### Professional Development Committee (PDC) 2020 Interim Meeting Agenda

Mr. Gene Robertson, Committee Chair Mississippi

#### INTRODUCTION

The PDC will address the following items in Table A during the Interim Meeting. Table A identifies the agenda items by reference key, title of item, page number and the appendices by appendix designations. The first four digits of an item's reference key are assigned from the Subject Series List. The acronyms for organizations and technical terms used throughout the agenda are identified in Table B. In some cases, background information will be provided for an item. The fact that an item appears on the agenda does not mean it will be presented to National Conference on Weights and Measures (NCWM) for a vote. The Committee will review its agenda and may withdraw some items, present some items for information meant for additional study, issue interpretations, or make specific recommendations for change to the publications identified which will be presented for a vote at the Annual Meeting. The Committee may also take up routine or miscellaneous items brought to its attention after the preparation of this document. The Committee may decide to accept items for discussion that are not listed in this document, providing they meet the criteria for exceptions as presented in Section H of the introductions to *Handbook 44* and *Handbook 130*. The Committee has not determined whether the items presented will be Voting or Informational in nature; these determinations will result from their deliberations at the Interim Meeting.

An "Item Under Consideration" is a statement of proposal and not necessarily a recommendation of the Committee. Suggested revisions are shown in **bold face print** by **striking out** information to be deleted and **underlining** information to be added. Requirements that are proposed to be nonretroactive are printed in **bold faced italics**.

All sessions are open to registered attendees of the conference. If the Committee must discuss any issue that involves proprietary information or other confidential material; that portion of the session dealing with the special issue may be closed if (1) the Chairman or, in his absence, the Chairman-Elect approves; (2) the Executive Director is notified; and (3) an announcement of the closed meeting is posted on or near the door to the meeting session and at the registration desk. If possible, the posting will be done at least a day prior to the planned closed session.

**Note:** It is policy to use metric units of measurement in publications; however, recommendations received by NCWM technical committees and regional weights and measures associations have been printed in this publication as submitted. Therefore, the report may contain references to inch-pound units.

Subject Series	s List
Education	EDU Series
Program Management	PMT Series
Other Items	OTH Series

# Table A Table of Contents

Reference Key		Title of Item	PDC Page
EDU – EDUCA	ATION		301
EDU-1	I	Professional Certification Program	301
EDU-2	I	Training	304
EDU-3	I	Instructor Improvement	308
EDU-4	I	Recommended Topics for Conference Training	311
PMT – PROGI	RAM M	IANAGEMENT	313
PMT-1	I	Safety Awareness	313

# Table B Glossary of Acronyms and Terms

Acronym	Term	Acronym	Term
ADDIE	Analysis, Design, Development, Implementation, and Evaluation	NEWMA	Northeastern Weights and Measures Association
ANSI	American National Standards Institute	NIST	National Institute of Standards and Technology
BOK	Body of Knowledge	OWM	Office of Weights and Measures
CWMA	Central Weights and Measures Association	PDC	Professional Development Committee
ISO	International Standardization Organization	RSA	Registered Service Agents
ICE	Institute for Credentialing Excellence	SME	Subject Matter Expert
NCWM	National Conference on Weights and Measures	SWMA	Southern Weights and Measures
		WWMA	Western Weights and Measures Association

#### **Details of All Items**

(In order by Reference Key)

#### EDU – EDUCATION

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#### EDU-1 I Professional Certification Program

- 3 The NCWM presently has six professional certification exams and two basic competency exams. The certification
- 4 exams include Retail Motor Fuel Dispensers, Vehicle-Tank Meters, Small Capacity Scales, Medium Capacity Scales,
- 5 Large Capacity Scales, and Basic Package Checking. The competency exams include Basic Weighing Devices and
- 6 Basic Liquid-Measuring Devices. Professional certifications must be renewed every five years. The NCWM is
- 7 implementing a process to notify candidates whose certificates are expiring each quarter.
- 8 At the 2018 Annual Meeting, the Certification Coordinator reported on progress on the LPG Liquid Measuring exam.
- 9 He announced that work was progressing with NIST OWM to implement TP-27, a product of the API, ASTM and
- 10 Gas Processors Association. TP-27 provides an electronic algorithm for computing temperature corrections to liquid
- volume that supersedes ASTM Table 24. The work with OWM also corrects minor errors in another table (Table 2)
- used to calculate uncompensated (gross) errors. OWM used the new tables in training provided in June in Ohio, and
- they plan to make a broad distribution of the new tables shortly. States will not have to make procedural changes to
- calculations or forms; just substitute the new tables for the old ones, i.e. new Table 24E for Table 24 and new Table
- 2 for old Table 2. The NCWM exam will use the new OWM tables and plans to publish them with the exam
- announcement so people can become familiar with them before taking the exam.
- Work is also progressing on the exam for precision scales. These are predominantly Class 1 and Class II devices used
- in pharmacy, jewelers, and cannabis applications. After that the present priority list has price verification as the next
- 19 exam in the pipeline. The Committee encourages dialog on the priorities for future development of exams. Please let
- the Committee know what areas should be getting priority.
- 21 The NCWM Board has approved the rules for candidates and proctors. Proctoring is a vital component of any future
- 22 plans to get our certification program accredited. Executive Director Don Onwiler has worked with counsel to create
- 23 legal terms of agreement for proctors which has been sent to states so they can begin selecting proctors. The Board
- decided to send a notice to state directors allowing 30 days for states to get their proctors signed up. After the 30 days,
- all exams require a proctor. With proctoring in place, the NCWM can begin hosting the basic competency exams.
- 26 Under the proctoring agreement the proctor's organization will provide the computer access and ensure details in the
- 27 proctoring agreement are met. Only materials authorized in the exam announcement will be allowed and these will be
- 28 collected before the candidate leaves the room.
- 29 The process for taking an exam will still require the candidate to log in with their credentials. However, the candidate
- will only get access to the exam after the proctor logs in with their credentials. The candidate may still log in without
- a proctor to view their exam history and to reprint certificates. Candidates should take care to retain their credentials
- 32 for this purpose.
- 33 Since the Annual Meeting, a few additional changes had to be made to the proctoring rules. These changes attempt to
- 34 accommodate states that are proctoring the exam for multiple candidates all at the same time. This can create hardships
- 35 for the proctoring organization in that they would have to have multiple copies of the allowed reference materials, like
- 36 Handbooks 44 or 133. The NCWM Executive Director has worked out a compromise that allows the use of an
- 37 electronic version of the reference materials prepared by NCWM and have this accessible on the computer used to
- take the exam. Alternatively, they could print hard copies of the pdf file for candidates to use during the exam. The
- 39 pdf file for Retail Motor Fuel Devices, for example, would include Handbook 44 Introduction, General Code, LMD
- Code, and Appendices A, C, and D. These pdf files will be accessible through the exam announcement and candidates
- 41 may download the files to practice with them prior to taking the exam.

