Endress+Hauser
People for Process Automation

Endress+Hauser Flowtec Division USA Greenwood, Indiana USA

May 12, 2022

Charles Stutesman, Committee Chair
Southernern Weights and Measures Association
Specifications & Tolerances Committee

Specifications & Tolerances Agenda Items – LPG-15 and MFM-15

Dear Mr. Stutesman,

Regarding the 2022 CWMA Specifications and Tolerances Agenda items:

1) Please revise items LPG-15.1 and MFM-15.1 as noted below.
2) Please forward the revised items LPG-15.1 and MFM-15.1 as voting items.

Background

These items were first introduced to the NCWM in September 2014 when a Form 15 proposing the revision of the Liquid Petroleum Gas and Anhydrous Ammonia Liquid-Measuring Devices (LPG) Code and the Mass Flow Meters (MFM) Code sections N.3 Test Drafts, adding N.3.2 to describe the test using a field standard meter.

These proposed Test Draft sections describe how to determine the minimum quantity when using a flow meter as a field standard. The proposal follows the format of other code sections (3.34 CLM, 3.38 CDLM, 3.39 HGM) which describe the test drafts when using a flow meter.

Present

At the CWMA 2021 Interim Meeting, the S&T Committee recommended that LPG 15.1 and MFM 15.1 move forward as voting items.

At the 2022 NCWM Interim Meeting in Tampa Florida, I exhibited a Coriolis mass flowmeter that is used as a field standard. I also provided a presentation on the topic of Field Standard Meters showing calibration methods, test data from gravimetric testing and captive displacement proving, test draft size, NTEP certification and examples of field standard meters / master meters. The edited presentation is available on the NCWM website.

To provide clarity and to avoid confusion with requirements for a fixed volume standard, I asked the NCWM S&T committee to revise the titles of LPG 15.1 and MFM 15.1 N.3.2 to Field Standard Meter Test. That revised language proposal is below.

Endress+Hauser Flowtec AG
Division USA
2330 Endress Place
Greenwood, IN 46143
Phone: 317-701-0823

Endress+Hauser
People for Process Automation

Field standard meters provide accurate, reliable, and efficient means for State inspectors and authorized service companies to place into service and subsequently verify measuring systems. These field standard meters meet the 1/3 performance requirement compared to the measuring systems that they are testing. As with any standard, these field standards will be provided with traceable calibration documentation. Maintenance and operational training will be provided as well.

The use of these meters can increase field inspection productivity with shorter set-up and operation time. These meters can be designed to be compact and easily transported. Specialized transportation trucks are not needed.

Please move these revised items forward to an acceptance vote at the 2022 NEWMA Annual Meeting. I request adoption of the items LPG-15.1 and MFM-15.1 as revised below.

Thank you for your consideration.

Sincerely,

Michael Keilty
Standards and Metrology Manager
Endress+Hauser Flow USA, Inc.

Endress+Hauser
People for Process Automation

Below is revised from what is shown in S&T agenda

LPG-15.1 N.3. Test Drafts.

Previously LPG-4

Note: In 2019 this item was combined with Block 1 "Terminology For Testing Standards" and other items that addressed terminology for standards and the use of "master meters." Based on comments heard during the 2021 Annual Meeting, the S&T Committee recommended that all items that were combined with Block 1 "Terminology For Testing Standards" that originally appeared as a separate item or a separate block of items on the S&T agenda prior to 2019, be removed from Block 1 "Terminology For Testing Standards" and appear as originally presented.
Item LPG-15.1 was removed from Block 1 "Terminology For Testing Standards" and now appears as a separate item on the 2022 Interim Meeting agenda.

Source:
Endress + Hauser Flowtec AG USA

Purpose:
Amend Handbook 44 to allow field ~~reference~~ standard<u>s</u> ~~meters~~ to be used to test and place into service dispensers and delivery system flow meters.

Item Under Consideration:
Amend Handbook 44, LPG and Anhydrous Ammonia Liquid-Measuring Devices as follows:

N.3. Test Drafts.

<u>N.3.1 Minimum Test -</u> Test drafts should be equal to at least the amount delivered by the device in 1 minute at its normal discharge rate.
(Amended 1982)

<u>N.3.2. Field ~~Reference~~ Standard Meter Test. – The minimum quantity for any test draft shall be equal to or greater than the amount delivered in one minute at the flow rate being tested.</u>
<u>(Added 20XX)</u>

Endress+Hauser
People for Process Automation

Below is revised from what is shown in S&T agenda

MFM-15.1 N.3. Test Drafts.

Previously MFM-2
Note: In 2019 this item was combined with Block 1 "Terminology For Testing Standards" and other items that addressed terminology for standards and the use of "master meters." Based on comments heard during the 2021 Annual Meeting, the S&T Committee recommended that all items that were combined with Block 1 "Terminology For Testing Standards" that originally appeared as a separate item or a separate block of items on the S&T agenda prior to 2019, be removed from Block 1 "Terminology For Testing Standards" and appear as originally presented.
Item MFM-15.1 was removed from Block 1 "Terminology For Testing Standards" and now appears as a separate item on the 2022 Interim Meeting agenda.

Source:
Endress + Hauser Flowtec AG USA

Item Under Consideration:
Amend Handbook 44, Mass Flow Meters Code as follows:

N.3. Test Drafts.

N.3.1 Minimum Test - The minimum test shall be one test draft at the maximum flow rate of the installation and one test draft at the minimum flow rate. More tests may be performed at these or other flow rates. (See T.3. Repeatability.)

(Amended 1982 **and 20XX)**)

N.3.2. Field ~~Reference~~ Standard Meter Test. – The minimum quantity for any test draft shall be equal to or greater than the amount delivered in one minute at the flow rate being tested.

(Added 20XX)