



**Sargent & Lundy**

# Analytical Services for Distribution System Operations

Sargent & Lundy offers numerous analytical support capabilities for all phases of distribution system operation and planning. Our staff has the expertise to perform traditional distribution system planning and to incorporate a host of new technologies into the distribution system, such as distributed generation, energy storage, volt/var optimization, distribution automation, and microgrids. Our services include:

## AREAS OF EXPERTISE

Distribution Planning  
Protective Relaying  
Model Development  
Distributed Energy Resource Impact Studies  
Volt/Var Optimization Studies  
Distribution Automation  
Power Quality

**Contact: Michelle Hack**  
Vice President  
+1-312-269-6950  
[michelle.hack@sargentlundy.com](mailto:michelle.hack@sargentlundy.com)

Sargent & Lundy is a full-service engineering and consulting firm dedicated exclusively to electric power and energy-intensive clients, with experienced engineers, designers, and support professionals working on power projects worldwide. Sargent & Lundy's history and extensive design experience in the power industry provide an invaluable perspective to support its clients in the assessment, development, financing, and implementation of power generation and transmission projects.

## Distribution Planning Studies

These studies are performed in support of distribution planning and distribution system upgrade projects:

- Load-flow/contingency analysis
- Short-circuit analysis
- Protection coordination studies
- Capacitor bank and regulator bank placement studies for volt/var optimization
- Feeder reliability studies and distribution automation recloser/switch placement studies
- Arc flash analysis
- System upgrade economic evaluation

## Distributed Energy Resource Integration Studies

We offer a full range of interconnection study services, including the following:

- Distributed energy resource interconnection studies
- Distribution feeder hosting capacity studies
- Load-flow/contingency analysis
- Short-circuit analysis
- Protection coordination studies

## Root-Cause Analysis

We can determine the root cause following improper operation of system equipment and/or damage through:

- Breaker failure analysis
- Ferroresonance analysis
- Harmonics and power quality studies
- Power quality meter data analysis