

AEIC GRID ADVANCEMENT PROGRAM • CHALLENGE BRIEF

Enabling the Grid Workforce of the Future

Challenge 10. The operating problem, why it is hard, and what the cohort will work.

Working session**Cadence****Eligibility****Join****Program**

Tuesday, May 11, 2027, 2:00 p.m. ET

Second Tuesday of every month, 2:00 p.m. ET

AEIC members and any electric utility

<https://aeicopscenter.org/grid-advancement>

AEIC Center for Operational Excellence

The problem

The most valuable asset on the distribution system is not on the books. It is a person who has been doing this work for thirty years and knows, without looking anything up, that the third pole past the creek crossing goes first in an ice storm, that this recloser has a history, that this circuit misbehaves in ways the drawings do not explain.

That person is retiring, and so is the crew they trained. Decades of judgment about which pole, which circuit, which failure mode, are walking out the door faster than any structured process is transferring them. The people arriving are capable and they learn fast. What they have not had is time, and time is the one input this knowledge has always required.

Meanwhile the field has never had more data. Crews have more information available to them than any generation before them, and less of it in hand at the base of the pole. Field operations are **data-rich and insight-poor**.

Why this challenge

Because every other challenge in this program lands on a truck.

Wildfire mitigation gets executed by a crew. So does aging asset replacement. DERs, capacity, storm restoration, all of it eventually becomes a person in a bucket making a call. You can build the best risk model in the industry, and it will not matter if the person acting on it is three years in and the one who could have read it correctly retired in March.

This is the last challenge on the calendar and it sits underneath all the others. It is also the one where the instinct runs backwards. The reflex is to replace scarce expertise with technology. The opportunity is to amplify the expertise we still have, and to capture it before it leaves.

Where utilities actually are

Three plays, running almost everywhere:

Hire ahead of the curve. Expanded apprenticeships, trade school partnerships, veteran pipelines, aggressive recruiting. All of it necessary, and all of it a calendar rather than a capability. A lineworker takes years, and you cannot buy years. Hiring solves headcount, and headcount was never the binding constraint.

Capture the knowledge. Exit interviews, mentorship pairing, recorded sessions with senior techs, someone assigned to document the tribal knowledge. Real work, done by people who saw the problem coming, and it mostly produces artifacts. The artifacts go into a folder that is not searchable from the side of a road at 4 a.m., which is the only moment the knowledge was ever needed.

Digitize the paperwork. Mobile forms, structured closeout, checklists on a tablet. Real progress, worth doing, and built to improve the data flowing back to the office. It asks the crew to give and gives them little back. That is why adoption stalls, and the crews are not wrong about it.

None of this is a mistake. It is what you do when the problem arrives faster than judgment can be transferred.

The hard part

The technology mostly exists. Mobile platforms, search over unstructured records, guided workflows, voice capture, machine learning over failure patterns. All real, all deployed somewhere today. The hard part is four things.

1. What is leaving was never written down, and it is not document-shaped. The knowledge that matters is judgment, pattern recognition built from thirty years of outcomes. Ask a senior tech to write it down and you get a procedure, because that is what the question sounds like it is asking for. The judgment is the part they cannot easily articulate, and drawing it out is a skill in itself that has rarely been anyone's assignment. You cannot capture what was never made explicit, and the window closes on a retirement date that is already on the calendar.

2. Any tool the crew reads as surveillance is dead on arrival, permanently. This is the one that kills projects, and it is not a change management problem. Crews have long memories about tools that arrived as help and stayed as monitoring. If the first thing a new system does is time their stops or feed a productivity dashboard, it is over, and the second attempt is harder than the first. The tool has to earn its keep in ten minutes, in gloves, in the rain, with no cell coverage. Credibility with the crew is a technical requirement, not a communications plan.

3. The link from outage cause to preventive strategy breaks at the point of entry. The connection between what failed and what to fix next runs through a cause code, picked from a dropdown at 3 a.m. by a person whose job in that moment is restoring service. The most common answer is the fastest one. So the analysis that would tell you which pole class fails, in which conditions, after how many years, rests on a field nobody in the field is paid to get right. Insight-poor is an input problem, not a modeling problem. And the systems that would answer it sit across an OT boundary, where moving operational data runs into NERC-CIP and is genuinely difficult, not merely annoying.

4. Time-to-competency is the number that matters, and few utilities measure it. Ask what it costs to bring an apprentice to journeyman-level judgment and you get a training budget, which is not the answer. The real cost is the senior person who has to do the work and teach it at once, and that person is the scarcest thing you have. You do not shorten an apprenticeship by adding apprentices. You shorten it by increasing what one experienced person can transfer, and that case will not survive a rate case until somebody measures it. Nobody has been asked to, which is a structural gap and not a lapse.

If you need one sentence to carry upstairs: **hiring solves headcount, and headcount was never the binding constraint. The scarce asset is the experienced person who has to do the work and teach it at the same time, and every plan we have quietly spends that person twice.**

None of those four barriers is local to you. In some form, all four show up in all ten challenges in this program: the data that cannot cross the OT boundary, the number nobody is assigned to own, the work that falls between functions, and the value that only shows up as a failure that did not happen. If your list looks like this one, you are not behind. You are in the same room as everyone else.

And "we do not know what our time-to-competency is" is a legitimate answer here. Few utilities do. It is a finding, and it is the first thing worth fixing.

What the cohort will work

Not "what field platform should we buy." The room will work the questions that actually block deployment:

- What has anyone gotten out of a senior crew that was worth keeping, and how did you ask?
- What earned trust with a field crew, and what got a tool thrown in the back of the truck for good?
- Who has cleaned up cause coding at the point of entry, and what did it take?
- What is your real time-to-competency, and does anyone own that number?
- What was tried and did not work? That is the most valuable hour in this program, and it is the one you can only get from peers who have actually tried it.

What to bring

You do not need a solved problem. You need an honest one. Come with:

- One decision you are stuck on
- How many years of field experience walk out your door in the next five
- One thing your crews know that exists nowhere but in their heads
- One thing you tried that did not work

If the honest answer to any of those is "we do not know," bring that. It is a finding, not a failure, and you will not be the only one saying it.

What you get

- This brief, and a short video briefing, before the session
- The Flight Plan, a working pilot scaffold, inside InnovationWorks
- The session itself, with the utilities living this problem
- A retrospective afterward: what the cohort tried and what happened

Join

Tuesday, May 11, 2027, 2:00 p.m. ET. Recruitment runs per challenge, so your field operations and workforce people can come to this one without committing to all ten.

Open to AEIC members and to any electric utility. If you run a utility, you are welcome here.

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Knowledge of one is the knowledge of all.

Sources: this challenge was developed from research of public utility filings. The technology landscape for this challenge is maintained separately inside InnovationWorks.