TIP 441: EPRI Asset Health Data Integration: Guidelines for Specifying Requirements and Evaluating Vendor Platforms

Context
Managing assets is one of the most pressing issues facing the electric power delivery industry. In order to make informed asset management decisions, it is vital that utilities have a holistic view of the health of their assets. Utilities can accomplish this goal by implementing asset health systems. These systems are intended to enable well-defined processes for data collection, integration and visualization. However, the lack of well-defined standards and guidelines is creating challenges when utilities try to specify requirements to help them evaluate and select a suitable asset health system.

Project Description
Phase 1 of this project engages utilities partners and utility advisors (subject matter experts in transmission assets, as well as in information, communications and cyber security (ICCS)), to conduct utility needs assessment, and develop a scope and detailed outline, and implementation plan for creating the guide. This includes development of an engineering-based framework for the structure of equipment data, so that monitored/measured quantities correlate to the physical characteristics of the particular equipment. Additional work includes; a white paper focused on identifying and documenting meaningful technical content for dashboard display, and the development of templates for select transmission assets to support data mapping.

The ICCS team will lead the following tasks:
- Task 1 – Develop visualization technology requirements. EPRI will review vendor tool capabilities and develop a whitepaper to help utility partners better understand appropriate visualization tools based on underlying data sources.
- Task 2 – Prepare a list of questions utilities may choose to include as part of their respective RFPs to help assess flexibility of vendor platforms.
- Task 3 – Develop guidelines that utilities may use as part of their specification to confirm the underlying data model is holistic (Common Information Model, for example). This task may also investigate the ease of integrating vendor proprietary applications with other utility systems.

Why It Matters
Maintaining efficiency, reliability and sustainability of their assets requires that utilities be enabled to properly assess asset health. This project will generate guidance that utilities may use to assist in their asset health systems decision making. If adopted, the results of this research may thereby promote efficiency and reliability in bringing electricity to users.

Goals and Objectives
The goal of this project is to develop, through a phased approach, a guide or handbook that utilities may use to assist in specifying asset health system requirements, reviewing vendor proposals and selecting an asset health system.

Deliverables
The planned deliverables include:
- A white paper documenting technical content for dashboards; with funders to prioritize two transmission assets to form the basis of this deliverable.
- A technology transfer session to educate funders on how to use the Data Handbook.
- Templates of asset modeling and performance information with attribution definition for two assets that may simplify data gathering across industry applications.
- Utility experience sharing; e.g., asset health system evaluation, implementation and business case examples.
- A white paper documenting various visualization technologies and how underlying data sources may inform technology selection.
- Guidelines for developing RFPs; addressing what questions utilities may need to ask; and guidelines vendors may use to incorporate utility requirements into their platform design.
- A technology transfer workshop to better understand utility needs and use funder input to develop detailed scope, outline and proposal for guide content development in Phase 2.
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Links
EPRI Program 34: Transmission Asset Management Analytics