Supplemental Project Notice

GRID MODERNIZATION STRATEGIC ROADMAPPING

PROJECT HIGHLIGHTS

- Define what a modern grid means for your company and how it can be practically realized.
- Compare your grid modernization strategy with those of peer utilities.
- Leverage EPRI's technical expertise, industry insight, and thought leadership to develop or assess company-specific strategic roadmaps.

Background, Objectives, and New Learnings

Changing customer expectations, evolving regulatory and policy requirements, an increasing frequency of extreme weather events, and the growing need to integrate distributed energy resources (DER) and advanced technologies are fundamentally reshaping how utilities plan and operate the electric grid. In response, many utilities have initiated grid modernization efforts and are developing comprehensive, multi-year plans—often in response to regulatory requirements—to guide these investments.

Developing an effective grid modernization strategy is inherently complex. Investments are significant and must be carefully sequenced over time to maintain the foundational obligation of delivering safe, reliable, and affordable electricity while also enabling new capabilities. A grid modernization plan defines a logical progression of enhancements that move a utility from its current state to a future level of functionality aligned with emerging operational, customer, and policy objectives. In many cases, this progression spans several years.

A central challenge for utilities is determining where to begin and how quickly to advance. EPRI has worked with electric utilities for more than 15 years to address this challenge by developing company-specific strategic roadmaps for grid modernization. Through this experience, EPRI has established a structured methodology and a set of practical tools designed to help utilities navigate complex tradeoffs and develop strategies tailored to their unique circumstances.

The objective of this supplemental project is to apply EPRI's proven methodology and tools to support utilities in developing or refining their grid modernization strategies. Project activities may include:

- Working with utility subject matter experts to develop a detailed, company-specific strategic roadmap.
- Conducting a strategic assessment of an existing grid modernization plan and providing actionable recommendations for enhancement.
- Assessing the maturity of a specific capability and identifying pathways to advance it to a desired future state.

Benefits

Utilities can reduce both time and cost in developing a grid modernization strategic roadmap by leveraging EPRI's experience, industry expertise, and subject matter leadership. Key benefits include:

- Clear definition and sequencing of capabilities aligned to business, operational, and policy objectives.
- Improved understanding of relative position and priorities through peer benchmarking.
- Insight into the maturity of advanced technologies, informing strategies for their deployment.
- A structured framework for structured discussion and engagement with stakeholders.

Project Approach and Summary

A grid modernization strategy provides a structured framework for informed, long-term decision-making. It defines the objectives a utility seeks to achieve, the capabilities required to support those objectives, and a high-level approach for acquiring and integrating those capabilities over time. EPRI's strategic roadmap methodology applies a disciplined, repeatable process that supports both strategic planning and practical implementation. The methodology follows a structured approach:

- **Assess drivers and define objectives –** EPRI works with the utility to identify key internal and external drivers—such as regulatory requirements, customer expectations, reliability and resilience needs, and technology evolution—and translate them into clear objectives that define desired outcomes.
- **Identify required capabilities –** Based on the defined objectives, EPRI identifies the new or enhanced capabilities needed across functional areas including planning, operations, grid infrastructure, customer, and foundational technologies such as cybersecurity, data management, and telecommunications.
- **Evaluate capability maturity and gaps –** For each capability, EPRI assesses the current maturity level and the target level required to support future objectives, establishing a clear understanding of gaps and priorities.
- **Develop a phased strategic roadmap –** EPRI develops a roadmap that outlines how the utility can transition from its current state to the desired future state, considering sequencing, timing, and dependencies to support coordinated, achievable investment decisions.

Deliverables

- Company-specific report documenting the results of the roadmap development or assessment.
- Periodic webcasts and working sessions to collect information, validate assumptions, and share insights.

The non-proprietary results of this work will be incorporated into EPRI's R&D programs.

Price of Project

There are three product offerings through this project, each tailored to the specific needs of the participant.

- Strategic roadmap development
- Strategic asssessment of existing modernization plan
- Capability maturity assessments

Contact EPRI for tailored scope and pricing. This project qualifies for Self-Directed Funding (SDF).

Project Status and Schedule

Each roadmap or review project will commence upon finalizing the tailored work scope and schedule. Project duration can vary from 4–6 months for a review scope to 12–18 months for a strategic roadmap.

Who Should Join

The target audience is a corporate officer, an individual responsible for corporate strategy or innovation, or an individual responsible for grid modernization planning.

Contact Information

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