THE EASTERN SPECIALTY COMPANY

ANSI STANDARDS UPDATE

FALL 2020

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OVERVIEW

- 2020 has been a strange year for the world, but a productive one for C12 standards
- With so many people working from home we seem to have found more time for working in small groups where rapid progress can be made
- This presentation is a quick review on the main achievements for the year.

C12.1 AND C12.20

- C12.1 and C12.20 are the most fundamental of the ANSI metering standards. They provide all of the performance and accuracy requirements for meters.
- C12.20 has been merged into C12.1 to create a single meter performance standard.
- The merged standard is ready to be balloted.

C12.29 Field Testing of Electricity Meters

- This is a technical paper which provides guidance on testing meters in the field
- Historically many utilities have used a 2% threshold for fields testing of all meters
- C12.29 establishes tolerances based on the accuracy class of the meter and a broad set of operational conditions.

C12.29 Field Testing of Electricity Meters

6.1 Performance under normal operating conditions

For the purpose of this document, NORMAL operating conditions are defined as:

Temperature:	0°C ≤ T ≤ 50°C
Voltage:	Within range specified by manufacturer
Voltage distortion:	THD ≤ 30%
Current:	Within the normal current range for the current class
Current harmonics:	THD ≤ 100%
Frequency:	60 HZ ± 1.2Hz

Under normal operating the meter performance should be better than:

Table 2 – Allowable Test Accuracy

Meter Accuracy Class	Maximum Allowable Error
0.1%	0.25%
0.2%	0.5%
0.5%	1.0%
1.0%	2.0%

C12.30 Service Disconnect Switches

- A standard for testing of service disconnect switches is in progress
- Establishes safety and reliability tests
- Proposes a series of tests to assure that the disconnect switch does not reclose when **any type** of load is present
- This will probably be added to C12.1

C12.31 VA Measurement Standard

- Standard for the measurement of VA under harmonic
- Ready for publication pending the resolution of the issue of including “Source VA” as proposed by John Voisine of Landis+Gyr

C12.32 DC Metering

- The DC equivalent of C12.1 in the format of C12.46
- Generated in less than 12 months through the tireless efforts of Charlie Ploeger, David Lawrence and super-editor Andrew Dudding and their small band of merry men.
- Establishes a full range of performance specifications for DC meters.

C12.32 DC Metering

- Accuracy Classes

Accuracy Class	A	B	C	D	E
BMPE (% error of energy registration)	2.0%	1.0%	0.5%	0.2%	0.1%

- Environmental Classes

Test	Indoor	Enclosed Outdoor	Outdoor	Embedded

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C12.46 AC Metering Standard

- C12.46 has been under development for a long time. It is intended to be a comprehensive replacement for C12.1(C12.20) in a form consistent with OIML R46.
- Close to completion

Questions and Discussion

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CTO

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