



HB 829

Grid-Enhancing Technologies/Alternative Transmission Technologies

Alternative transmission technologies (ATTs) are a suite of tools that can quickly and cost-effectively increase the capacity of the existing electrical grid without building new transmission lines. These typically encompass grid-enhancing technologies (GETs) — hardware and software solutions that can be deployed on the existing system and essentially act as energy efficiency for the grid — and advanced conductors. By increasing and optimizing the capacity of lines already in place, the grid can transmit more electricity without the lengthy planning and permitting process required for new transmission lines. By adding ATTs to lines being constructed, we can ensure that all new lines being built are as efficient as possible, thus decreasing the need for more lines and ensuring the best use of rate-payer dollars. While construction of new transmission lines will still be needed to support projected increased demand, ATTs ensure that we get the most out of our current and future grid investments. Thus, they merit consideration in grid planning processes, as now required by FERC Order 1920, as well as in the planning and permitting of specific transmission projects.

Some examples of Grid-Enhancing Technologies:

- Dynamic Line Ratings: Measures the ambient conditions and temperature of a line to determine its real-time rated capacity. The capacity of lines can increase up to 50% in cold or windy conditions over the conservatively established static capacity rating.
- Advanced Power Flow Control: Hardware and software that can reroute power flows to optimize line utilization, avoiding overflows of electricity in some areas and underutilization in others.
- Topology Optimization: Software is used to track the best route and combination of lines for transferring power. The software can then proactively alter grid topology to better control power flows.
- Advanced Reconductoring: Replacing old conductors on existing transmission lines with new, higher-capacity conductors that can enhance the overall performance of the line.