- 1 In addition, the NCWM has decided to create two tiers of proctors. The first-tier proctor may proctor only basic
- 2 competency exams for either public sector or private sector candidates. These proctors will be permitted to be direct
- 3 supervisors of the public sector candidates, which is not permitted in the rules originally proposed for professional
- 4 certification. The second tier may proctor both basic competency exams and professional certification exams. These
- 5 proctors may not be direct supervisors of the candidates as originally specified in the proctoring rules.
- 6 At its spring meeting, the Board reviewed the proposed exit survey questions prepared by the Committee to get 7
  - feedback on the certification exams. The Committee met during the Annual Meeting to respond to the Board's
- 8 concerns regarding the length of the survey and necessity of specific questions. The Committee streamlined the survey
- 9 and hopes the survey will be implemented in the near future. After taking an exam, the plan is to provide the candidate
- 10 with a link to take the survey, and a link to the survey from the certification section of the NCWM website.

#### Status of Current Tests

11

- 12 The NCWM has issued 1,042 professional certificates from the inception of the Professional Certification Program to
- 13 September 30, 2018. Of the certificates issued, eleven have been issued to individuals in the private sector (three for
- small scales, two for package checking, and one for retail motor-fuel dispensers). The balance of the certificates has 14
- 15 been issued to regulators. It is important to note that some of the early certificates have reached their 5-year expiration.
- Those who earned certificates over five years ago will need to seek recertification. The Committee is working with 16
- NCWM staff to alert certificate holders prior to expiration. Both the Committee and NCWM are hopeful this will help 17
- facilitate with recertification. The NCWM Executive Director has advised the Committee he will work with staff to 18
- begin notifying expiring certificates holders several months in advance. This would allow certificate holders time to 19
- 20 prepare before retaking the exams.
- 21 Number of Certificates NCWM has Issued as of the end of Fiscal Year 2017/18 (September 30, 2018)

	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
Exams Passed	44	94	105	62	198	140	142	257
Cumulative	44	138	243	305	503	643	785	1,042

Certification (date posted)	Certificates
RMFD (5/2010)	364
Small Scales (8/2012)	249
Package Checking (8/2012)	167
Medium-Capacity Scales (4/2015)	112
Large-Capacity Scales (4/2015)	74
Vehicle-Tank Meters (4/2015)	76
Price Verification	N/A
Liquid Petroleum Gas	N/A



23 24

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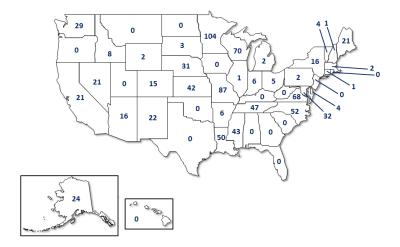
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The following map includes the states with individuals holding an active certificate in one or more disciplines. Please note that the eleven active certificates issued to private sector individuals are included in these figures, e.g. the three certificates in Arkansas are private sector individuals. This data only includes certificates which have not expired as of September 30, 2018.

#### Distribution of Certified Professionals per State



The list below shows those states with the highest utilization of the program. The table values include activity since program inception and may include expired certificates. The Committee applauds these states and encourages increased use of the certification program nationwide.

State	Certificates	State	Certificates
Minnesota	104	Maine	21
Missouri	87	New Mexico	22
Maryland	32	Nevada	21
Virginia	68	New York	16
Wisconsin	70	Colorado	15
Mississippi	43	Connecticut	1
North Carolina	52	Indiana	6
Washington	29	Ohio	5
California	21	Private	12
Kansas	42	Idaho	8
Alaska	24	Massachusetts	2
Nebraska	31		

At the 2019 NCWM Interim Meeting, it was announced by Gene Robertson, Committee Chair, that Ross Andersen would be stepping down as the Certification Coordinator at the end of the NCWM Annual Meeting in July. Jerry Buendel WA-Retired will take over the position. Jerry was contacted this past October to succeed Ross and has been working closely with Ross and NCWM office to make it a smooth transition.

Mr. Ross Andersen, Certification Coordinator, reported that there were minor discrepancies between two databases that contain the data on professional certifications. One database is maintained by the test site electronically based on exams taken, and the other is maintained by NCWM staff manually. Shortly after the Interim Meeting the Coordinator worked with NCWM staff to find the errors and correct them. Several entries on the test site were not actual exams taken by candidates but rather by staff to evaluate the exam deployment. These have been removed. There were a small number of data entry errors or missing entries in the manual NCWM database that were also corrected. The two databases are now synchronized up to the end of fiscal year 2017/18. The data reported in the annual report and in the charts above reflect the corrected figures. This synchronization will become a part of the annual program maintenance in the future.

- 1 NCWM 2019 Annual Conference: Mr. Tim Chesser (AR) suggested the committee investigate ways to
- 2 encourage/assist states not yet providing proctors to do so. It was suggested by Mr. Jerry Buendel (WA) that alternate
- 3 sources for proctoring, e.g. commercial 'learning centers', could be utilized. Mr. Ken Ramsburg (MD) voiced support
- 4 for looking into this approach. Mr. Paul Floyd (LA) suggested that existing government testing facilities (e.g. civil
- 5 service exams) could also provide examples of ways to provide proctored exams. Mr. Jim Willis (NY) expounded on
- 6 that thought, suggesting state associations may be another resource.
- 7 Don Onwiler (NCWM Executive Director) informed the group that the survey as most recently submitted to the Board
- 8 by the PD Committee was accepted. The survey will include two free-form optional entries for feedback, one for the
- 9 exam itself and one for the process of taking the exam. NCWM staff will review the responses and provide feedback
- 10 to the PD Committee / Certification Coordinator.

