

## DER Integration Program (P174)

### [DER Integration Program \(P174\)](#)

## Membership and Participation Guide

### Welcome

Welcome to the EPRI DER Integration program! We appreciate your participation and look forward to working with you to address the technical challenges of integrating distribution-connected solar PV, storage, electric vehicles, and other types of distributed energy resources.

This document is intended to introduce you to the people and processes of Program 174, and to answer your questions regarding:

- your role as an advisor,
- access to materials and meetings, and
- EPRI's overall mechanics.

### Program Numbers and Project Sets

Each EPRI base research program corresponds with a number, and we sometimes make the mistake of using these numbers instead of the full program title. “P174” or “Program 174” is the DER Integration program.

EPRI programs are further divided into specific research topics called “Project Sets” or “PSETs” for short. When a company joins the program, they elect to either join the full program, or specific Project Sets within the program. The DER Integration program is presently organized in four technical Project Sets plus a “Technology Transfer” set of activities that is required for all members:

- P174A – Grid Impact Analysis of DER
- P174B – Smart Inverter and Grid Support Technologies
- P174C – DERMS and Microgrid Integration
- P174D – Practices, Programs, and Economics
- P174E – Technology Transfer and Industry Engagement (required for all memberships)

There is a cost discount when the full program is selected such that participation in three of the four technical PSETS is approximately the same as participating in the whole program.

## DER Integration Program (P174)

### Our Team

Program research is carried out by EPRI staff as well as domain experts worldwide who work under contract to EPRI. We want you to know our team and feel comfortable reaching out at any time with questions and comments. Please refer to the following table for a list of program contacts who are available to you.

EPRI Contact	Area(s)	E-mail	Phone
<b>Devin Van Zandt</b> (Program Manager)	Any topic, program-wide	<a href="mailto:dvanzandt@epri.com">dvanzandt@epri.com</a>	518-281-4341 (mobile)
<b>Tom Key</b> (Technical Executive)	Any topic, program-wide Technology transfer webcasts, field experiences interest group. (P174E)	<a href="mailto:tkey@epri.com">tkey@epri.com</a>	865-218-8082 (office) 865-310-5724 (mobile)
<b>Amy Feser</b> (Program Coordinator)	Program coordination, events, webcasts, contacts, materials access.	<a href="mailto:afeser@epri.com">afeser@epri.com</a>	865-218-5909 (office)
<b>Wei Ren</b> (P174A Lead)	DER Grid Impact Analysis	<a href="mailto:wren@epri.com">wren@epri.com</a>	518-598-8921 (mobile)
<b>Aminul Huque</b> (P174B Lead)	Smart Inverters and Grid-Support Technologies	<a href="mailto:mhuque@epri.com">mhuque@epri.com</a>	865-218-8051 (office) 865-441-6564 (mobile)
<b>Jackie Baum</b> (P174C Lead)	DERMS and Microgrid Integration	<a href="mailto:jbaum@epri.com">jbaum@epri.com</a>	650-855-2542 (office) 801-750-4854 (mobile)
<b>Nadav Enbar</b> (P174D Lead)	Practices, Programs, and Economics	<a href="mailto:nenbar@epri.com">nenbar@epri.com</a>	303-551-5208 (mobile)
<b>Ben York</b> (Strategic Projects Lead)	Utility projects, demonstrations.	<a href="mailto:byork@epri.com">byork@epri.com</a>	865-218-8187 (office) 205-873-0187 (mobile)
<b>Barry Batson</b>	Member and Technical Services, US Southeast	<a href="mailto:bbatson@epri.com">bbatson@epri.com</a>	704-595-2873 (office) 704-905-2787 (mobile)
<b>Anne Haas</b>	Member and Technical Services, US Northeast	<a href="mailto:ahaas@epri.com">ahaas@epri.com</a>	704-608-6314 (mobile)
<b>Chuck Wentzel</b>	Member and Technical Services, US Midwest	<a href="mailto:cwentzel@epri.com">cwentzel@epri.com</a>	618-320-0011 (mobile)
<b>Brian Dupin</b>	Member and Technical Services, US West	<a href="mailto:bdupin@epri.com">bdupin@epri.com</a>	650-906-2936 (mobile)
<b>Warren Frost</b>	International / Canada	<a href="mailto:wfrost@epri.com">wfrost@epri.com</a>	403-474-4432 (office)

## DER Integration Program (P174)

### Understanding Base, Supplemental, and Individual Projects

P174's projects fall into three primary categories: The base research portfolio, supplemental projects, and individual projects.

