

ASSESSMENT OF DER-READY METER FORMS



PROJECT HIGHLIGHTS

- Inform utility plans for AMI systems and DER communication
- Hands-on assessment of sockets, meters and other products based on new multiport meter forms
- Analysis of metering and communication architectures and use cases
- Economic cost-benefit analysis with direct measurement of retrofit cost
- Understanding commercial product availability and vendor plans
- Materials to inform regulatory discussions

Background, Objectives, and New Learnings

When consumers adopt solar, electric vehicles, or other DER, there is significant cost and complexity in making the necessary electrical and communication connections of the new equipment. Electricians are typically engaged to find a way to connect inverters, EVSEs, and other devices to customer load centers/breaker boxes, additional meters, or meter socket adapters. To help simplify this process, ANSI recently developed a new standard socket meter form that is “DER Ready” in that it provides a means for utility meters to separately measure and/or disconnect the DER usage/production and the customer load.

The object of this project is to comprehensively evaluate this new meter form and associated metering and communication products to determine the technical and economic opportunities and limitations that it provides relative to alternatives. The project activities are expected to provide new learnings and understanding to help inform utility requirements for new construction and for retrofits during DER interconnection.

Benefits

Public and funder benefits include:

- Potential reduction in the time and cost of DER adoption and connection
- Increased data visibility and awareness, for both utility operations and consumer applications
- New resiliency possibilities for local power from PV & EV
- Improved visibility and control capabilities for DER

Project Approach and Summary

This project is hands-on and plans to include direct assessment of products in EPRI labs and participating utility lab and field sites. Interviews with identified vendors will be conducted to understand their plans and expected product features.

Product/prototype purchases are expected to support laboratory and field assessments. EPRI intends to build mock setups to assess electrician time and procedures for retrofit. The multiport meter socket related assessments will be compared, both technically and economically, to alternatives such as meter socket adapters.

Webcasts will be conducted on a regular basis, including as possible invited product vendors to directly share their vision and intentions with project participants.

Deliverables

- **Technical Assessment of DER-Ready Multiport Meter Form & Associated Products** Report comprising the full results of EPRI's use-case analysis and product evaluations.
- **Economic Assessment DER registry/universal interface** technical specifications. Implementation-ready specification for the supporting technology platform
- **Framework** for standards-based aggregator integration with requirements spanning from service definitions to enrollment, telemetry, service-provision, verification, and settlement.
- **Reference implementations** for standards-based interfacing with DER aggregations/VPPs, with emphasis on protocols such as IEEE 2030.5.

Price of Project

Price per participant: \$100K

This project requires at least 3 utilities to conduct the full scope. This project qualifies for Self-Directed Funding (SDF) or co-funding and can be paid over two years.

Project Status and Schedule

The project is expected to continue for 24 months from initiation to completion. Initial deliverables are expected early and at regular intervals throughout the project.

Who Should Join

Utilities experiencing rising levels of residential solar and/or EV adoption. Utilities considering new metering/AMI options for simplified DER interconnection.

Contact Information

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

Technical Contacts

Daniel Quarells at 865.456.3586 (dquarells@epri.com)

Ajit Renjit at 614.620.3154 (arenjit@epri.com)

Additional Contacts

Annie Haas at 650.798.7795 (ahaas@epri.com)

Brian Dupin at 650.906.2936 (bdupin@epri.com)

Barry Batson at 704.905.2787 (bbatson@epri.com)

Warren Frost at 403.474.4432 (wfrost@epri.com)

Chuck Wentzel at 618.320.0011 (cwentzel@epri.com)