#### **Regional Association Comments:**

- 12 <u>WWMA 2019 Annual Meeting:</u> The WWMA Professional Development Committee heard no comments during the
- 13 open hearings. The WWMA PDC fully supports the efforts of the NCWM PDC in developing additional exams, along
- with the administration and improvement of the current exams. The WWMA PDC is in agreement with the comments
- by Mr. Jerry Buendel and Mr. Paul Floyd (LA) at the 2019 NCWM Annual Meeting that pursuing alternate sources
- for proctoring, e.g. publically accessible learning/testing centers such as Pearson Vue, National College Testing
- Association, or existing government testing facilities, would help weights and measures jurisdictions and their
- employees as well as RSAs take these exams.
- 19 <u>SWMA 2019 Annual Meeting:</u> The SWMA Professional Development Committee is recommending this item as an
- 20 Information Item on the NCWM agenda.
- 21 NEWMA 2019 Interim Meeting: No Comments were made from attendees. Mr. Ross Andersen has retired from his
- 22 position as the Professional Certification Program Coordinator. The committee thanks Mr. Andersen for his many
- 23 years of service and welcomes Mr. Jerry Buendel as the new Coordinator for this position.
- 24 CWMA 2019 Interim Meeting: Mr. Doug Musick (KS) commented that Kansas's legal team is not going to let them
- 25 proctor because of legal liabilities. Doug would like the PDC Committee to look into the Proctoring requirements.
- 26 It was also indicated that some states will discontinue using the Professional Certification Program because of the
- 27 proctoring requirements.

#### EDU-2 I Training

- The purpose of this item is to share best practices and approaches to training in response to the broad training needs
- of weights and measures jurisdictions and to serve as a link to various training materials on the web.
- 32 Tina Butcher (NIST OWM) has continued to provide updates on training provided to the weights and measures
- 33 community by NIST OWM. At the 2018 NCWM Annual Meeting, the Committee agreed that OWM could simplify
- 34 these reports by reporting activities based on the calendar year
- 35 OWM personnel were unable to attend the 2019 NCWM Interim Meeting due to the Federal Government shutdown
- in early 2019 due to a lack of appropriations. However, OWM provided content for the Committee's Interim Report
- 37 regarding NIST OWM training conducted in calendar year 2018. This is summarized below followed by a listing of
- 38 upcoming OWM training for the remainder of 2019 and the first part of 2020 is included below for reference.

NIST OWM Training Conducted in 2018			
Area/Course Name Start Location Number of Students			
Laboratory Metrology			
Advanced Mass Seminar	08/13/18	Gaithersburg, MD	6

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		1	
Balance & Scale Calibration Uncertainties	01/09/18	Gaithersburg, MD	10
Fundamentals of Metrology	02/05/18	Gaithersburg, MD	12
	02/12/18	Gaithersburg, MD	12
	04/16/18	Gaithersburg, MD	11
	06/11/18	Gaithersburg, MD	11
	05/14/18	Gaithersburg, MD	9
	10/29/18	Gaithersburg, MD	8
Mass Metrology Seminar	10/15/18	Gaithersburg, MD	9
Selecting Field Standards and Hoisting, General Safety	05/08/18	Saratoga Springs, NY	16
	05/22/18	Springfield, IL	42
Volume Metrology Seminar	06/04/18	Gaithersburg, MD	7
Regional Measurement Assurance Programs			
MidAmerica Measurement Assurance Program	10/01/18	St. Paul, MN	32
Northeastern Measurement Assurance Program	09/10/18	Montpelier, VT	17
Southeastern Measurement Assurance Program	04/30/18	Biloxi, MS	24
Southwestern Assurance Program	09/17/18	Oklahoma City, OK	17
Western Regional Assurance Program	05/07/18	Salt Lake City, UT	16
Info Hours & Other		J,	
State Lab Workload Survey	01/09/18	Web-based	37
Statistics for Metrology Work Group	01/23/18	Web-based	24
ISO/IEC 17025 – 2017 Edition	01/30/18	Web-based	59
Procedure Updates	02/27/18	Web-based	49
Publication Reviews	03/27/18	Web-based	41
Measurement Assurance Assessments	06/19/18	Web-based	67
Webinars	00/19/10	Web based	07
Basic Uncertainty Concepts	01/18/18	Web-based	11
Calibration Certificate Evaluation	02/01/18	Web-based	11 4
Conducting an Effective Management Review	02/01/18	Web-based	10
Contract Review	08/09/18	Web-based	7
Calibration Method Validation	02/22/18	Web-based	15
		Web-based	9
Document Control and Record Keeping	08/30/18		7
Internal Auditing Best Practices	03/01/18	Web-based	
Management Contains for Land Materia	10/18/18	Web-based Web-based	4
Measurement Systems for Legal Metrology	08/01/18	Web-based Web-based	8 4
C - C	11/07/18		•
Software Verification & Validation	03/15/18	Web-based	9
State Laboratory Annual Submission Process	09/06/18	Web-based	62
Packaging & Price Verification			
NIST HB 133 – Checking the Net Contents of	02/02/18	San Diego, CA	12
Packaged Goods, Volumetric Measurement			
NIST Handbook 130 – Uniform Packaging and	3/12/18	Orange County, CA	22
Labeling Regulations	06/05/18	Cleveland, OH	16
Labering Regulations	00/03/18	Clevelaliu, On	10
NIST HB 133 - Checking the Net Contents of	3/26/18	Lebanon, MO	19
Packaged Goods, Basic	04/16/18	Montgomery, AL	16
	05/14/18	Plantation, FL	18
	10/22/18	Baton Rouge, LA	16
	11/05/18	Needham Heights, MA	11
NIST Handbook 130 – Price Verification	02/09/18	San Diego, CA	15
	05/18/18	Plantation, FL	21
	10/26/18	Baton Rouge, LA	23
Legal Metrology Devices			
Legal Menology Devices			

Compressed Natural Gas Retail Motor-Fuel Dispensers	04/16/18	Sacramento, CA	16
Liquefied Petroleum Gas Liquid-Measuring Systems	05/14/18	Sacramento, CA	24
	06/11/18	Reynoldsburg, OH	19
Livestock and Animal Scales	04/10/18	Harrisonburg, VA	14