#### **The “Base” Research Portfolio**

The terms “base program” and “ARP” refer to the annual (January-December) research performed by the P174 program through the Project Sets. As further described in the following section, the base research is planned and published during the prior year and participation is determined by the annual funding decisions of the members (which usually occurs in the fourth quarter of the prior year).

Depending on the process at your company, action may be required on your part (e.g., discussion with your Manager of EPRI Technology Transfer, or METT) to make sure that participation in the program is renewed. It is typically not automatic.

#### **Supplemental Projects**

Throughout the year, additional DER research needs may be identified that require immediate attention. To address these, “supplemental” projects can be created. This entails EPRI documenting these proposed projects in one-page “Supplemental Project Notice (SPN)” documents and conducting accompanying webcasts to present the project opportunity to members. Any interested utility can join a supplemental project, regardless of program or PSET elections.

When your company joins EPRI base research programs, 25% of the funding is reserved in a utility specific account called “Self-Directed Funds” (SDF). These funds can be applied throughout the year to join supplemental projects. This arrangement is consistent across EPRI and was established so that additional funds do not necessarily need to be identified in order to join supplemental projects. Supplemental projects can also be joined with additional (non-SDF) funds.

#### **Individual Projects**

EPRI works with utilities on an individual basis. These projects can begin at any time and can be short- or long term. Example activities include:

- Conducting laboratory evaluations of products and systems
- Studying and analyzing circuits to determine grid impacts and hosting capacity for specific settings or control algorithms
- Supporting field demonstrations: designing projects, collecting data, performing analytics
- Assessing and updating practices and interconnection requirements
- Developing new algorithms and tools for DER monitoring and management at system, microgrid, or customer levels.

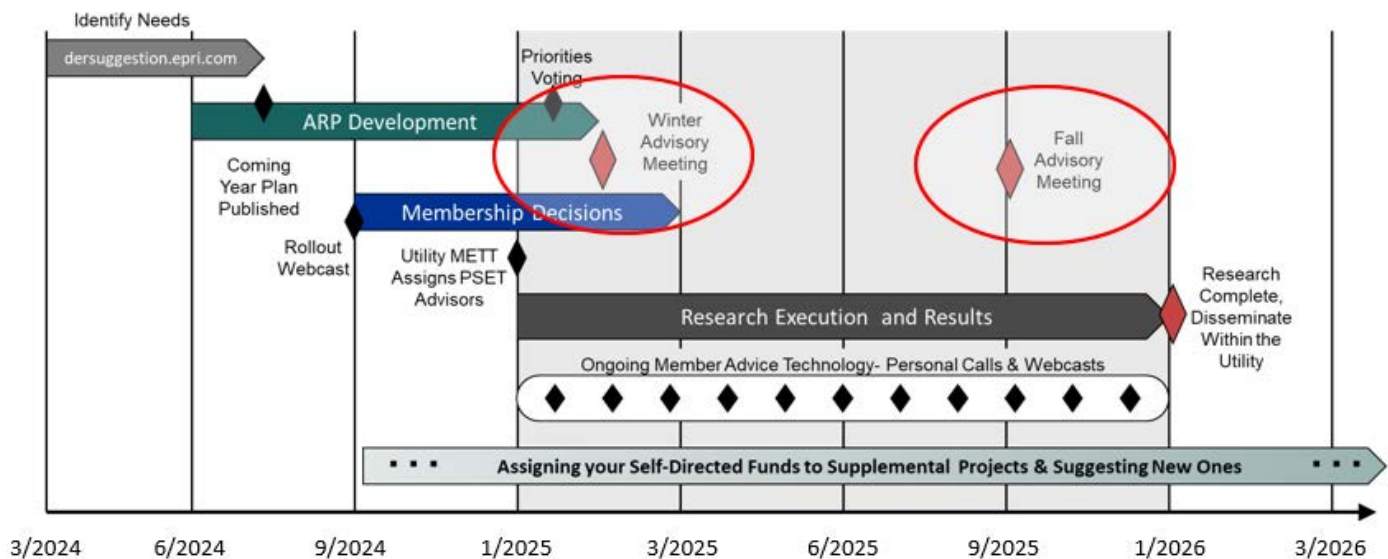


## DER Integration Program (P174)

### Annual Base Research Process

The DER Integration Program is part of the overall EPRI annual research portfolio (ARP) and operates on an annual cycle aligned with the calendar year. As summarized in the timeline below, the process begins in the April-May timeframe of the prior year when research needs are identified. EPRI staff will reach out to members during this time to seek advice on pressing needs in the area of DER integration and will consolidate and document feedback into the plan for the coming year. The plan is published around mid-year and made available for review and consideration by existing and prospective members. A rollout webcast is conducted during the summer to present the plan and receive further comment.

