**CWMA Professional Development Committee (PDC)**

**2024 Annual Meeting Agenda**

Mr. Brian Fuller, Committee Chair

Iowa

**INTRODUCTION**

The PD Committee 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) NCWM Chairman or, in their absence, NCWM 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 table. 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.*

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| --- |
| Subject Series List |

Education EDU Series

Program Management PMT Series

Other Items OTH Series

|  |
| --- |
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| Table BGlossary of Acronyms and Terms |

|  |  |  |  |
| --- | --- | --- | --- |
| **Acronym** | **Term** | **Acronym** | **Term** |
| CWMA | Central Weights and Measures Association | OWM | Office of Weights and Measures |
| NCWM | National Conference on Weights and Measures | PDC | Professional Development Committee |
| NEWMA | Northeastern Weights and Measures Association | SWMA | Southern Weights and Measures Association |
| NIST | National Institute of Standards and Technology | WWMA | Western Weights and Measures Association |
| SETG | Skimmer Education Task Group |  |

|  |
| --- |
| **Details of All Items***(In order by Reference Key)* |

# EDU – EDUCATION

EDU-1 I Professional Certification Program

The NCWM offers eleven professional certification exams and two basic competency exams. The certification exams include Retail Motor Fuel Dispensers, Vehicle-Tank Meters, Small Capacity Scales, Medium Capacity Scales, Large Capacity Scales, Precision Scales, LPG and Anhydrous Ammonia, Price Verification, Basic Package Checking, Package and Labeling, and Method of Sale. The competency exams include Basic Weighing Devices and Basic Liquid-Measuring Devices. Professional certifications must be renewed every five years and NCWM notifies candidates whose certificates have expired.

Proctoring of exams was initiated in August 2018 and may be done virtually or in-person. Virtual proctoring was initiated in May 2021 and is offered at no cost to members. Guidance for virtual proctoring can be found on the same webpage and more detailed information, including a helpful YouTube video on preparing for proctoring can be found on the ProctorU website at <https://support.proctoru.com/hc/en-us/articles/360043565051-Exam-Day-What-to-Expect->. In person proctoring is available through the state programs. The policy was changed in August 2023 to allow individuals within a program to proctor exams. The individual and their director must sign an agreement provided by NCWM and the NCWM Executive Director must approve the proctor.

**Number of States with Proctors and number of Proctors.** (As of November 2023)

|  |  |  |
| --- | --- | --- |
|  | **Professional Certification** | **Basic Certification** |
| **States** | **Proctors** | **States** | **Proctors** |
| FY 17-18 | 7 | 17 | 10 | 39 |
| FY 18-19 | 11 | 28 | 14 | 57 |
| FY 19-20 | 16 | 37 | 18 | 70 |
| FY 20-21 | 17 | 41 | 19 | 73 |
| FY 21-22 | 19 | 44 | 20 | 78 |
| FY 22-23 | 20 | 61 | 19 | 65 |



The map below shows the number and location of proctors under the revised policy.



The table below shows the number of virtual and in-person proctored tests completed in FY 22-23.

|  |  |  |
| --- | --- | --- |
|  | **In-person** | **Virtual** |
| Professional Certification | 78 | 2 |
| Basic Competency Certification | 46 | 5 |

**Status of Current Tests**

The NCWM has issued 1348 professional certificates since program inception through September 30, 2023. Of the certificates issued, fifteen have been issued to individuals in the private sector. There has been a significant decline in participation in the program. It appears that the decline coincides with the requirement to proctor exams and the pandemic. Some of the certificates have reached their 5-year expiration and certificate holders will need to seek recertification.

**NCWM Professional Certificates**

The table below shows the number of certificates awarded over the past ten years and the cumulative total since program inception.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **FY****13-14** | **FY****14-15** | **FY****15-16** | **FY****16-17** | **FY****17-18** | **FY****18-19** | **FY****19-20** | **FY 20-21** | **FY 21-22** | **FY** **22-23** |
| **Certificates Awarded** | 62 | 198 | 140 | 142 | 257 | 53 | 56 | 60 | 56 | 80 |
| **Cumulative** | 305 | 503 | 643 | 785 | 1042 | 1095 | 1151 | 1211 | 1267 | 1347 |

