

**Multiple Dimension Measuring Device Work Group
 April 26-27, 2016 - Reynoldsburg, Ohio
 Meeting Summary**

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Glossary of Acronyms and Terms

Acronym	Term	Acronym	Term
NIST	National Institute of Standards and Technology	NTEP	National Type Evaluation Program
MDMD	Multiple Dimension Measuring Device	OIML	International Organization of Legal Metrology
MC	Measurement Canada	OWM	Office of Weights and Measures
MRA	Mutual Recognition Arrangement	R	Recommendation
NCWM	National Conference on Weights and Measures	WG	Work Group

i. Introduction and Welcome (*R. Kennington*)

ii. Reiteration of NTEP MDMD Work Group Mission (*D. Flocken*)

Discussion: Darrell Flocken (NTEP) reviewed the mission of the MDMD WG as stated during the October 2014 and May 2015 WG meeting for the benefit of all participants. The mission of the WG is to deal with specific issues concerning MDMDs; i.e., to consider the requirements in NIST Handbook 44 (HB44) and make sure NTEP has a type evaluation checklist in place to verify compliance with HB44 and influence factor testing.

iii. Goal of this Meeting (*D. Flocken*)

Discussion: The goal for this meeting is to review and update both the MC / NTEP Specification Comparisons document and the NCWM Publication 14 Checklist. In addition, the WG should take this opportunity to discuss any new items brought to the WG's attention.

iv. Report – 2016 NCWM Interim Meeting (*D. Flocken*)

Discussion: Darrell Flocken reported that all 3 proposals submitted from the WG's September 2015 meeting were on the NCWM Specifications and Tolerance Committee agenda for this meeting. Darrell reported that there was a suggestion heard during the open hearings on the proposal permitting some required marks to be available on a separate document if the device is too small to accommodate them. While the comments were not in opposition to the proposal, a suggestion was made that consideration be given to requiring that the serial number of the device also be included on the accompanying document. It was mentioned that this requirement was already in place for load cells. As no strong opposition to the 3 proposals were heard during the open hearings, the Specifications and Tolerance Committee recommended that all 3 proposal remain as presented and be given voting status for the July 2016 NCWM Annual Meeting.

v. Report – Recent Measurement Canada Type Evaluation Activity (*P. Turgeon*)

Discussion: Pascal Turgeon report that there has been no type evaluation activity since the September 2015 WG Meeting. Pascal did take the opportunity to report that several changes in personnel have occurred in the Measurement Canada Laboratory. Isabelle Trembley and Justin Rea have both moved to other positions within Measurement Canada.

vi. Report - Recent NTEP MDMD Type Evaluation Activity (*T. Buck*)

Discussion: Tom Buck reported that the Ohio NTEP Laboratory had received 7 evaluation assignments; 4 assignments were for new devices and 3 assignments were for revisions to existing certificates.

1. Review meeting summary from September 2015 meeting

Discussion: Chairman Kennington asked if there were any changes or additions to the September 2016 Meeting Summary, hearing now he asked for the adoption of the summary. The meeting summary was adopted by unanimous vote.

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

Discussion: No changes to Handbook 44 have been made since the WG's September 2015 meeting. It was reported that the 3 proposals submitted from the September 2015 WG Meeting were on the National S&T's Committee Report with a voting status for the up coming July 2016, NCWM Annual Meeting.

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

Discussion: D. Flocken reported that there has no changes to the Checklist reviewed and adopted by the WG during their September 2015 Meeting. He also reported that the Checklist was adopted by the NTEP Committee and is published in the 2016 edition of Publication 14.

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

Discussion: P. Turgeon reported that no changes to the Canadian MDMD Code have occurred since the WG's September 2015 meeting.

5. Review update to NTEP / MC Requirements Comparison Document

Discussion: D. Flocken reported on the current status of the WG's Comparison Document. No changes have been made to the document since the WG's September 2015 Meeting.

6. Publication 14, MDMD Checklist

Discussion: It was agreed that no changes to the Checklist are required at this time. The WG will review possible changes during their next meeting.

7. Review results of the NTEP/MC Mutual Recognition Agreement discussion at the 2016 NCWM Interim meeting

Discussion: D. Flocken reported that at the request of Measurement Canada, the proposal of adding MDMD devices to the NTEP / Measurement Canada Mutual Recognition Agreement document be withdrawn. The request was made based on comments heard during the NCWM, 2016 Interim Meeting. MC felt that there was not enough support for the addition. The NCWM, NTEP Committee removed the item from their agenda and suggested that if necessary, members of industry can reintroduce the proposal at a later date.