Because things are rapidly changing in the DER area, P174 staff review the research plan as the year begins and adjust as needed. Our process includes an online survey and invitation for members to prioritize planned and newly identified needs.



## DER Integration Program (P174)

### Manager of EPRI Technology Transfer (METT)

Every utility has one or more individuals who are managers of the overall relationship with EPRI. The METT has a number of roles and can be a valuable point of contact within your own organization for managing and maintaining the business relationship with EPRI. If you are unsure who your METT is, you may search here: [METT List](#). Your METT can help identify the programs and projects in which your utility is participating, as well as provide assistance in joining supplemental projects.

### Advisory Meetings

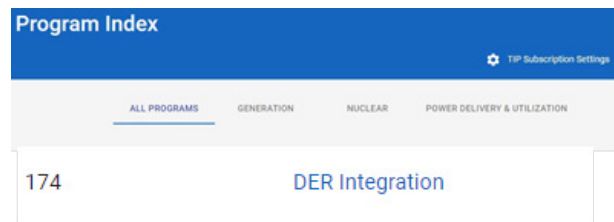
There are two major face-to-face meetings each year that are referred to as “advisory meetings”. The Winter meeting typically occurs in February and is more forward-looking. The Fall meeting typically occurs in September and focuses on the research-in-process. If course corrections are needed, they are made during these meetings. The advisory meetings include all of the EPRI Power Delivery and Utilization (PDU) sector programs meeting in parallel. They are large-scale meetings and an excellent opportunity to meet with other utilities. As a DER Integration program advisor, we encourage you to attend these meetings and to share your perspectives.

### Accessing the DER Integration Websites and Materials

Many resources are available to you and accessible through the EPRI members website:

<https://www.epri.com/>.

Access to the site requires a user account and password. These are setup on an individual basis. If you do not have one, you can get one [here](#).



The hub for DER Integration program information is the [DER Integration Member Center](#). You can find it from the front page of the Member Center by clicking on the “Research and then Program Index” link, then scrolling down to P174. You can bookmark the program member center (recommended) and check the box to the right to identify it as one of your favorites.

Further to the right on the [same web page](#) is a checkbox to subscribe to Technology Innovation Product Updates “TIPS” for the program. This system sends you automated email notifications on new research results, notices of product and software releases, upcoming workshops, events, and webcasts.

The member center also has an area for [meetings and webcasts](#) where you can stay up to date and informed on the program’s event details and descriptions. Meeting materials, including webcast recordings, are posted following each event.

# DER Integration Program (P174)

## Research Results and DER Integration Program Information

The DER Resource Center

(<http://der.epri.com>) provides tools and databases that simplify member access to DER research, tools, data and algorithms.

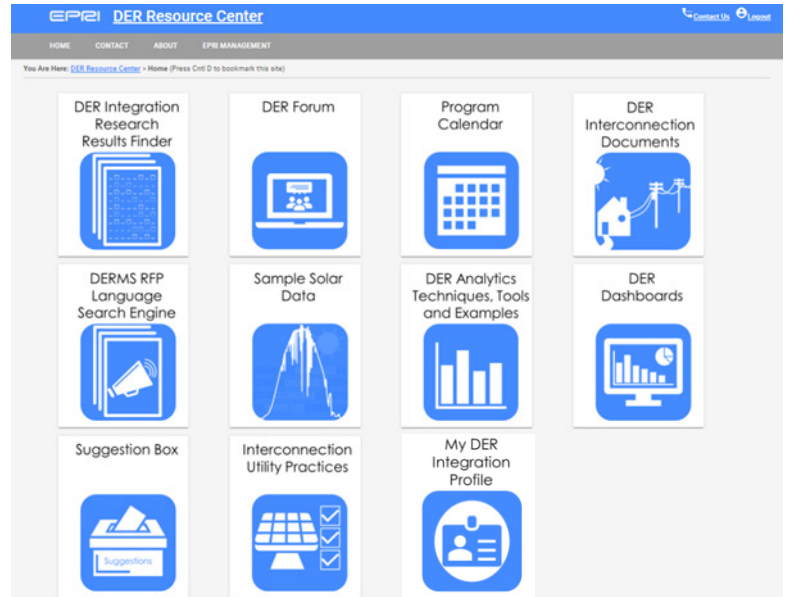
**DER Integration Research Results Finder:** allows you to perform topical searches for prior P174 reports and resources.

