

ICF: Pooling power assets is key to recovery from catastrophic events

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Pooling resources and a proper inventory assessment for equipment such as transformers and circuit breakers will prepare power companies for catastrophic events like hurricanes or large-scale physical or cyberattacks while keeping costs down, consulting firm ICF International said.

A group of electric power companies, including American Electric Power Co. Inc. and Duke Energy Corp., has already launched a voluntary effort called Grid Assurance to create a spare transformer reserve. The federal government is involved in a similar effort. As part of a transportation bill passed into law in late 2015, the U.S. Energy Department is required to submit a report to Congress by this December on the feasibility of a strategic transformer reserve to protect the grid from an extreme event.

To enhance those efforts, ICF developed an inventory-assessment tool to identify the equipment at risk from a possible catastrophic event, taking into account the geographical reach, severity and frequency of a potential occurrence. The firm also formed a catastrophic inventory-modeling tool that uses input from the assessment tool to develop an “optimal inventory requirement.”

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These tools can help utilities and transmission owners to pool resources within similar equipment or voltage classes, which can cut down on the total inventory investment. In one example, ICF showed the required spare transformer inventory for a theoretical set of affected cities would only need to total about half the number of transformers at risk of an orchestrated physical attack.

“Substantial economic benefits are achieved by pooling the needs across multiple geographically diverse utilities,” ICF said in an Aug. 16 presentation.

ICF Senior Manager Harjeet Johal said Grid Assurance is already using these tools and model framework for its program. The voluntary initiative formally launched in early May. In the next year, subscribing companies will focus on obtaining state approvals and developing warehousing and operational plans, Grid Assurance COO Dan Rogier said during the ICF webinar. After that, the focus will shift to building and equipment acquisition, with sparing service and sparing fee collection targeted to begin in January 2019.