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

Discussion: : Mr. Rick Harshman (OWM) provided an update on the progress of three NCWM Form 15 proposals that had been submitted by the MDMD Work Group to the NCWM in 2015, one of which, was developed by a small subgroup of the MDMD WG formed to address multi-interval MDMDs. Mr. Harshman reviewed the intended purpose of each proposal and noted that each had been submitted to the four regional weights and measures associations early enough in 2015 to be considered by each of those regions when they met for their fall meeting. Having been accepted by at least one region, the proposals were then added to the 2016 S&T Committee's agenda and given consideration at the 2016 NCWM Interim Meeting. The proposals appear on the 2016 S&T Committee's Agenda as Agenda Items 358-1, 358-2, and 358-3. The Committee received a number of comments in favor of the proposals at

the Interim Meeting, which prompted the Committee to assign a voting status to each proposal. Each proposal will be voted on at the upcoming 2016 NCWM Annual Meeting in July.

Mr. Harshman noted that OWM's Legal Metrology Devices Program had earlier expressed concern in comments to the S&T Committee regarding the proposal (i.e., the Item 358-2 proposal) to allow some marking information to appear on an accompanying document rather than be marked on the device as is currently required by the MDMD Code in HB 44. OWM's concern was that the proposal didn't require the serial number of the device to appear on the accompanying document to link the two together, as is required on accompanying documents for load cells in the Scales Code of HB 44. Mr. Harshman also questioned how officials performing a test on an MDMD could immediately tell the value of the measuring division for each axis and range and the minimum and maximum dimensions for each axis if this information doesn't appear on the device. He further noted that officials need this information to determine tolerances and to ensure that tests are within the operational parameters set by the manufacturer.

With respect to S&T Item 358-2, Mr. Scott Henry (Zebra Technologies) noted that the information proposed for inclusion on the accompanying document can be accessed from a menu on the devices offered by Zebra Technologies and that instructions for accessing the information could be made available on the NTEP CC. It was also reported that the value of the measuring division for each axis and range on equipment in which this proposal was intended to apply is fixed and not configurable.

9. Develop Form 15's identified in Requirements Comparison Document

Discussion: The WG reviewed the remaining "open" items and agreed that 2 changes to Handbook 44 would have value. The items were:

1. The expansion of S.1.7. to include multi-interval devices with the additional proposed changes provides a better explanation of how to apply the 12 d minimum measurement specification and the application of tare with respect to marked maximum dimension for the axes in which tare was applied, and
2. the change in the use of the word "length" to "measurement".

A Form 15 was developed during the WG meeting and was submitted to the NCWM the following week. A copy of the submitted document is included at the end of this summary document.

10. The impact of MDMD Specifications and tolerances on the LTL trucking business and their use of such devices

Discussion: Mr. Don Newell presented an overview of the LTL (Less Than Truckload) trucking business. A copy of Mr. Newell's presentation is included in the distribution of this meeting summary and is available on the meeting archive.

Mr Newell spoke of some of the challenges that LTL trucking companies face when assessing freight charges. Many of the pallets are not uniform, and can be difficult to measure. Some are too large to be moved around with a fork lift. Traditional methods of charging by commodity code can have its own challenges. He asked manufacturers of MDMD equipment to consider these realities, as they design pallet MDMD's.

Density is one of four factors used by some LTL trucking companies to establish freight class. It is the number one component in determining freight charges. The other three factors are stow-ability, handling, and liability. Density is a ratio of the weight of a product to be shipped divided by its volume in cubic feet (i.e., lb/ft³). Generally speaking, the higher the density, the lower the price to ship.

11. Discussion on OIML Testing Capability

Source: H. Sprague Ackley, Honeywell

Background/Discussion: In previous meetings the Measurement Canada and Ohio Laboratory's have indicated that they are looking into what it would take to be able to perform an OIML certification Mr. Ackley offered to lead a discussion to see whether there is something that the MDMD Work Group could do to support this direction.

12. Review meeting activities and conclusions

Nothing to report

13. Define next steps (if needed)

Discussion: The WG agreed that no specific actions are needed from this meeting. The WG will monitor the 3 existing and 1 new proposal and will address their outcome at the next meeting.

14. Chairman's discussion

Discussion: Chairman Kennington took this opportunity to comment that he has chaired the WG for close to 10 years and expressed interest in resigning from the position. He opened the discussion to others who would be interested in moving into the chair position. No one openly volunteered and the discussion was closed. D. Flocken and R. Harshman both commented that the WG needs to become more self operating in that the members should consider appointing document responsibility to WG members.

15. Next meeting

Discussion: While the last 4 meeting were held on a semi-annual basis the WG agreed that our assigned tasks have been completed and the meeting schedule could return to an annual basis. The WG agreed to have the next meeting on Tuesday and Wednesday, May 2-3, 2017. Once again the Ohio NTEP Laboratory agreed to host the meeting at their location.