**DER Interconnection Documents:** a searchable collection of utility DER interconnection documents (TIRs, applications, etc.)

**DERMS RFP Language Search Engine (P174C):** a repository of utility RFPs for DERMS and EPRI reference language for specific DERMS aspects

**Sample Solar Data:** downloadable sets of solar production data for various geographical regions.

**DER Analytics Techniques and Examples (P174B):** descriptions and example implementations of data analytics for DER



DER Integration Research Results Finder

Limit Search By

☐ Show only Public Results

Publications Between all 2009 and before And 2025
☐ Include Results In Process

Title Text 
☒ Match ANY
☐ Match ALL
☐ Match Phrase

Research Area

☒ Hosting Capacity
☒ DER Regulatory and Policy
☒ Fault & Dynamic Characteristics

☒ Grid Impact Studies
☒ DER Devices
☒ DERMS & DMS Integration

☒ Smart Inverter Fxns & Settings
☒ DER Lab Evaluations
☒ Storage

☒ DER Protection & Grounding
☒ Demos & Case Studies
☒ Metering and Telemetry

☒ Unintended-Islanding and DTT
☒ Standards & Compliance
☒ Tutorial and Training Material

☒ Economics & CBA
☒ Data Analytics & Algorithms
☒ PV Plant

☒ DER Programs and Biz Models
☒ Communication & Interoperability
☒ Residential PV

☒ DER Adoption & Forecasting
☒ Microgrids
☒ Transformers

☒ Ops and Interconnection Practices
☒ Power Quality Impacts
☒ EV, EVSE, and V2G

☒ Check/Uncheck All

Result Type

☒ White Papers & Tech Briefs
☒ Website

☒ Technical Updates & Reports
☒ EPRI Program Materials (and Supplemental Project Notifications)

☒ Presentations
☒ Other

☒ Recordings and Webexs
☒ DER Forum Topic

☒ Software & Technical Resources
☒ Workshops

☒ Databases & Dashboards



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## DER Forum

The DER Forum ([derforum.epri.com](http://derforum.epri.com)) is an online discussion area for utilities to pose questions and share answers and perspectives on a range of DER-related issues. The Forum enables direct utility-to-utility conversation and archives dialogue so that it is captured and searchable. The Forum is a collaborative effort undertaken by the Energy Storage and Distributed Generation (P94) and Integration of DER (P174) research programs. It aims to encourage greater knowledge share, identify new areas of research, and improve response time to questions on a broad range of member inquiries and interests. The [DER Forum Quick User Guide](#) can help you get started.



## Interest and Working Groups

Interest and working groups provide additional venues for information sharing and discussion on specific topics. They convey knowledge about present industry practices and plans and help address challenges in a timely manner. The DER Integration program currently facilitates eight interest groups to keep members informed on key technical developments:

- Distribution Services Working Group
- Energy Storage Functions Taxonomy Working Group
- Smart Inverter Functions and Settings Interest Group
- TSO/DSO Working Group
- SPIDER Testbed Users Group
- DER Field Experience Interest Group
- DER Model Users Group
- Distribution Grid-Forming Inverter Working Group (DiGFI)

## Document Library

[+ new document](#) or drag files here

- ✓ ☐ Name
- ☐ P174 Distribution Services Working Group (DSWG)
- ☐ P174 Energy Storage Functions Taxonomy Working Group (ESFTWG)
- ☐ P174A Smart Inverter Functions and Settings Interest Group
- ☐ P174C DERMS Interest Group
- ☐ P174C SPIDER Testbed Users Group
- ☐ P174E DER Field Experience Interest Group
- ☐ P174-P200 Distribution DER Model Working Group (DAWG)

Current and past materials from interest group meetings are located on the P174 [collaboration site](#). Materials can be viewed after logging in with your EPRI ID. Contact Amy Feser ([afeser@epri.com](mailto:afeser@epri.com)) to join an interest group email distribution list.