NIST OWM Training Scheduled for 2019 and 2020			
Area/Course Name	Dates	Location	
Laboratory Metrology			
Advanced Mass Seminar	04/29/19 - 05/09/19	Gaithersburg, MD	
Fundamentals of Metrology	03/04/19 - 03/15/19	Gaithersburg, MD	
	03/11/19 - 03/15/19	Gaithersburg, MD	
	08/19/19 - 08/23/19	Gaithersburg, MD	
Fundamentals of Metrology – SIM Participants Only	03/18/19 - 03/22/19	Gaithersburg, MD	
	08/19/19 - 08/23/19	Gaithersburg, MD	
Mass Metrology Seminar	04/08/19 - 04/18/19	Gaithersburg, MD	
	10/21/19 - 11/01/19	Gaithersburg, MD	
Volume Metrology Seminar	08/12/19 - 08/16/19	Gaithersburg, MD	
Regional Measurement Assurance Programs			
Combined Regional Measurement Assurance Program	06/02/19 - 06/06/19	Lake Mary, FL	
CRMAP-Tutorial-Certified Calibration Technician Prep	5/31/19 – 06/02/19	Lake Mary, FL	
CRMAP-Tutorial-Assessing & Reporting Measurement	5/31/19 - 06/02/19	Lake Mary, FL	
Uncertainty			
CRMAP-Tutorial- Selection, Cal, Use of Thermometers	5/31/19 - 06/02/19	Lake Mary, FL	
CRMAP-Balance and Scale Calibration Uncertainties	5/31/19 – 06/02/19	Lake Mary, FL	
Webinars			
Basic Uncertainty Concepts	04/24/19	Webinar	
Calibration Certificate Evaluation (2-day session)	08/06/19 & 08/08/19	Webinar	
Conducting an Effective Management Review	03/07/19	Webinar	
	02/13/20	Webinar	
Contract Review	08/15/19	Webinar	
Document Control and Record Keeping	08/29/19	Webinar	
Internal Auditing Best Practices	02/21/19 Webinar		
	10/24/19	Webinar	
	02/27/20	Webinar	
Measurement Systems for Legal Metrology	06/12/19	Webinar	
Software Verification & Validation – Part 1	04/11/19 & 04/25/19	Webinar	
State Laboratory Annual Submission Process	09/12/19	Webinar	
Packaging & Price Verification			
NIST HB 130 – Uniform Packaging/Labeling Regs	10/28/19 - 10/31/19	Avenel, NJ	
NIST HB 133 - Checking Net Contents of Packaged	04/01/19 - 04/04/19	Gaithersburg, MD	
Goods, Basic	04/15/19 - 04/18/19	Glendale, AZ	
	10/16/19 - 10/17/19	Richmond, VA	
Webinars			
NIST Handbook 130 – Price Verification	06/18/19	Webinar	
NIST HB 130 – Overview Packaging\Labeling Reg	06/19/19	Webinar	
Legal Metrology Devices			
Liquefied Petroleum Gas Liquid-Measuring Systems	06/24/19	Nashville, TN	
Retail Motor-Fuel Dispensers, 3-Day Course (CWMA)	05/06/19	Canton, OH	
Retail Motor-Fuel Dispensers, 3-Day Course (WWMA)	09/19	Park City, UT	

PDC - 306

Vehicle-Tank Meters & Loading-Rack Meters 06/1	6/10/19 Lawrence, KS
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A complete list of upcoming OWM training events is available on the calendar of events on the OWM website at:

#### www.nist.gov/pml/weights-and-measures/about-owm/calendar-events

At the 2018 Annual Meeting, Ms. Butcher noted the NIST Office of Weights and Measures (OWM) has been asked by multiple Regional Weights and Measures Associations (Regionals) to offer training seminars in conjunction with their annual meetings. OWM welcomes and appreciates the opportunity to offer training in this venue and reach multiple jurisdictions at once. To assist in planning for training in 2019 and in developing materials for future courses, OWM has asked for feedback from each Regional. Drawing from its full list of training topics, OWM identified topics on which OWM is prepared to offer training at the 2019 Regional meetings (and would lend themselves to the time constraints of a Regional) as shown below and distributed this list to each Region's main point of contact at the beginning of June.

Packaging	g and Labeling and Price Verification:
	Price Verification Test Procedures (1-2 days)
	Uniform Packaging & Labeling Regulation (4 days)
	Uniform Packaging & Labeling Regulation – Overview (1 day)
	NIST Handbook 133 – Chapters 1 and 2, Gravimetric Testing (4 days)
	NIST Handbook 133 – Chapters 1 and 2, Gravimetric Testing – Overview (1 day)
Devices:	
	Livestock and Animal Scales (3 days)
	Medium-Capacity Scales (3 days)
	Retail Computing Scales (3 days)
	Retail Motor-Fuel Dispensers Short Course (3-1/2 days)
	Selection and Testing of Reference Scales (1 day)
	Vehicle and Axle-Load Scales (3 days)
	Vehicle-Tank Meters (3 days)

OWM hopes to identify one or two training topics that would be of interest to multiple Regionals to help maximize the use of its resources in preparing for the training. OWM is also seeking feedback from the Regionals and others on ideas for *future* topics that may be needed to assist jurisdictions with addressing changes in technology and marketplace practices.

OWM discussed these training options with the regions during their scheduled meetings Wednesday morning at the Annual Meeting. Ms. Butcher also noted OWM would like to use a similar approach of obtaining regional input each year to help OWM better meet any requests for training by OWM that the regions might have.

At the 2019 Interim Meeting, it was requested that the Committee consider reviewing and potentially updating/reintroducing the old NIST OWM training modules. The Committee is not sure whether these modules are still available in digital form but will investigate.

Mr. Ross Andersen (NY, retired) indicated that NIST has extensive training materials that we could leverage; requesting these materials from NIST may be beneficial.

The state of Kansas communicated some upcoming training they had planned; this training will cover both VTM and load rack training and will be held for 5 days starting June 10.

We were reminded of the NIST metrology training in Florida:

Combined Regional Measurement Assurance Program (C-RMAP) Tutorial 1-4

May 31 - June 2, 2019
 Combined Regional Measurement Assurance Program (C-RMAP)

o June 2 - 6, 2019

Three states recommended that NCWM and NIST OWM consider joint development of training videos, and investigate funding from additional sources (grants, etc.).

3

- NCWM 2019 Annual Conference: Mr. Christopher Guay (AMC, Procter & Gamble) asked if webinars or other NIST training could be made available to associate members or industry in general. Ms. Tina Butcher (NIST OWM)
- 6 responded by indicating that that is already possible on an as-available basis.

