

AEIC GRID ADVANCEMENT PROGRAM • CHALLENGE BRIEF

Upgrading Aging Assets in the New Normal

Challenge 02. The operating problem, why it is hard, and what the cohort will work.

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

Tuesday, September 8, 2026, 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

A large share of the fleet is past the life it was specified for, and it is carrying more load, in worse weather, with less margin, than it was ever designed to carry. Nobody is replacing their way out of that. The run rate is not there. Neither is the supply chain, or the outage windows.

So the real question is not which assets to replace. It is which to replace *first*, and that question gets answered out of a condition record most utilities do not actually trust.

Why this challenge

Because it sits underneath almost everything else in this program.

Risk-based wildfire mitigation, resiliency spend, capacity planning, the grid modernization case you take to a regulator: every one of them assumes you know what condition your assets are in. Asset condition is the substrate. If that record is stale, inconsistent, or scattered across five reporting chains, every risk model built on top of it is a well-dressed guess.

It is also where the gap between what a utility *collects* and what a utility *knows* is widest. We are capturing more field data than at any point in the history of this industry, and asset managers are not measurably more confident than they were ten years ago. That gap is worth a room.

Where utilities actually are

Most shops run some version of the same three plays.

Calendar-based inspection. Patrols, climbing, bucket trucks, aerial patrol, on a cycle. Disciplined, auditable, and a calendar. The calendar does not know which structure degraded this year. Cycle-based inspection guarantees you look at everything eventually and guarantees nothing about looking at the right thing now.

Aerial capture bolted onto the existing cycle. Imagery, thermal, and LiDAR flowing back into the same manual review chain that existed before. Real progress, and it moved the bottleneck rather than removing it. Getting eyes on the asset is no longer the constraint. A human still has to look at every frame, and there are now far more frames.

Run to failure, quietly. For the asset classes that cannot be inspected as often as the risk would justify, the strategy is replacement on failure. Few utilities will put that in a filing, and most are living some version of it, because inspection capacity is finite and the population is not.

None of these are wrong. They are what you do when inspection capacity is fixed and the population keeps growing.

The hard part

The technology mostly exists. Aerial capture platforms, thermal and visual sensors, computer vision that will find a cracked insulator or a corroded splice, models that rank a population by failure probability. All real. All deployed somewhere right now.

The hard part is not the detection. It is these four things.

1. Inspection is fragmented across teams that do not share a schema. Structural, conductor and hardware, right-of-way, vegetation, and thermal are usually separate groups with separate contracts, cycles, and reporting. One corridor, five owners, five formats. Nobody's job title says "corridor health," and no analytics package fixes an organizational boundary.

2. The capture standard is the whole game, and few utilities can say they have one written down. Flight altitude, angle, lighting, resolution, overlap, metadata tagging. If those drift between flights, crews, and contractors, what you have is an image archive rather than a condition record. Change detection only works if this year's capture is comparable to last year's, and comparability is bought with a boring, enforced capture spec. It is the document nobody is assigned to write, and that is a structural problem, not a failure of will. That document is the actual asset, and it is the least fundable line in the budget.

3. Defect classification is a language problem before it is a technology problem. Two experienced inspectors will grade the same corroded hardware differently, and both will defend it. Automation does not resolve that. It inherits it, at scale. Before you can trust an automated severity score, your own people have to agree on what severity means and what work order each level triggers.

4. Finding more does not get you more money. Better inspection produces a longer, better-documented backlog of defects you have not fixed. That is a knowledge position and a liability position at once, and every asset manager knows it. So the honest case is not "spend more." It is "spend the same dollars on the right structures," and prioritization is harder to sell to a regulator than steel is. The value is a failure that did not happen, and few utilities have found a clean way to take that to a rate case.

If you need one sentence to carry into a budget meeting: **we are not asking for more money, we are asking to spend the same dollars on the right structures, and we cannot tell you which structures those are until the condition record is one we trust.**

None of those four barriers is local to you. In some form, all four show up in all ten challenges in this program: the work that falls between functions, the standard nobody is assigned to write, the value that is an avoided failure, and the data quality that is rarely funded and rarely owned. 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 condition that asset class is in" is a legitimate answer here. It is a finding, and it is worth more to this cohort than a confidence nobody can source.

What the cohort will work

Not "which inspection technology should we buy." The room is going to work the questions that actually block deployment:

- What is in your capture standard, and what did you have to specify to make imagery comparable year over year?
- How are you getting structural, vegetation, thermal, and reliability data into one picture, and what organizational fight did that take?
- How did you land on a defect-severity scale your maintenance planners will actually act on?
- What do you do with a backlog you found and cannot fund?
- What did you try that 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 asset class you are least confident about
- What your condition record is built from, and how old it is
- Your defect-severity scale, if you have one written down
- 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, September 8, 2026, 2:00 p.m. ET. Recruitment runs per challenge, so your asset management and inspection 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.