power is essential to your operation. Our services include full scope engineering studies to support new construction, system upgrades, and system maintenance. Sargent & Lundy also offers a full suite of engineering studies to support your facility microgrid project, from the initial planning stages through construction and operation. Our services include:

System Planning, Design, and Operation Studies

- Short-circuit analysis, power flow, voltage drop, and motor-starting studies
- Arc-flash studies for OSHA compliance
- Protection coordination studies
- Power factor correction studies
- Power quality and harmonics studies, power quality meter data evaluation
- Flicker and voltage sag studies
- Ferro-resonance studies
- Reliability studies
- Lightning, grounding, and cathodic protection assessment and design
- Application of energy storage and FACTS devices
- Power wheeling studies
- Failure forensic and root-cause analysis

Microgrid Planning and Design Studies

- Microgrid economic evaluation
- Conceptual design, layout, and generation/energy storage selection
- Reliability analysis
- Load flow/contingency analysis
- Short-circuit analysis
- Protection coordination studies for grid-tied and islanded modes
- Microgrid islanding studies
- Controller interaction studies
- Arc flash analysis