

**Multiple Dimension Measuring Device Work Group
(2nd Day - Combined meeting with Software Sector)
May 2-3, 2017 - Columbus, Ohio
Meeting Agenda**

Schedule

Tuesday, May 2, 2016

- 8:00 AM *Meeting Call to Order*
- i. **Introductions and Welcome** (R. Kennington)
 - ii. **Reiteration of NTEP MDMD Work Group Mission** (D. Flocken)
 - iii. **Goal of this joint meeting with the Software Sector** (D. Flocken)
- 8:30 AM *Status Reports*
- iv. **Report – 2017 NCWM Interim Meeting** (D. Flocken)
 - v. **Report – Recent Measurement Canada Type Evaluation Activity** (P. Trugeon)
 - vi. **Report – Recent NTEP MDMD Type Evaluation Activity** (T. Buck)
- 9:00 AM *Carry Over Items*
1. **Review meeting summary from April 2016 meeting** (R. Kennington)
 2. **Review changes to NIST, HB44 MDMD code since last meeting** (D. Flocken)
 3. **Review changes to NCWM, Publication 14, MDMD Checklist** (D. Flocken)
 4. **Review Measurement Canada code changes** (P. Trugeon)
- 10:00 AM *Break (15 min.)*
- 10:15 AM *Carry Over Items - Continued*
5. **Review OIML Activity Related to R129 CD2** (P. Trugeon / R. Harshman)
 6. **Review and changes to NTEP/MC Requirements Comparison Document** (D. Flocken /P. Trugeon)
 7. **Publication 14, MDMD Checklist** (D. Flocken)
 8. **Report on progress from multi-interval operation requirements subgroup** (R. Harshman)
- 12:00 PM *Lunch Break (1 hour)*
- 1:00 PM *New Items*
9. **Proposal to Modify Paragraph 3.5. of Pub 14**
 10. **Proposal to Remove Paragraph 7.5. of Pub 14 and Paragraph S.1.5.2. of HB44**
 11. **Round of volume measurements**
- 3:00 PM *Break (15 min.)*
- 3:15 PM *New Items (continued)*
- 4:30 PM *Closing Discussion*
12. **Review meeting activities and conclusions** (R. Kennington)
 13. **Define next steps (if needed)** (R. Kennington)
 14. **Chairman's discussion** (R. Kennington)
 15. **Next meeting**
- 5:00 PM *Adjourn for the day*

Wednesday April 27, 2016

- 8:00 AM *Open joint meeting of the MDMD Work Group and the Software Sector*
Opening comments from the two chairs (R. Kennington/J. Pettinato)
- 8:15 AM *Open discussion* (J. Pettinato)
- 10:00 AM *Break*
- 10:15 AM *Open discussion (continued)* (R. Kennington/J. Pettinato)
- 12:00 PM *Lunch Break (1 hour)*
- 1:00 PM *Reconvene for Software Sector Meeting (Following SS Agenda)* (J. Pettinato)
- 3:00 PM *Break (15 min.)*
- 3:15 PM *Software Sector Meeting (continued)* (J. Pettinato)
- 5:00 PM *Adjourn*

Note: topic times are approximate and merely included as a rough guideline to aid in maintaining meeting pace; some issues will invariably involve more detailed discussion than others.

Introduction and Welcome

Carry Over Items

1. Review meeting summary from April 2016 meeting

A copy of the April 2016 Meeting Summary can be downloaded at www.ncwm.net/ntep/sectors/mdmd/archive. Please bring a copy of the summary with you to the meeting.

2. Review changes to NIST, Handbook 44, MDMD code since last meeting

No changes to Handbook 44 have been made since the Work Group's April 2016 meeting. However, there are two MDMD items that are on the S&T Committees agenda.

Item 3508-1; this item originated from the MDMD Work Group. The proposal recommends 3 changes:

1. identified that when a device is operating in a multiple range mode, the 12 d minimum only applies to the first range.
2. replacing the work 'length' with 'measurements' in paragraphs S.1.7. and S.1.8.
3. Adding a tare value, if used, in the measurement to determine if the measurement exceeds capacity plus 9 d.

This item was recommended as a voting item at the NCWM Annual Meeting, July 2017.

Item 3508-2; this item recommends adding wording to paragraph T.3. Tolerance Values which would clarify that a tolerance value shall be applied in both an underregistration and overregistration from the displayed or recorded value. The S&T Committee recommended that this proposal be withdrawn.

3. Review changes to NCWM, Publication 14, MDMD Checklist

The most recent version of the MDMD Checklist in Publication 14 is now 1-year old. Only a few editorial changes were made in the 2017 edition. This will be the last meeting I report on this as its own agenda item.

4. Review changes to Measurement Canada MDMD Code, and Terms and Conditions Documents

Discussion, as needed, regarding any changes to the Canadian MDMD Code since the Work Group's April 2016 meeting.

