

# Value of Resilience Interest Group



- A six-month, no cost, broad technical and strategy stakeholder forum to address costs of major reliability events (value of resilience)
- Identify gaps in quantifying the value of resilience, including the customer cost of long-duration outages
- Collaborative scoping for R&D to address priority gaps and project customer outage cost estimates

## **Background and Key Research Questions**

Resilience to climate-related, physical, and cyber events has become one of the most critical issues facing the electric power industry. One of the most significant industry needs is understanding the societal and direct costs of these highimpact low-frequency (HILF) events and the potential value of improving resiliency. These can be very different from the costs of traditional reliability events, but the tools for assessing costs still are mostly tied to traditional reliability, characterized by indices such as customer minutes of interruption (CMI), System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI), etc.

EPRI is organizing a forum of stakeholders to identify technical approaches and use cases for resilience valuation. The group will leverage EPRI's collaborative approach and engage a broad group of stakeholders to accelerate learning on various resilience choices and investments, starting with estimating the costs of long-duration outages to customers.

There currently are no widely accepted estimates of the value of resilience to support transparent investment decisions. Increasing HILF events that impact power delivery create an urgent need to assess the benefit of energy resilience to customers and critical national infrastructure, which can inform efficient resilience decisions for a broad range of stakeholders. The goal of the group is to begin research that will fill gaps in business cases and tools for assessing customer-focused utility resilience programs and informing societal choices and investment decisions.

#### **Benefits**

- Launch development of new commonly accepted approaches for characterizing costs of HILF events, to inform choices and investment decisions by diverse stakeholders.
- Learn about current and potential metrics for characterizing HILF event impact costs and their possible use in various risk environments.
- Gain insights on emerging issues around resiliency by collaborating with EPRI experts and other stakeholders.
- Focus collaborative research efforts on solving critical research gaps in characterizing resiliency choices and investment, which can enable prudent decision-making and more productive discussions among stakeholder groups.
- Accelerate resilient infrastructure development by aligning resources in a roadmap for resilience valuation.

## **Project Approach and Summary**

- Industry synthesis of existing metrics for resilience value and approaches to estimating the costs of long-duration outages, i.e., longer than 24 hours.
- Collaboratively assess gaps in existing approaches through monthly webcasts and an in-person workshop.

- Target research pathways that will detail:
  - The differences between costs associated with traditional reliability events and the longer-duration events related to HILF disturbances;
  - The changing value of electricity over time, as increasing efficient electrification and low-carbon energy resources make electricity a larger share of household and business energy use over time;
  - Issues of electrifying public infrastructure such as transportation and impact on societal impacts of disruptions;
  - Community impacts of major disruptions as opposed to costs associated with interruptions to individual customers; and
  - Differences in outage costs due to outage management system design (for instance, the timing of notices to customers).

# Deliverables

## I. Interest Group Meeting Materials

Five monthly webcasts to gather industry input on current activities, gaps, and research needs.

Intermediate research findings and discussion notes will be provided to the group following monthly webcasts.

One face-to-face workshop for utility members and key external stakeholders.

Interest group findings, including resilience valuation research pathways, will be summarized in a white paper that will be published and available to the public.

# II. Technical Results

R&D project scope and plan to estimate customer costs of long-duration outages that may be appropriate for helping prioritize choices and investments to improve resilience.

This cross-cutting work will be coordinated with underlying research in power delivery and utilization.

The non-proprietary results of this work will be incorporated in EPRI Power Delivery and Utilization programs and the final white paper published and available to stakeholders.

### **Price of Project**

This forum engagement is no cost for participants that may benefit from and contribute to the forum goals. Each participant will be responsible for their costs in attending meetings.

# **Project Status and Schedule**

The project is expected to commence by June 1 and be completed by the end of 2020.

## **Who Should Join**

Electric utilities needing to evaluate resilience investment decisions and other stakeholders that are impacted by resilience issues—industrial customers, community organizations, transportation and fleet electrification organizations, etc.—could benefit from participation in this group.

## **Contact Information**

For more information, contact the EPRI Customer Assistance Center at 800.313.3774 (<u>askepri@epri.com</u>).

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