7 8

- **Regional Association Comments:**
- 9 <u>WWMA 2019 Annual Meeting:</u> The WWMA Professional Development Committee heard the following comments
- during open hearings:
- Mr. Stan Toy (Santa Clara County, CA) would like to see training in the handling, maintenance, storage, and use of
- 12 Class II Field Standards that are used for the testing of precision scales. In addition, Mr. Toy recommended training
- 13 on the inspection and testing of precision scales. The WWMA PDC would also like to see training in the safe handling
- 14 of packaged products such as fresh meats, poultry, and seafood to avoid contamination and allow for resale of tested
- 15 commodities. The WWMA PDC discussed that it might be helpful that existing NIST classroom training be offered
- by live stream in order to provide greater accessibility to both weights and measures jurisdictions and industry.
- 17 <u>SWMA 2019 Annual Meeting:</u> The SWMA Professional Development Committee is recommending this item as an
- 18 Information Item on the NCWM agenda.
- 19 NEWMA 2019 Interim Meeting: Mr. Jimmy Cassidy (MA) and Mr. Ethan Brogan (Westchester County, NY) are
- 20 looking for training topics for the 2020 NEWMA Annual Meeting to be held in Saratoga Springs, NY. Possible topics
- 21 discussed included a short course on package checking or LPG Meters.
- 22 <u>CWMA 2019 Interim Meeting:</u> Ms. Rachelle Miller (WI) informed the committee 2020 CWMA Annual Meeting
- 23 held at Wisconsin Dells, WI will host a Class II scale training class.
- 24 Mr. Loren Minnich (KS) suggested retail computing, medium scale and Vehicle Scale Training be offered more often
- for new employees. CWMA is the only region that has offered any of these classes in the last couple of years.
- Lori Jacobson (SD) stated concerns with Metrology Classes, classes are offered back to back and if Metrologist is
- 27 required to have lab time in between classes there is not enough time between the classes. Proposed the committee
- 28 have a discussion with NIST about spreading out classes. Lori also suggested training for heavy scale inspectors.

#### 29 EDU-3 I Instructor Improvement

- 30 NIST OWM has provided legal metrology training for weights and measures jurisdictions and industry for many
- 31 years but does not have the resources to respond to the numerous training requests it receives. OWM has long
- 32 recognized that there are many individuals with extensive legal metrology experience who have the skills needed
- 33 to provide this type of training. OWM hopes to draw from this pool to develop trainers who can present schools
- with NIST, thus leveraging NIST resources; providing more timely classes; and providing a way to more broadly
- share the valuable expertise these individuals possess.

- 37 Several years ago, OWM renewed its efforts to develop trainers by providing a grant to the NCWM which is
- intended to pay travel costs of individuals to travel within their regions to conduct training and to participate in
- 39 NIST training for trainers. This partnership has enabled NIST to bring in candidates for NIST-sponsored training
- 40 such as "train the trainer" classes and to participate in NIST technical training schools. Through an application
- 41 process, in collaboration with weights and measures directors and nominated training candidates, NIST has
- 42 identified a group of people who are now working with NIST to develop the knowledge, skills, and abilities to work
- 43 with NIST staff in presenting technical training schools. A number of candidates in the NIST Trainer Program
- have already served as co-instructors for NIST technical training schools and have done an excellent job. OWM
- 45 sincerely appreciates the willingness of those trainers and their directors who have supported their participation to
- devote time to making these seminars successful.

NIST training seminars on field inspection topics are only held a limited number of times each year. This poses a challenge in sustaining regular interaction and involvement of NIST trainer candidates. NIST does not have the resources to develop and sustain the development of all the trainers it has invited to participate in the NIST trainer program activities and events held over the past several years; however, even if a candidate is not designated to participate as an instructor in a NIST seminar, they and their jurisdictions can benefit from the experience and the candidate can still provide valuable training in their jurisdiction and region.

A list of all people who have attended a NIST "Train the Trainer" class or associated event has been posted on the NCWM website. Many people on this list have attended NIST "train the trainer" events and workshops but have not served as co-instructors for NIST classes and, in some cases, have not attended NIST technical training schools in the areas in which they are interested in serving as trainers. Conversely, there are people on this list who have attended the workshops and NIST technical training seminars and have also served as co-instructors in NIST training seminars. Because of the variations in experience levels of individuals on this list and because OWM has not authorized anyone (external to NIST) to independently present "NIST" classes and is still refining the program infrastructure, confusion has arisen in the weights and measures community regarding classes that these individuals may present on their own. NIST and NCWM are considering how to best depict these listings to reflect the status of the trainers listed such that confusion can be avoided in the future

OWM appreciates the strong support of the NCWM, the PDC, the volunteer trainers, and their administrators in continuing to develop the NIST Trainer Program. OWM will continue to provide the Committee with updates on its progress as well as continue to collaborate with and support the Committee in its work.

The Committee continues to hear comments from States expressing appreciation for the NCWM Professional Certification Program and the NIST Training Program. The Committee also heard favorable comments about the training materials and tools provided by NIST, including a video on testing retail motor-fuel dispensers (RMFDs). As noted in Item 410-2, the NIST video is divided into segments focusing on specific parts of the RMFD test procedure that can be used to supplement and enhance instructor-led training. The video can be accessed through OWM's home page or by going directly to the following link: http://www.nist.gov/pml/wmd/lmdg/training-materials.cfm.

 The Committee has reiterated multiple times in the past that the responsibility for training employees rests with individual organizations (weights and measures jurisdictions and industry alike). While NIST and other training providers offer excellent sources of training and training materials, organizations must develop and manage their own training programs, including developing trainers; establishing individual development plans for employees; and identifying strategies for continually assessing and responding to training needs. The Committee recognizes that NIST OWM cannot possibly train all weights and measures inspectors in the country. The state and municipal jurisdictions have ultimate responsibility for training and qualifying their personnel. To fulfill this responsibility, jurisdictions should be making individual plans to maintain or bolster their training efforts. NIST OWM should be viewed as one vital resource to support that effort. The Professional Development Committee is another resource. The Committee has created and posted on its website, the "Body of Knowledge" to establish uniform learning objectives for weights and measures professionals. In addition, the Committee has posted a Model Field Training Program document on its website. This program outlines methods to evaluate and document training and offers guidance on training new inspectors and taking steps to ensure their ongoing development.

These initiatives require competent and qualified trainers and a centralized management plan within the jurisdiction. The Committee is continuing to work, in partnership with NIST OWM, to identify the basic competencies of those trainers and training managers so that jurisdictions can find the right people to manage and deliver training internally. It's not enough just to be technically competent in a subject area to be a good trainer or to effectively manage a training program. It takes other tools, such as:

- ability to assess employee competence and training needs,
- ability to create learning materials from technical material,
- ability to use adult learning techniques adapted to individual and group needs,
- ability to plan training activities and find appropriate training venues,
- ability to find creative ways to deliver training with tight budgets, and

• ability to adapt the overall training program to best serve jurisdiction goals

In 2015 OWM developed a NIST Instructor Training Program Instructor Competency Assessment and Feedback Instrument that can be used as a self-assessment tool by instructors and assist them in identifying and setting goals to strengthen and develop their skills as trainers. Included in this assessment tool is a broad list of competencies for trainers based on a model developed by the U.S. Department of Education (see http://www.pronet2000.org/CM/content\_files/70.pdf for details). For the purposes of serving as a NIST OWM trainer, only a subset of these competencies may be necessary, although some trainers participating in the NIST Trainer Program may be required to master more of them to meet broader training responsibilities within their own agencies. See past Committee reports for additional background.