5. Review OIML Activity Related to R129 CD2

Discussion, as needed, regarding activity of the OIML Committee responsible for revising the International Recommendation 129 for MDMD instruments

6. Review update to NTEP / MC Requirements Comparison Document

Source: Work Group

Status: The NTEP / Measurement Canada Requirements Comparison document is unchanged since the Work Group's September 2015 meeting. A copy of the document is available on the NCWM website in the MDMD Work Groups, Meeting Archives.

Recommendation: Review and determine if any NTEP or Measurement Canada changes to regulations or requirements impact the contents of this document.

7. Publication 14, MDMD Checklist

Source: Work Group

Status: On going. Changes will be made based on Work Group's direction.

8. Report on progress from multi-interval operation requirements subgroup

Source: Multi-Interval Operation Requirements Subgroup

Background /Discussion: During the October 2014 meeting the work group agreed to form a small subgroup charged with the task to develop requirements that address multi-interval operation for inclusion into both HB-44 and Pub 14. Members of the subgroup are as follows: Mr. Darrell Flocken, Mr. Rick Harshman, Mr. Scott Davidson, Mr. Justin Rae, and Mr. Scott Wigginton.

Recommendation: The Work Group will be updated on their progress.

Status: On going

NEW ITEMS

9. Proposal to revise paragraph 3.5. of the Publication 15 Checklist for Multiple Dimensions Measuring Devices

Source: Scott Henry – Zebra Technologies

Background/Discussion: Mr Henry is proposing a change to paragraph 3.5. as shown below:

3.5. If an indicator or a video display terminal gives the only indication for the dimensioning system, when in measuring mode, the ~~dimension, volume, and~~ weight values, if applicable, must be live and displayed continuously. The displayed values must be located in an area dedicated, clearly distinguished and separated from the other information on the display. (If the video display is an addition to another primary display the operator's display need not be a "Live" display, but the values displayed must be in a dedicated area and separated from the other information on the display.)

Justification: "Live Display" is not required for Multiple Dimensioning Measuring Devices while in the measuring mode. Connected scales may be required to have "Live" weight displayed. Need to correct wording in section (3.5) to remove requirements of having "Live" dimensional and volume measurements.

10. Proposal to Remove Paragraph S.1.5.2. of HB44 and Paragraph 7.5. of Pub 14 (Note: Paragraph 7.5. of Pub 14 cannot be removed until a proposal to remove Paragraph S.1.5.2 is submittal to and adopted by the members of the NCWM.)

Source: Scott Henry – Zebra Technologies

Background/Discussion: Mr Henry is proposing a remove paragraph 7.5. in the MDMD Checklist of Publication 14 and submit a proposal to the National S&T Committee to remove paragraph S.1.5.2. of Handbook 44, as shown below:

Handbook 44 recommendation:

~~**S.1.5.2. Devices Capable of Measuring Irregularly Shaped Objects.**—For devices capable of measuring irregularly shaped objects, the value of the division size (d) shall be the same for the length axis (x) and the width axis (y) and may be different for the height axis (z), provided that electronic rotation of the object to determine the~~

~~smallest hexahedron is calculated in only a two-dimension horizontal plane, retaining the stable side plane as the bottom of the hexahedron.
(Added 2008)~~

Publication 14 Recommendation:

~~Code Reference: S.1.52.~~

~~7.5. The devices capable of measuring irregular shaped object, the value of division size (d) shall be the same for the length axis (x) and the width and the width axis (y) and may be different for the height axis (z), provided that electronic rotation of the object to determine the smallest hexahedron is calculated in only a two-dimension horizontal plane, retaining the stable side plane as the bottom of the hexahedron~~

Justification: This does not allow for multi-interval devices (in all axis) to be used to measure Irregular shaped objects. Multi-interval devices will determine the smallest hexahedron for an irregular shaped object. No need to restrict L & W axis to the same (d) value.

Handbook 44, N.1.2.1, N.1.4.2 and UR.3.3. cover the requirement of stable side down as well as rotation of the object to determine the smallest hexahedron to be calculated in a two-dimension plane.

11. Rounding of a calculation from a volume measurement in one unit of measure to a higher unit of measure

During a recent discussion with Measurement Canada a question was raised regarding the rounding of a volume measurement in one unit of measure to a higher unit of measure. The example given was if a measuring device measured the X, Y, and Z axes in cm and the measurements was converted to cubic centimeters and then converted to cubic meters. Could the rounding from cubic centimeters to cubic meters effect the measurement enough where the charge based on the measurement could be different.

For example: 23 cm x 321 cm x 12 cm = 473 796 cm³ = 0.473 796 m³. Both values would calculate the same charges, however one might be more inclined to round off small decimal places but not whole numbers. Where you probably wouldn't round off the cm³ because it is a whole number, out might round m³ off to 0.47 because small decimal values are messy/appear way more accurate than they need.

Based on this information we should to discuss the need to define significant digits required when performing a rounding function.

CLOSING DISCUSSION

12. Review meeting activities and conclusions

13. Define next steps (if needed)

14. Chairman's discussion

15. Next meeting

The work group is encouraged to recommend a date and location for the next work group meeting. The recommendation will be presented to the NTEP Committee for review and approval. The work group should maintain, at a minimum, a yearly meeting schedule.