

FOR IMMEDIATE RELEASE
June 17, 2024



REGIONS CAN IMPROVE POWER SYSTEM RESILIENCE THROUGH INTERREGIONAL TRANSMISSION THAT ALLOWS ACCESS TO DIVERSE RESOURCES IN AREAS EXPERIENCING DIFFERENT WEATHER CONDITIONS

A Methodology to Evaluate Regional Diversity to Prioritize Additional Interregional Transmission for the Greatest Resilience Benefit

Reston, Va. – The [Energy Systems Integration Group \(ESIG\)](#) has released a new report, [Interregional Transmission for Resilience: Using Regional Diversity to Prioritize Additional Interregional Transmission](#), setting forth a methodology for assessing where additional interregional transmission capability can provide the greatest benefits for system resilience.

There is a growing need to ensure that electricity systems remain robust and adaptable in the face of future load growth, a changing resource mix, and a changing climate. Interregional transmission improves grid resilience by allowing regions to access diverse resources in neighboring regions not affected by the same weather and load conditions. But despite the potential benefits, current planning processes often overlook the resilience value of interregional transmission, focusing on local reliability solutions within only a small geographical region. “Interregional transmission already plays a critical role in ensuring a reliable and resilient grid by improving access to diverse load and resources,” said Ryan Deyoe, senior analyst at Telos Energy and an author of the report. “The methodology detailed in this report will help planners bring these benefits into view for stakeholders and help them to quantify these benefits to intelligently and efficiently plan the grid of the future against growing uncertainty.”

“This study is the first installment in an important effort to develop a methodology to address two significant industry initiatives: the need for increased grid resilience to address the impacts of extreme weather, and the need to quantify the resilience benefits of increased interregional transmission capability,” said Warren Lasher, founder of Lasher Energy Consulting and chair of the ESIG task force.

This study provides a nationwide assessment of current interregional transmission capability and offers planners a framework for (1) assessing transmission’s adequacy and resilience benefits at a national scale, and (2) prioritizing transmission investments that offer the greatest benefits for system resilience.

This methodology calculates an hourly energy margin for every region in the U.S., taking into account hourly available capacity and hourly loads, to assess each region’s ability to import or export power to its neighbors. The methodology can be used to meet an individual planning region’s needs and can also inform national efforts to assess resilience benefits from

interregional transmission. “This study underscores the need for a robust, national-scale approach to grid resilience,” said James Okullo, executive director of system planning at the Energy Systems Integration Group. “The report provides a modeling and strategic framework for leveraging interregional transmission and regional diversity to improve the reliability and adaptability of the U.S. electric power grid in response to severe weather events and a changing energy landscape.”

The report includes a case study applying this methodology to determine how much additional interregional transmission would be needed for every U.S. region to be able to import 10%, 20%, and 30% of its peak load. To determine where additional interregional transfer capability should be added, a model was developed using a priority dispatch order in which a region first uses its own resources, then resources from its immediate neighbors (if they have surplus), and, lastly, resources from neighbors’ neighbors. This methodology can be used to identify which neighboring regions would typically have deeper surplus at times when a given region is experiencing grid stress.

The method is designed to be practical and adaptable to current planning practices, allowing for broad nationwide assessments, across all hours of the year and across many weather years and different resource mixes, applicable on both a regional and a national scale.

ESIG is a nonprofit organization that marshals the expertise of the electricity industry’s technical community to support grid transformation and energy systems integration and operation. The report and executive summary can be downloaded at <https://www.esig.energy/interregional-transmission-for-resilience/>.

###

Media Contact:

Ryan Willis, ESIG Director of Marketing & Operations
(704) 473-0135
ryan@esig.energy