**MWG Meeting Summary Notes**

**June 11, 2025. 8:30 - 10:45 (12:00 scheduled)**

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1. Anti-Trust Admonition was reviewed by MWG chair Kyle S. of ONCOR.
2. Reviewed previous MWG notes from 4/9/25. If any comments or changes, please get with Kyle S. or Tony D.
3. Review of Previous MWG Meeting Notes on CCVTs.
   * Kyle S. (ONCOR)

Presented Key document “MWG Meeting Summary Notes 4.9.2025” no questions.

1. NPRR 1263 Discussion:

Tony.D presented language change to current protocol.

**10.6.1.2 TSP and DSP Testing Requirements for EPS Metering Facilities**

1. At a minimum, the TSP and DSP EPS Meter Inspector shall conduct testing of EPS Meters on an annual basis, within the same month of each year as the previous year’s test. Metering Facilities used in the ERCOT system for settlement must be tested pursuant to the TSP or DSP tariffs, the Settlement Metering Operating Guide and these Protocols.

(2) Instrument transformers used in settlement metering circuits must be tested per the American National Standards Institute (ANSI) C12.1, Code for Electricity Metering, and the following guidelines:

1. Magnetic Instrument Transformers do not require periodic testing;
2. Coupling Capacitor Voltage Transformers (CCVTs) shall be monitored by the TSP or DSP to ensure the phase voltages are within 1.6% of each other 98% of the time unless a reasonable explanation can be made after review of the data:
3. In the case of a failure of 10.6.one.2 (2)(b) the TSP or DSP would perform the following field test during the next scheduled outage:
4. Power Factor/Tan-Delta Test- Apply 2kV Doble Test voltage to the primary of the CCVTS and measure the voltage and current of the secondary of the C1-1 and C2 capacitors. The measured power factor shall be less than 0.35%.
5. Capacitance Measurements - Measure the capacitance of the CCVT and the capacitance shall be within 1% of capacitance measurements taken in the field at the time of install or 2 % of nameplate capacitance.
6. Ratio Test – Perform a 10kV Doble Test on the primary of the CCVTs and measure the secondary to ensure that the ratio is within (+/-) 3% from nominal ratio of the CCVT.

(ii) If there is a failure of any of the field testing outlined in 10.6.one.2 (2)(b)(i) the TSP or DSP will replace the CCVT that is in service with the option to send it back to the manufacturer for testing and calibration.

* + Tony D.(WETT)
    - Presents Key document “Guidance for field testing of CVTs” no questions
    - Presents Key document “10.6.1.2 (2) Wording for Field Testing”
    - Regarding the parameters 1.6% bandwidth and 98% of the time, both Trench and GE?, feel these are too tight and will yield false positive results. Tony mentioned in his monitoring of 4 sites, larger values did not catch any positive results which would warrant further explanation. This is not an accuracy test, but rather a field test which in theory should catch CCVTs units that are showing a permanent change (individual capacitor failure(s)) in their voltage reading from the other 2 phases
    - The mechanics, sample rate, etc. were not specified to allow utilities to adapt for implementation on their system.
    - Trench will not do testing on the voltage balance. Trench expects when a capacitor fails in a unit, it is a permanent event in which the capacitor shorts. Thus, the effect on accuracy with 1 or 2 capacitors failed can be calculated and documented for each unit
  + Jorge Ribeiro(TRENCH)
* Stated that he agrees with Tonys statement that if the accuracy is out of tolerance, it would be a permanent nature.
* The expected max. accuracy deviation (1 or 2 capacitors permanently failing) can be provided for each unit. Hence, this could be another measurement and comparison that would be specific to each unit.Jorge elaborated on Ray C.(ONCOR) algorithm. TRENCH could provide the maximum deviation for the testing, also what is the percent in deviation in accuracy for each failure confirmed through testing. Trench to supply a data sheet with capacitor failures.
* Trench would not recommend a new or different value regarding the 98% of the time limit.
  + (ONCOR)
* The present requirement is to test every 5 years. Oncor and others in the ERCOT area have chosen to replace these units instead of testing. How would this new voltage testing method be implemented? Would there be a standard algorithm in protocols or SMOG or left to individual utilities to develop, implement, and document?
* The transmission department owns these units and metering will discuss with those stakeholders to develop a position on the proposed voltage testing, interest in refining the voltage testing or pursuing accuracy testing (to prove there is not drift/ need to test after 5 years)
* Presently we have a requirement to recertify every 5 years. ONCOR has elected to change them out and not test them. ONCOR does not have sufficient data to prove the long-term accuracy. Remedy to get out of the 5/6 year testing by allowing for field testing.
  + Nithin Satheesh(TRENCH)
* Stated he has a concern with the tolerance percentages in the test stated they are too high.
* Stated that the tolerances depends on the system.

* + Tiffany Shaw
* Stated I don't completely reject the use of CCVTs. I do have concerns with harmonics on the transmission side affecting CCVT accuracy.

1. New or other business items:
   * Ryan E.(ERCOT)
     + No new business items
2. Meeting Summary and Closing Remarks: Kyle S.
   * Tony D.(WETT)

* Researched and has compiled a listing for variances in the US Industry which has been posted as a Key document named "ISO CCVT Requirement."

a.) One ISO does not allow CCVTs for revenue metering.

b.)One ISO did not allow but in recent years adopted using CCVTs with not testing requirement.

c.) ERCOT requires testing every 5 years.

d.)  The other four ISO's allow CCVTs in revenue metering without any additional requirements

No response/opinion from the audience, when asked for input.

* + - recommendations from Nithin Satheesh on tolerances.
  + ONCOR
    - The transmission department owns these units and metering will discuss with those stakeholders to develop a position on the proposed voltage testing, interest in refining the voltage testing or pursuing accuracy testing (to prove there is not drift/ need to test after 5 years)
  + No conclusion on NPRR 1263
  + New MWG meeting will need to be scheduled to continue discussion of NPRR 1263.

1. End of Meeting