



We Energize Life

Grid Enhancing Technologies

Oklahoma Legislature Interim Study

September 23, 2026

Examples of Grid Enhancing Technologies (GETs)

Static synchronous compensators (STATCOMs) are shunt-connected reactive power devices which are primarily used to provide dynamic voltage support.

Static VAR compensators (SVCs) like STATCOMs are shunt-connected reactive power devices. SVCs typically do not perform as well as STATCOMs but may be less expensive.

Advanced power flow control devices are series-connected devices that can alter power flow on the transmission system to reduce congestion and leverage underutilized transmission lines.

Transmission switching is typically used in short-term operational timeframes but may be able to provide a long-term solution for mitigating transmission constraints by altering network topology.

Synchronous condensers are synchronous generators without a prime mover (gas turbine, steam turbine, etc.) Synchronous condensers provide inertia, dynamic reactive power, and short-circuit strength.

Voltage source converters (VSCs) convert DC voltage to AC voltage. VSCs are used in various devices, including STATCOMs, advanced power flow control devices, etc. One use of VSCs not covered elsewhere in this list is in high-voltage direct current (HVDC) transmission lines.

Advanced conductors are conductors with performance characteristics that exceed that of conventional aluminum conductor steel reinforced (ACSR) conductors.

OG&E History With GETs

Woodward District 138kV Phase Shifting Transformer

- In service since 2017
- Controls power flow on 138kV system by altering phase angle between two substations
- More cost effective than rebuilding several 138kV lines that were often overloaded before this device was placed into service

Additional GETs currently in service or recently used by OG&E include

- SVCs
- Transmission Switching
- Advanced conductors



OG&E Has Used Advanced Conductors Since 2007

Advanced Conductors currently on OG&E's system:

- 994 TS CosoPeak M3
- 1926.9ACSS/TW Cumberland
- 959.6ACSS/TW Suwannee
- ACCC/TW Drake 1020kcmil
- 2-959.6 ACSS TW
- 6-1590ACSR E3X

We have installed or have plans to install over 2500 circuit miles of advanced conductor so far at all voltages from 69kV to 345kV.

GETs Usage in Transmission Planning Studies

- GETs are often evaluated as short term solutions for transmission constraints that will persist until a long-term solution can be put into place
 - Can typically be put into service faster than traditional infrastructure
- Depending on application, may be appropriate as the long-term solution for a transmission problem.
 - STATCOMS
 - Synchronous Condensers
 - Advanced Reconductors
- While these solutions have always been available, SPP has recently taken steps to provide additional clarity around the evaluation of GETS in studies related to Transmission Service for High Impact Large Loads. Revision Request (RR) 808 is currently working through the stakeholder process.

OG&E Evaluation of GETs

- When only a modest capacity increase is required, advanced conductors can enhance line ampacity without a full line rebuild, provided existing structures can accommodate the conductor upgrade.
 - If existing structures are nearing end of their service life or a significantly larger conductor is required, most cost-effective solution may be a full rebuild
- OG&E has used GETs since 2007 and will continue to do so going forward. They are a valuable tool in the toolbox.