RECOMMENDATION

Proposed Changes to CPUC Requirements Governing Electrical Utility Records-Keeping Practices and the Creation of an Electrical Component Inventory

Proposed Changes to Present Records-Keeping Practices:

The Utility Project recommends that the California Public Utilities Commission adopt the following alterations to the present criteria governing electrical utility records-keeping practices:

Require by the year 2020, all utility companies:[1]

- Keep all contemporary records digitally, and convert legacy[2] Electrical Grid records to digital form. [3]
- Keep accurate, current, traceable, verifiable, and complete logs of all inspections, maintenance, and construction work performed
- Create an accurate, current, traceable, verifiable and complete inventory of Electrical Grid components

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[1] Specifically with regard to PG&E, according to the history of PG&E posted on its website "1960—PG&E began to utilize computer technology and converts to electronic *billing* (*sic*), processing 100,000 bills a day".
There is no similar website notation regarding the introduction of computer technology by PG&E to other Grid operations or records-keeping. Contained within the PG&E service area are the headquarters of corporations that have developed the finest mega-data manipulation and storage systems known to humankind. All that is needed to have Energy System information systems, (other than billing), enter the 21st century is sufficient commitment from PG&E to do so.

[2] "In the general context, it can refer to any of the older database technologies. In a more specific context, it can refer to a database system that was inherited by a team from previous project owners. (from *Additional Documents Archive*) Definition of the term Legacy Database

[3] As of June 9, 2011, the Independent Review Panel investigating the particulars of the San Bruno explosion **characterized PG&E's efforts at keeping records "inchoate".** (from *Additional Documents Archive*) Independent Review Panel Executive Summary pg. 8

Proposed Electrical Grid Component Inventory:

Why is the Utility Project Advocating the Creation of an Inventory of Electrical Components?

The compilation of an Electrical Grid component inventory would:

> ***Provide utility operations managers and public officials with a highly accurate, verifiable, system-wide assessment of the present condition of Electrical Grid components.***
>
> ***Create a component master list that would be used to direct future programs of replacement and upgrades, and inform risk management and planning decisions.***

Proposed Guidelines for the Compilation of an Electrical Component Inventory:

The Inventory would be compiled by assigning each Electrical Grid component a unique utility company identification designation and digitally linking it to the following:

- The Electrical Grid Inspection and Maintenance Logs
- A data file archiving the component's type and composition, *e.g.*:
  - ✓ Utility pole (dimensions, treated timber)
  - ✓ Conductors (American Wire Gauge [AWG], copper, type of insulation, if any)
  - ✓ Circuit breaker (type, manufacturer's nameplate data)
  - ✓ Conduits (dimensions, plastic-coated rigid)
- A date of manufacture or fabrication
- A date of field installation
  - ✓ ***This would permit tracking the component's interval of time-in-service, weathering, etc., and would facilitate the replacement of aging or undersized components prior to failure.***
  - ✓ ***This would facilitate public monitoring of that replacement of aging components, installation of component upgrades, and implementation of mandated safety measures.***
  - ✓ ***This would also facilitate public monitoring of the proper application of monies earmarked for Grid improvements***[4]

[4] *e.g.,* (from the *Additional Documents Archive*) 2012 1-16 Utility Report Underlines Shame

- A GPS location[5]
  - ✓ ***Unique component designations linked to specific locations would direct accurate performance of mandated inspection and maintenance cycles.***
  - ✓ ***In the event of emergencies, knowing precise component locations would greatly assist the efforts of emergency response teams.***
  - ✓ ***In the case of wire, conduit or pipeline runs, flumes, etc., GPS locations should be recorded at the start and endpoints, as well as the locations of vector changes in between.***
  - ✓ ***The precision afforded by GPS marking would decrease the likelihood of damage by third parties, particularly with respect to underground utility installations.***

[5] TUP would recommend that this activity be undertaken in co-operation with the Office of the State Fire Marshal (OSFM), Pipe Line Safety Division, Pipeline-GIS/Mapping