

CASE STUDY

INDT Sensor Design

BACKGROUND

PPL Electric Utilities (PPL) is an independently owned utility (IOU) that operates out of Allentown, PA. PPL Company at large encompasses 3 utilities including, Louisville Gas & Electric (LG&E) and Kentucky Utilities (KU), Rhode Island Energy, and of course PPL Electric Utilities. The goal of this project is to field and design work locations for PPL Electric Utilities to install INDT Predictive Failure Sensors on Worst Performing Circuits to improve reliability.

CHALLENGE

PPL has a need to continue to upkeep and maintain the current distribution system. PPL acquired an IIJA (Infrastructure Investments and Job Act) to begin this project and put forth sensors fault sensors for troubled circuits on their system. Majority of these circuits are more remote and at higher risk for outages and longer outage times due to their rural location. It is critical for each sensor to have a strong cellular signal interact and work in unison with one another on the circuit to be able to provide correct feedback and work properly on the system. The sensors also must be on certain types of "clean poles" that are viable options for the devices and can be within a specific distance of the primary conductor, according to the manufacturer.

SOLUTION

EPE developed a set of deliverables that will provide all required information to be able to install these INDT Sensors. EPE does the ground work and fields each work location for a given circuit. If certain parameters are met, then design can begin. If there are unknowns due to a major location change, EPE sends revisions and awaits approval from PPL/INDT. When the design begins, EPE creates a packet that includes the following: Construction Order which entails the installs and removals for any given work location along with all Construction Units necessary to complete the work along with other information needed like Circuit ID, region, PA-1 tickets, etc., Sketches of each work location that denotes what will be done at each work location, and lastly a Pole Foreman analysis to be sure that the added equipment and material do not hinder the integrity of the poles.

These designs undergo an internal QA/QC process to be sure it adheres to specifications given by PPL. Once that is completed, the designs are sent to PPL for final approval. If any adjustments are needed because of new information learned about the installation or design for the Sensors, EPE revises accordingly.

CLIENT



TYPE

Investor-Owned Utility (IOU)

SECTOR

Distribution Utilities

ISO

PJM

LINE OF BUSINESS

Distribution Design

SERVICES PROVIDED

- Design Package Review

LOCATION

Allentown, PA

COMPLETED DATES

February 2024-Ongoing

REFERENCE

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