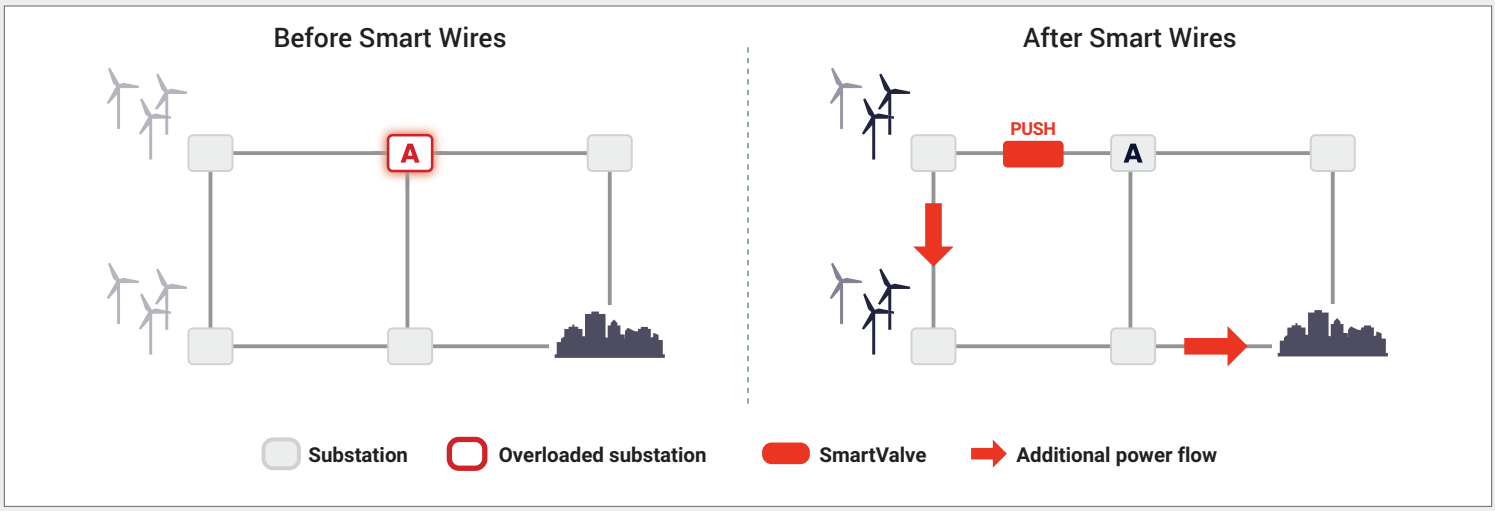
CASE STUDY

SMART WIRES
REIMAGINE THE GRID

ENABLE AND ACCELERATE RENEWABLE CONNECTIONS

The best locations for renewables are often places with weaker transmission systems. If these areas are developed, generation may face curtailment. Alternatively, extensive network reinforcements may be required to strengthen the grid and absorb the new power flows created by this additional generation. These network reinforcements are often expensive and time-consuming.

With SmartValve™, network owners can quickly and inexpensively incorporate new generation by unlocking capacity on the existing network. Additionally, SmartValve's real-time control capabilities allow network operators to effectively manage intermittent flows associated with renewable resources.



CHALLENGE

- A utility seeks to connect 1 GW of wind generation.
- Substation A acts as a bottleneck, preventing this generation from accessing the market, and delaying the connection of numerous wind farms.
- Renovating Substation A would eliminate the constraint, but this work was delayed six years due to challenges securing the necessary construction outages.

SOLUTION

- Smart Wires technology can be installed in less than one year.
- SmartValves redirect power onto parallel lines and allow up to 50% of the wind generation to connect immediately.
- The utility can add more SmartValves to the deployment, scaling the solution as wind developers confirm their investments and connect to the network.

IMPACT

- The project enables the immediate, firm connection of 550 MW of new wind generation capacity.
- Renewable developers save tens of millions of dollars that they otherwise would have lost due to interconnection delays.
- After the substation is upgraded, the utility can redeploy the SmartValves to other parts of the grid.