As previously reported, NIST OWM is authorized by IACET to issue "Continuing Education Units" for certain training seminars and, as part of this authorization, there are certain provisions that an instructor must follow to meet these requirements. NIST Certificates and the accompanying CEUs can only be issued if these criteria are met; this includes ensuring that the material is presented consistent with the learning objectives and interpretations specified by NIST OWM and in the same time frame. OWM staff trainers have completed IACET training courses and are familiar with the procedures that OWM has implemented to ensure compliance with IACET-related requirements for NIST training courses. External trainers in the NIST Trainer Program must also understand these provisions. OWM has presented several short webinars to help its external trainers obtain the necessary training and will continue to seek opportunities to provide this training to those who have not yet completed it.

At the 2016 Annual Meeting, Ms. Butcher reported that NIST is making an additional \$100,000 grant to NCWM to support travel and training events for the NIST Trainer program. OWM continues to work on formalizing the NIST Trainer Program. At the 2017 Annual Meeting, Ms. Butcher updated the Committee on progress on "Instructor Improvement" in the NIST Trainer Program. She noted that OWM is continuing to work on the infrastructure of the program, including documenting:

• <u>Procedures</u> for Selection, Evaluation, and Feedback to Instructors

• <u>Instrum</u>

<u>Instrument</u> - Instructor Competency Assessment and Feedback – Overall o Based on US Dept. of Education model for overall development

• <u>Instrument</u> - Instructor Competency Assessment - specific courses

 <u>Criteria</u> for Developing Participants in NIST Instructor Training Program and Use of the NIST-NCWM Training Grant

• Instructor Agreement

She noted that OWM information shared this information with NCWM Board of Directors at their meeting May 2017 as a follow-up to discussions and a request at the Board's January 2017 Meeting. She noted that OWM is beginning to implement these tools with its external trainers and OWM has made continual adjustments to the assessment documents based on experience. For example, the instrument which is used to provide an overall assessment of a trainer's professional competencies can be used to help a trainer identify personal goals for improving their competencies as a trainer, including both those that NIST would require of its trainers and those that might be required of them in their own jurisdiction. However, the instrument proved overly complex for an individual learning event. Consequently, Georgia Harris (OWM) developed a scaled down version of the instrument that was tailored more toward individual learning events, but that still linked back to the overall competencies. This instrument has been used in at least two classes and a revised version will be used in courses coming up in fall 2017.

Ms. Butcher reported that 10 of OWM's 44 training sessions in 2016 included non-NIST instructors assisting in the NIST OWM classes. Travel for external trainers serving as co-instructors in these classes is funded using travel from a grant provided by NIST to NCWM. She expressed appreciation to NCWM for its continued assistance in administering the grant and helping make the process of getting the trainers to these courses as smooth as possible.

Ms. Butcher also reported that several instructor training webinars had been offered to external trainers, including webinars on Blooms Taxonomy; learning objectives; and the ADDIE model. She noted that one of NIST's external trainers audited a "Train-the-Trainer" course offered by the American Management Association and OWM is considering if this might be a course that could be used by prospective NIST instructors in their own personal

- development as trainers. Ms. Butcher noted that OWM is continuing to involve external trainers in its training efforts
- and has been increasing their responsibilities in these seminars. She emphasized the significant impact that the
- 3 external trainers have had on the success of the NIST courses and expressed appreciation for the trainers who give of
- 4 their time and expertise and the directors who allow the trainers time away to assist with these courses.

Since NIST was not in attendance at the Interim Meeting 2019, no updates were available. No comments were heard on this item.

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- 9 NCWM 2019 Annual Conference: Ms. Julie Quinn (MN, retired) suggested that NIST OWM consider allowing
- qualified individuals to take advanced NIST classes if proven capable by means other than passing a basic NIST exam.
- Ms. Rachelle Miller (WI) suggested that for example passing an NCWM professional certification in package
- checking could be a suitable alternate prerequisite for NIST advanced package checking training. NIST OWM
- indicated that they will discuss the possibility of alternate prerequisites.
- 14 Ms. Michelle Wilson (AZ) stressed the importance of allowing/providing external trainers and requested that those
- trained by NIST via the train-the-trainer program be certified as qualified trainers.

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- 17 Regional Association Comments:
- 18 <u>WWMA 2019 Annual Meeting:</u> The WWMA Professional Development Committee heard no comments during the
- open hearings. The WWMA PDC continues to support the ongoing efforts of the NIST/OWM Train the Trainer
- 20 Program.
- 21 <u>SWMA 2019 Annual Meeting:</u> The SWMA Professional Development Committee is recommending this item as an
- 22 Information Item on the NCWM agenda.
- 23 <u>NEWMA 2019 Interim Meeting:</u> No comments.
- 24 CWMA 2019 Interim Meeting: The committee heard no comments and the CWMA supports the continued efforts in
- 25 improving instructor training.

#### 26 EDU-4 I Recommended Topics for Conference Training

- 27 The Board of Directors has charged the Committee with recommending appropriate topics for the technical sessions
- at future annual meetings. The Board of Directors asks the PDC to review and prioritize possible presentation
- 29 topics and to submit those to the NCWM Chairman. The Chairman will coordinate with NCWM staff to secure
- 30 presenters.

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The following is a list of technical presentations made at the NCWM since 2009. Presentations given since 2010 are available at www.ncwm.com/annual-meeting-archive.

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- Planning and Coordinating a National Market Place Survey (Ms. Rachelle Miller, WI 2017);
- The Life Cycle of Petroleum from Well to Retail (Mr. Prentiss Searles, API 2017);
  - The United States Mint at Denver Gold, Coins and Embezzlement (Mr. Thomas Fesing, 2016)
- Understanding Transportation Network Systems (Ms. Andrea Ambrose Lobato, Lyft and Mr. Bob O'
   Leary, Uber 2016)
  - Regulatory Consideration for Legalized Marijuana (Ms. Julie Quinn, MN and Mr. Nick Brechun, CO 2016)
- Motor Oil Quality Violations (Mr. Tom Glenn, Petroleum Quality Institute of America, 2014);
- Making Sense of Electronic Receipts (Mr. Justin Hotard, Vice President and General Manager, NCR
   Corporation, 2014);
- LNG & CNG Motor Fuel A Technical Briefing from Industry (Mr. Doug Horne, President CVEF, Mr.
   Zack Wester, Blu, Mr. Jeff Clarke, NGVA, 2014);
  - Taximeter Technology Advancements (Mr. Matt Daus, International Association of Transportation Regulators, 2013;
- Advanced Vehicles and Fuel Quality (Mr. John M Cabaniss, Jr., Association of Global Automakers, 2013);

