






# A SPECTRUM OF SOLUTIONS:

## Mitigating Utility Challenges with Underground Distribution Switchgear

The type of switchgear you choose matters for your grid-modernization efforts. Although utilities often use oil-insulated switchgear, it has limitations. Other switchgear is available to solve multiple utility challenges. It's important to consider the scope of challenges you face to determine which switchgear solution not only solves your challenges today but will support you as your grid evolves.

Use the chart below to evaluate various switchgear options and the criteria they must meet to mitigate various challenges. Switchgear meeting more overall criteria indicates a more advantageous solution.

Yes = ✓ No = X

Criteria	Oil-Insulated Switchgear	PMH Pad-Mounted Gear	PME Pad-Mounted Gear	Vista® Underground Distribution Switchgear	Vista® SD Underground Distribution Switchgear
 <b>Challenge: Operator Safety – Can operators simply and efficiently operate the gear with minimal voltage exposure?</b>					
Highly visible gap allows clearly seeing the switch position	X	✓	✓	✓	✓
Dead-front eliminates exposure to live voltage	✓	X	✓	✓	✓
One simple operating shaft per way or switch compartment	X	✓	✓	✓	✓
Operator tool provides distance from fuses	X	✓	✓	No fuses	No fuses
Fuses rotate for improved operator fuse-handling and safety	X	X	✓	No fuses	No fuses
No fuses means no operator exposure to medium voltage	X	X	X	✓	✓
Arc resistance reduces operator exposure to gases created by internal faults	X	X	✓	✓	X
 <b>Challenge: Environmental Exposure – Are the gear's live parts protected from vegetation, wildlife, and contaminants?</b>					
Barrier protects fuses from immediate environmental exposure	✓	✓	✓	No fuses	No fuses
Floor inside enclosure keeps wildlife away from live parts	✓	X	✓	Sealed design	Sealed design
Enclosed or sealed components keep environmental contaminants out	✓	X	✓	✓	✓
Moisture in air does not contaminate insulation material and impact operation	X	✓	✓	✓	✓
Submersible to withstand flooding	✓	X	X	✓	✓
 <b>Challenge: Footprint – Is the gear compact enough to be installed in tight places, on an existing pad, or underground?</b>					
Small volume increases suitability for tight installation	X	✓	✓	✓	✓
Vault-style option for out-of-sight installation	✓	X	X	✓	✓
Retrofit-friendly on existing pads of same size	X	✓	✓	✓	✓
 <b>Challenge: Insulation Technology – Does the gear have little to no environmental impact?</b>					
Green (Air-Insulated, Alternative Gas, or Solid-Dielectric)	X	✓	✓	✓	✓
Sealed for life to reduce or eliminate leak risks	X	Air-insulated	Air-insulated	✓	Solid-dielectric
 <b>Challenge: Cost – How much will the gear cost upfront and over time?</b>					
Upfront capital costs	\$\$	\$	\$\$	\$\$\$	\$\$\$\$
Ongoing operations & maintenance	\$\$\$\$	\$\$	\$	No cost	No cost



Learn more about the spectrum of underground distribution switchgear options available from S&C to solve your switching and protection challenges.

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