

Abstract Submitted
for the 4CF14 Meeting of
The American Physical Society

**Power Line Error Analysis by Synchronizing Remote Signal
Phase Measurements using High Precision Time-Stamped Telemetry** TIM

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— When an electrical utility crew wants to replace a section of high voltage electrical cable, phase references must be made on the old cable and transferred to the new cable. If these references are lost, or damage to the cable did not allow for references to be established, then the cable must be spliced and arbitrarily placed on an open, energized switch. The new cable is then energized and a phasing meter is used to find matching phases. The cable is then de-energized and the cables are moved to the appropriate locations on the switch. By adding an additional device to the phasing meter, a reading is taken of the phase and the device passes this reading as well as a high precision time-stamp wirelessly to a remote location where this reading can be compared against readings from other locations. This method will allow for positive identification of relative phases without the need of an initial energizing of the cable in question. This will save time, as well as reduce customer outages, prevent situations in which the spliced cable will not reach (i.e. the short cable must be moved to the long cables position on the switch), and lower the risk of a cross-phase fault.

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Date submitted: 10 Sep 2014

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