- Economic Justification and Demonstrating Value of Weights and Measures (Mr. Tim Chesser, Arkansas 2 Bureau of Standards, 2012):
  - Conducting Effective Marketplace Surveys and Investigations (Ms. Judy Cardin, Wisconsin Weights and Measures, 2012);
  - Public Relations and Customer Service as Regulators (Mr. Doug Deiman, Alaska Division of Measurement Standards/ CVE, 2012);
  - An Overview of Unit Pricing in the United States (Mr. David Sefcik, NIST OWM, 2011);
  - Grocery Unit Pricing in Australia (Mr. Ian Jarratt, Queensland Consumers Association, 2011);
  - Grocery Unit Pricing in Canada (Mr. Ian Jarratt, Queensland Consumers Association, 2011);
  - The U.S. Hydrogen Measuring System: The Turning Point? (Ms. Kristin Macey, California Division of Measurement Standards, 2011);
  - Corrosion in Ultra Low Sulfur Diesel Underground Storage Systems (Mr. Prentiss Searles and Ms. Lorri Gainawi, American Petroleum Institute, 2010);
  - Risk-Based Inspection Schemes (Mr. Henry Oppermann, Weights and Measures Consulting, LLC, 2010);
  - Diesel Exhaust Fluid (DEF) (Mr. Gordon Johnson, Gilbarco, Inc., and Mr. Randy Moses, Wayne, 2009);
  - Fuel Volatility and Ethanol Blending (Mr. Jim McGetrick, BP Products, 2009);
  - Investigative Techniques (Mr. Michael Cleary, Retired, 2009)

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During open hearings at the 2016 Interim Meeting, the Committee heard a suggestion from Ms. Kristin Macey (CA) for a training session on transportation network systems. Mr. Doug Musick (KS) commented that this type of technology is showing up in applications other than just passenger transportation and suggested that training in GPS-based measuring systems in general would be beneficial. He noted that his jurisdiction is encountering a large number of GPS-based measuring systems being used in assessing charges for the sale and application of crop fertilizers and other treatments and he noted that the monetary impact is significant.

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The Committee also heard comments from Mr. Jim Pettinato (FMC), Chairman of the NTEP Software Sector, who noted that training on issues related to inspection of software-based systems may be beneficial to weights and measures jurisdictions. He noted that, with the current progress of proposals through the NCWM process, the Sector is wrapping up its initial work and suggested that the Sector and its members might be able to assist in training on legal metrology issues relative to software-based weighing and measuring systems. Ms. Julie Quinn (MN) commented that this assistance might be particularly helpful in assisting weights and measures jurisdictions in understanding and educating inspectors and service personnel on audit trails used in these devices, and she noted that audit trail training is the most frequently requested training topic in her jurisdiction.

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The Committee appreciates the input and ideas that it has received regarding suggested training topics. Based on the comments received during its open hearings, comments from the fall 2015 regional association meetings, past suggestions, and discussions during its Interim Meeting work sessions, the Committee proposes that the BOD consider offering technical presentations on the following topics:

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- Verifying Compliance of Software-Controlled Weighing and Measuring Systems
- This might include the verification of software versions, security, and other metrologically significant
- **Understanding Transportation Network Systems**
- GPS-Based Measuring Systems Used in Applications Other Than Passenger Transport
- Vehicle-Tank Metering Systems "Flush Systems"
- Credit/Debit Card Skimmers

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The Committee also discussed the audience that is typically present at NCWM Annual and Interim Meetings, noting that inspectors and service personnel are not always able to participate in these meetings. The Committee believes it would be beneficial not only to offer training on key issues such as those listed above at the NCWM meetings, but to have the training made available at regional and state weights and measures association meetings where more inspectors and service personnel would be likely to attend. Some aspects of the training might need to be tailored more toward field inspection that weights and measures administration, but much of the content should be the same. The Committee would like to collaborate with regional weights and measures associations to suggest that similar training be provided at the regional level.

- 1 At the 2016 NCWM Annual Meeting, the Committee suggested that technical training on safety programs be
- 2 included at Regional and National Meetings, including an update provided by Ms. Julie Quinn (MN) at the 2016
- Annual Meeting. The Committee received no additional suggestions or comments regarding proposed training topics.

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- At the Interim Meeting 2019 the following suggestions from the floor for additional topics were received:
  - Investigative reporting
  - D.E.F. Testing requirements, special considerations (handling, safety, equipment)
  - Differentiation between weight classifier and normal rounding scales
  - Organizing/publishing existing training materials

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#### NCWM 2019 Annual Conference:

- Mr. Tim Chesser (AR) suggested that a review of the NTEP organization, processes and certificate system would be a beneficial topic for training in the future.
- Mr. Steve Harrington (OR) offered diving into innovations / new areas in metrology (perhaps an industry presentation on a new technology). Steve also suggested that we explore advances in modern distributed weighing/measuring systems, e.g. future point-of-sale systems.
- Mr. Mahesh Albuquerque (CO) suggested the topic of emerging fuels, e.g. EV refueling, hydrogen. Mr. Ken Ramsburg (MD) added LNG/CNG as a possibility. Ken also added the possible topic of the new SI unit definitions and possible impact on W&M organizations.
- Mr. Brett Gurney (UT) indicated that a possible topic could be a 'case study' of a successfully implemented W&M program (state, county or city) as an example.

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#### **Regional Association Comments:**

- 25 <u>WWMA 2019 Annual Meeting:</u> The WWMA Professional Development Committee heard no comments during the
- open hearings. The WWMA PDC continues to support the ongoing efforts of the NCWM.
- 27 <u>SWMA 2019 Annual Meeting:</u> The SWMA Professional Development Committee is recommending this item as an
- 28 Information Item on the NCWM agenda.
- 29 NEWMA 2019 Interim Meeting: Mr. James Cassidy (MA) suggested best practices for attracting or finding possible
- 30 candidates for metrology laboratory positions. He suggested the possibility of using interns with the related
- 31 educational background and inquired if other jurisdictions have any experience with this process.

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- 33 Support for conference field trips was given if the subject matter is related to W&M issues and of a technical nature.
- 34 If difficult to find outings with related subject matter, then traditional technical presentations can be given.
- 35 CWMA 2019 Interim Meeting: The committee received no comments.

#### 36 PMT – PROGRAM MANAGEMENT

#### 37 PMT-1 I Safety Awareness

- 38 One of the goals of the PDC is to educate jurisdictions on safety issues and to provide resources to help them
- 39 implement effective safety and health management programs. The Committee intends to use the safety page on the
- 40 NCWM website (www.ncwm.com/safety) as a place for states to share information and resources to help them
- 41 address each of the major steps in creating and maintaining an effective safety program.