The table below shows the states using the professional certification program and the number of certificates earned since program inception and includes expired certificates. The Committee applauds these states and encourages increased use of the certification program.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **State** | **Certificates** | **State** | **Certificates** | **State** | **Certificates** |
| Louisiana | 164 | Nevada | 28 | Wyoming | 7 |
| Minnesota | 153 | Maine | 27 | Delaware | 4 |
| Missouri | 143 | New Mexico | 25 | Michigan | 3 |
| Wisconsin | 96 | New York | 19 | Montana | 3 |
| Maryland | 79 | Colorado | 18 | South Dakota | 3 |
| Virginia | 78 | Connecticut | 15 | Oregon | 2 |
| Alaska | 59 | Private | 15 | Tennessee | 2 |
| Mississippi | 56 | Ohio | 14 | New Hampshire | 1 |
| North Carolina | 56 | Indiana | 13 | West Virginia | 1 |
| Washington | 50 | Idaho | 11 |  |
| Kansas | 46 | Massachusetts | 11 |
| California | 41 | Arkansas | 8 |
| Nebraska | 33 | Pennsylvania | 8 |
| Arizona | 28 | Vermont | 8 |

**NCWM Basic Competency Certificates**

The table below shows the number of basic competency certificates awarded since program inception.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **FY****17-18** | **FY****18-19** | **FY****19-20** | **FY****20-21** | **FY****21-22** | **FY****22-23** | **Cumulative** |
| **Basic - Measuring** | 0 | 40 | 14 | 5 | 7 | 3 | 69 |
| **Basic - Weighing** | 1 | 30 | 11 | 12 | 9 | 2 | 65 |
| **Total Awarded** | 1 | 70 | 25 | 17 | 16 | 5 | 134 |

The table below shows those states with individuals holding a basic competency certificate. The Committee applauds these states and encourages increased use of the certification program nationwide

|  |  |  |  |
| --- | --- | --- | --- |
| **State** | **Certificates** | **State** | **Certificates** |
| Louisiana | 60 | Nevada | 2 |
| Tennessee | 42 | Nebraska | 2 |
| Alaska | 7 | Arkansas | 1 |
| Colorado | 5 | Kansas | 1 |
| Private | 5 | Montana | 1 |
| Florida | 3 |  |  |

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: An update was provided by Certification Coordinator Jerry Buendel (Retired). Mr. Buendel reported on the Professional Certification Exams and emphasized the Registered Service Agent testing program progress. Don Onwiler (NCWM) commended Mr. Buendel on his presentation. Mr. Onwiler commented on the availability of virtual proctoring. Mr. Onwiler noted that virtual proctoring for professional certification is free of cost to members, with NCWM covering the costs. Registered Service Agents will incur a cost of $20.00 for this service. Mr. Onwiler stated that he had taken the HB 44 exam, was impressed, and felt it should be mandatory for all RSA’s. Tim Chesser (Arkansas) agrees that the exam is great but commented that RSAs did express concerns over exam costs. Paul Floyd (LA) discussed possibly modifying the older exams or consider modifying the RSA HB 44 exam for regulators. Cheryl Ayer (NH) expressed her appreciation for the work of the committee. Ms. Ayer commented on the importance of the HB 44 exam and suggested the exam be provided free of cost. Ms. Ayer also commented on how beneficial it was to participate in the development of exams. Greg VanderPlaats (Minnesota) expressed his appreciation for publishing the Minnesota state exam on the NCWM website making it available to RSAs. Mr. VanderPlaats also inquired about allowing states to provide virtual proctoring. Scott Simmons (CO) commented that he felt the time limits on certain exam sections do not allow sufficient time to complete and are prohibitive. Matt Douglas (CA) agreed with Mr. Simmons comments regarding time limits pertaining to certain sections of the exams.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: Greg VanderPlaats, Minnesota, Proctoring policy for professional certification exams has changed and is posted on NCWM website. Now allowing Proctors within the program as long as there is no conflict of interest. Mike Harrington, Iowa. Iowa is happy with the changes to the policy and their program will now be participating.Greg Vanderplaats, Minnesota, Jerry Buendel working to use the state specific exams for RSA testing. RSA tests for HB 44, RFMD, Retail Scales are written and in testing.

The committee recommends this as an Informational Item.

WWMA 2023 Annual Meeting: Mahesh Albuquerque (Division of Oil and Public Safety, CO) – Proctor recommendation was approved by NCWM BOD and implemented. Don Onwiler has sent an email about agency proctors to all states. The WWMA PDC applauds this change.

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: The PDC heard no comments on this item and recommends the item remain an informational item.

