Spare Transformers

Electricity moves through a complex transmission system. Transformers are located in substations near electric generating plants. In much the same way that a pump builds up the pressure of water in a hose, transformers step up the electricity voltage to levels ranging from 69,000 to 765,000 volts. From the transformers, electricity enters the transmission system.

In 2006, federal energy regulators approved the Spare Transformer Equipment Program (STEP), an electric industry program that strengthens the sector’s ability to restore the nation’s transmission system more quickly in the event of a terrorist attack. STEP represents a coordinated approach to increasing the electric power industry’s inventory of spare transformers and streamlining the process of transferring those transformers to affected companies in the event of a transmission outage caused by a terrorist attack.

Under the program, each participating energy company is required to maintain and, if necessary, acquire a specific number of transformers. STEP requires each participating company to sell its spare transformers to any other participating company that suffers a “triggering event,” defined as an act of terrorism that destroys or disables one or more substations and results in the declared state of emergency by the President of the United States.

Any investor-owned, government-owned, or rural electric cooperative electric company in the United States or Canada may participate in the program. Currently 56 companies are members.

In addition to STEP, the SpareConnect program provides an additional mechanism for Bulk Power System (BPS) asset owners and operators to network with other SpareConnect participants concerning the possible sharing of transmission and generation step-up (GSU) transformers and related equipment, including bushings, fans and auxiliary components. SpareConnect establishes a confidential, unified platform for the entire electric industry to communicate equipment needs in the event of an emergency or other non-routine failure.

SpareConnect complements existing programs, such as the Spare Transformer Equipment Program (STEP) and voluntary mutual assistance programs, by establishing an additional, trusted network of participants who are uniquely capable of providing assistance concerning equipment availability and technical resources. SpareConnect does not create or manage a central database of spare equipment. Instead, SpareConnect provides decentralized access to points of contact at power companies so that, in the event of an emergency, SpareConnect participants are able to connect quickly with other participants in affected voltage classes. SpareConnect does not impose any obligation on participants to provide any information or to make any particular piece of equipment available. Once connected, those SpareConnect participants who are interested in providing additional information or sharing equipment work directly and privately with each other on the specific terms and conditions of any potential equipment sale or other transaction.

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