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- In July 2017, the Board of Directors created the Safety Task Group to create a safety tool kit to help weights and
- 44 measures organizations create or improve their own safety programs. The toolkit is complete and is posted on the
- 45 NCWM website at http://www.ncwm.com/safety.

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47 At the 2018 Annual Meeting, the NCWM BOD decided to make the task group a permanent sub-committee associated

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- Maintaining and updating the safety toolkit

  William A. NOWA.
- Writing and deploying the NCWM annual safety survey, as well as reporting on the results each year

with the PDC. The newly formed Safety Awareness Subcommittee (SAS) will assume responsibility for:

- Finding resources and/or developing weights-and-measures-focused materials relating to the top hazards identified through the safety survey or through developing the toolkit
- Building a safety culture and developing safety leadership within the NCWM through participation on SAS

The SAS is currently working to improve the annual safety survey by:

• Including questions about near-miss incidents and about incidents resulting in lost or restricted time over multiple years

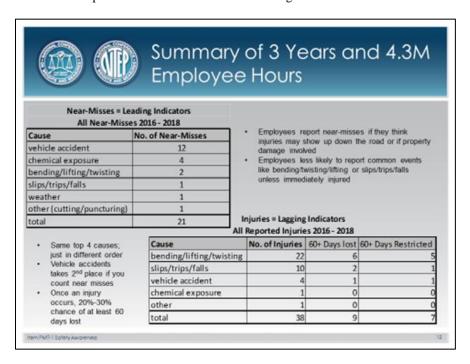
• Contacting counties and associate members to increase participation

 • Writing an instruction guide to help participants gather the information they need before completing the survey

The results of the 2018 survey were consistent with 2016 and 2017 results. Seven injuries were reported which resulted in days-away or lost time. All incidents occurred in the field. Five of them were related to lifting/bending/twisting. The other two were related to slips/trips and falls. Six of the resulting injuries were soft tissue injuries (sprains, strains, torn joint ligaments, etc.) The remaining injury was a back/neck injury.

Although the survey does not currently ask about near-miss incidents, several jurisdictions have shared information about near-miss incidents which resulted in no days-away or lost time. When the results of all three annual surveys are compiled, the top four causes of near-misses are the same as the top four causes of DART incidents.

The following information was provided at the 2019 Interim Meeting:



The SAS will focus some of their efforts next year in developing weights and measures materials related to:

- Bending/Lifting/TwistingVehicle Accidents
- Slips/Trips/Falls
- Chemical Exposure

NCWM members are encouraged to review the complete presentation on the 2018 safety survey on the NCWM safety page.

The Committee expresses appreciation to the members of the Safety Subcommittee for their willingness to volunteer for this important work.

Safety Subcommittee		
Office	Name	Affiliation
Committee Chair	Vacant	
Public Sector Member	Jason Flint	New Jersey
Public Sector Member	Elizabeth Koncki	Maryland
Public Sector Member	Brenda Sharkey	South Dakota
Public Sector Member	Mike Sikula	New York
Private Sector Member	Sprague Ackley	Honeywell
Private Sector Member	Tisha Arriaga	Marathon Petroleum, LLC
Private Sector Member	Bill Callaway	Crompco
Private Sector Member	Remy Cano	Northwest Tank and Environmental Services, Inc.
Private Sector Member	Robert LaGasse	Mulch and Soil Council
Private Sector Member	John Lawn	Rinstrum, Inc.
Private Sector Member	Richard Shipman	Rice Lake Weighing Systems, Inc.

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Currently the NCWM safety page houses the list of regional safety liaisons and an archive of past safety articles.

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#### **Regional Safety Liaisons:**

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#### **Central Weights and Measures Association (CWMA):**

Ms. Brenda Sharkey, South Dakota Weights and Measures

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#### Northeastern Weights and Measures Association (NEWMA):

Mr. Michael Sikula, New York Bureau of Weights and Measures

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## **Southern Weights and Measures Association (SWMA):**Ms. Elizabeth Koncki, Maryland Department of Agriculture

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### Western Weights and Measures Association (WWMA):

22 Vacant / TBD

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Each region is responsible for providing a safety article for the NCWM newsletter according to the following schedule:

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Safety Article Schedule				
Issue 3 (September 2019)	CWMA	August 15, 2019		
Issue 1 (February 2020)	NEWMA	January 15, 2020		
Issue 2 (May 2020)	SWMA	April 15, 2020		
Issue 3 (September 2020)	WWMA	August 15, 2020		

- 27 Thanks to the following individuals for their contributions since the 2017 annual meeting:
  - Preparing Employees for an Active Shooter Event Julie Quinn, MN
  - Safety is Up to Me! Brett Gurney, UT
    - Is it Safe to Run Gasoline Through a Large Volume Prover? Mike Sikula, NY
    - Check it out! The Happy-list State Elizabeth Koncki, MD
- 32 2019 NCWM Annual Meeting: Steve Harrington (OR) suggested that we could publish 'best ergonomic practices' in

#### PDC 2020 Interim Meeting Agenda

1 daily W&M routines as these tasks undergo hazard analysis, and communicate these recommendations to avoid 2

repetitive motion injury, etc. during daily tasks as they are developed.

- 4 **Regional Association Comments:**
- WWMA 2019 Annual Meeting: The WWMA Professional Development Committee heard no comments during the 5
- open hearings. The WWMA PDC continues to support the efforts of the Safety Awareness Subcommittee and values 6
- 7 the information posted on the safety page on the NCWM website.
- 8 SWMA 2019 Annual Meeting: No comments were received.
- 9 NEWMA 2019 Interim Meeting: No comments. Julie Quinn (MN) has retired from her position as the safety liaison.
- 10 The committee thanks her for her many years of dedicated service to the Professional Development Committee and
- 11 for bringing safety awareness to the W&M community.
- 12 CWMA 2019 Interim Meeting: The committee received no comments.

- Mr. Marc Paquette, Vermont | Committee Chair 13
- 14 Mr. David Aguayo, San Luis Obispo County, California | Member
- Ms. Brenda Sharkey, South Dakota | Member 15
- 16 Mr. Scott Ferguson, Michigan | Member
- 17 Mr. Paul Floyd, Louisiana | Member
- 18 Mr. James Pettinato, Technip FMC | AMC Representative
- 19 Vacant | Safety Liaison
- 20 Ms. Tina Butcher | NIST Liaison
- 21 Mr. Jerry Buendel | Professional Certification Program Coordinator
- 22 **Professional Development Committee**