

DISTRIBUTION RESOURCE INTEGRATION AND VALUE ESTIMATION (DRIVE) TOOL USER GROUP | 2024-2026



PROJECT HIGHLIGHTS

- Access to the latest version of DRIVE
- Enhancements and improvements of the DRIVE analytics
- Training and support for using DRIVE
- Standardization of data extraction
- Improvement of output visualization
- Support successful application of DRIVE through meetings, webcasts, and software support

Background, Objectives, and New Learnings

The “hosting capacity” of a distribution feeder is the amount of generation, or load, that can be accommodated without adversely impacting power quality or reliability under existing feeder design and control configurations. Experience has shown that hosting capacity can vary across feeders, along a single distribution feeder, or based on impact criteria the utility considers. Hosting capacity will also change over time as devices are added to the system or system infrastructure and operations change. To properly assess these impacts, the industry needed a method for determining feeder hosting capacity, system-wide, that considers the full impact of these devices on the performance of the distribution grid based on technology type, size, and location, and considering the full range of additional impact factors.

To meet this need, EPRI developed the Distribution Resource Integration and Value Estimation (DRIVE) tool to enable distribution engineers with planning methods that assess the full impact of generation and load on the grid. The primary focus of DRIVE is to quickly evaluate the physical impacts of new resources on an entire distribution grid without compromising accuracy.

The DRIVE tool is built on hosting capacity analytics to identify constraints and cost-effective solutions to better integrate generation and load into the distribution grid. This includes evaluating both the technical impacts as well as identifying the locational value and cost of integrating resources. DRIVE is intended to provide a method for assessing, integrating, and operating distribution resources in the overall utility assessment process to support interconnection, planning, and operational decisions.

The objective of this User Group is to facilitate user input and improvements to the functionality in DRIVE. The User Group will bring together utility planners and planning tool vendors with the end goal to fully commercialize new and effective DRIVE analytics to improve the overall integration of new resources (photovoltaics, electric vehicles, storage, etc.) with the grid.

This new cycle of the DRIVE User Group will continue with prior efforts, but also include the expansion of hosting capacity analytics for scenario planning, identifying integration solutions, and calculation of dynamic operating envelopes.

DRIVE analytics occur on feeder model data extracted from distribution planning tools. To extract this data and enable DRIVE to be used for analysis, interface scripts will be provided for distribution planning tools (e.g., CYME, Synergi, Milsoft, PowerFactory, OpenDSS, DEW, etc).

Benefits

The User Group has four key values:

- Guide enhancement and improvement of the DRIVE tool and interface
- Provide updates to the DRIVE tool
- Provide training and support for using DRIVE
- Provide a forum to help utilities successfully apply the tools

Project Approach and Summary

User Group interaction will be facilitated through webcasts, face-to-face meetings, and training events. User Group interaction includes:

- Periodic webcasts to enable members to share experience, discuss issues, guide ongoing maintenance and bug fixes, and identify major feature enhancements to future versions of DRIVE;
- One annual User Group meeting to provide updates on tool functionality, facilitate information and experience sharing among users, and solicit input for new functionality and updated versions;
- One annual new-user training in conjunction with annual User Group meeting; and
- One annual utility-specific webcast for new users.

Deliverables

User Group members will receive the following:

- Access to the latest version of DRIVE, including any scripts or new releases that occur during each funding year.
- Annual face-to-face meeting, annual training, and periodic webcasts.
- Access to EPRI staff for support.

Price of Project

The price to participate is \$10,000 per year. A three-year commitment is required for a total of \$30,000. There is no prorating for those who join late in the 3-year User Group cycle. The software tool can only be licensed by joining the group. The project qualifies for Self-Directed and Tailored Collaboration funds.

Commercial use of the software (i.e., entities wanting to license the tool and use it for consulting and service work) is available, but licensing for such use will be determined on a case-by-case basis and will require purchasing licensing rights for providing services.

Project Status and Schedule

The DRIVE User Group will run for three years from January 2024 – December 2026. At the end of 2026 we will determine the need and support for continuing the group for another three-year cycle.

Who Should Join

Utilities that are currently interconnecting generation or load into the distribution grid, forming distribution resource plans, or evaluating future programs for better utilization of the grid.

Contact Information

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