

Regulatory Inquires – Accelerated PILC replacement program

Overview:

Regulators do not want run your business, but they need to gain a sense and thus trust, that the utility is prudently managing the system. And they do so, by asking smart, open ended questions.

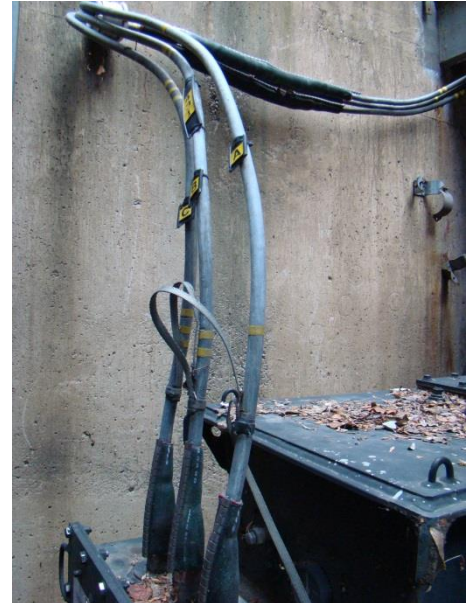
For this utility, it started with a letter of inquiry to explain their recent reliability filings concerning aging infrastructure that included an example of the in-service 1930- 1950s vintage 15kV paper insulated lead covered cable (PILC) supplying the high profile downtown business district.

While they had for the past five years a PILC replacement program, they recognized, based on current replacement levels, the need to better explain what was looking like a thirty year program.

Regulatory Inquires

Accelerated PILC replacement program

“It starts with defensible root cause analysis that supports a repair/replacement strategy across all cable assets”



The Challenge:

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To support their efforts and the need for a quick turnaround, they turned to fcgEnergy.

The fcgEnergy Approach:

While age alone is not an adequate reason for replacement, it is a good proxy, and one that is easily understood to frame the discussion on failure rates. For example the older

the equipment, the more likely it has experienced more thru faults, overloads, hi-pot tests, and thermal cycling.

Thus, on a high level, one could prioritize replacement by age brackets and feel relatively confident that you are at least including equipment with a high failure rate.

But armed with detailed analysis, such as splice failure rates by type/manufacture along with environmental influences such as proximity to steam pipes and historical road repairs, the pencil gets sharper and the bang per buck effectiveness is improved.

To sharpen the analysis, fcgEnergy working with the utility, sponsored

- Targeted Benchmark surveys, supported by facilitated discussions with similar utilities with and without a PILC replacement program, focusing on in service mileage, by cable, splice type and proximately to steam lines and regulatory involvement, along with
- Backfilling gaps in the data, with our detailed library of metrics and failure rates, and insights learned from having done similar asset repair/replace decision analysis at other utilities

And with those insights, the utility

- Created a structured root cause analysis program to formalize what was presently done on an ad hoc basis,
- Updated the vault inspection program with targeted questions around better understanding the environment that accelerates cable failures such as unsupported splices, oil leaks, and cable abrasions
- Leverage the hazardous assessment forms that crews were already required to fill out prior to entering manholes to include key inspection questions to capture cable type and conditions

- Support opportunistic situations to replace additional PILC cable such as during failure repairs, new customer connects and capacity upgrades (eliminating also additional oil stop joints).

The Results

As a result, the utility, supported by fcgEnergy, was able to quickly describe to the Regulator

- Their enhanced cable and splice replacement program in the context of failure rates by vintage, manufacture and environmental conditions and supporting programs
- Show that in addition to the scheduled PILC replacement, additional mileage was being replaced during the normal course of failure repair and new customer connects
- And for now, the utilities recommendation is to continue with their current strategy of targeted replacement of PILC based on overall system cable/splice failure rate tiers, with plans to revisit this decision in five years
- And that if the Regulator was to suggest an accelerated 10 year capital PILC replacement program with accelerated rate recovery, they would be open to discussing that strategy

To continue the discussion and learn more how fcgEnergy can work with your team, please contact us at info@fcgEnergy.com