NEWMA 2023 Interim Meeting: During the 2023 NEWMA Interim meeting an update was provided by Marc Paquette (Vermont). During the update changes in proctoring requirements and RSA Exams were discussed. Cheryl Ayer (New Hampshire) expressed her appreciation for the revamp on proctoring requirements.

The committee recommends this as an informational item.

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. NIST OWM PDC Liaison, Tina Butcher (NIST OWM), has regularly provided updates to the Committee on OWM’s training resources and activities. Details of these updates can be found in prior Committee reports.

In preparation for the 2024 Interim Meeting, Mrs. Butcher shared a presentation with the Committee summarizing NIST training activities in 2023 and highlighting plans for OWM training in 2024 and other work underway at NIST to assist weights and measures jurisdictions and industry representatives with legal metrology training.

Details of training conducted by OWM in 2023 are included in Appendix A to this report. The following summarizes training-related activities in each NIST OWM Program along with an update on some of OWM’s general work in developing and providing legal metrology training.

**Laboratory Metrology and Metric Program (LMP)**

The following summarizes activities in the NIST OWM LMP:

***General.*** The Laboratory Metrology Program training classes conducted in 2023 included both virtual and in-person formats, with a total of 19 sessions and 276 students.

***In-Person Laboratory Metrology Training.*** The NIST Laboratory Metrology Program (LMP) has resumed its in-person classes at the NIST campus in Gaithersburg, MD. Class sizes are now back to the same level as before the COVID-19 pandemic, with a maximum of 12 students per class.

LMP is still catching up on the backlog of requests from state laboratories that accumulated during the pandemic. Thus, priority is being given to state laboratory staff students.

***Regional Metrology Association Training.*** As was the case in 2023, Regional Measurement Assurance Program (RMAP) training will continue to be offered in an in-person format in each region in 2024.

***NIST Handbook 143, State Weights and Measures Laboratories Program Handbook.*** An updated version of NIST HB 143 was published in December 2023. The updates clarify requirements and align the criteria with the National Voluntary Laboratory Program (NVLAP) NIST Handbook 150-2’s technical requirements

***Proficiency Testing Standards – Updates.*** LMP is updating standard documents associated with laboratory proficiency testing. The updates are intended to better align the proficiency testing documents and associated criteria with the 2018 edition of NIST IR 7082 and the 2005 edition of NIST IR 7214. The updates better align the standards with the newly released 2023 edition of ISO/IEC 17043.

At the request of some OWM stakeholders, the comment period on the draft updates has been extended to the end of February 2024. Drafts of the new test documents are posted for review on OWM’s website at the link shown in this slide.

For those interested in submitting comments, please do so at the following site before the end of February

<https://www.nist.gov/pml/owm/laboratory-metrology/proficiency-testing>

The target date for publication of the revised standards is late fall 2024.

***Fundamentals of Metrology (FOM) Course:*** OWM’s Laboratory Metrology Program (LMP) has begun work on creating an online version of one of its most popular training courses, “Fundamentals of Metrology.”

During the COVID-19 pandemic, LMP experimented with hybrid classes in which some students were participating virtually and some were participating on-site. A key element missing from these hybrid classes was the virtual student’s ability to fully engage in any hands-on activities during the class. Thus, although this new FOM course will be presented virtually, it will have a “hands-on” component for the virtual student.

The LMP staff are creating a “Lab-in-a-Box” kit that includes equipment needed for a student to complete hands-on activities during the class. A Lab-in-a-Box kit will be shipped to each student before the class and shipped back to NIST following the class. Each student will have all the equipment needed to apply the hands-on activities during the class. The equipment included in the box will mirror that used in classes conducted at NIST so the online student’s experience will mirror that of a student participating on-site.

OWM will continue offering on-site sessions of FOM but hopes this option will extend the opportunity for students who are not able to attend on-site sessions to participate in FOM classes. Additional benefits are that this reduces travel and time costs associated with students participating in on-site classes. NIST will be charging a nominal fee to cover the costs of shipping and equipment, which should be offset by the savings associated with travel.

The target time frame for the first virtual FOM session is in early 2025, so be sure to stay tuned for news on this development!

***Information Hours – Laboratory Metrology Applications.*** In past years, the LMP has hosted “Information Hours” targeted toward state laboratory programs. These have typically followed on-site class sessions and/or included topics oriented toward assisting state metrology laboratories in implementing and managing their laboratory programs.

LMP plans to resume these sessions in 2024. As in the past, these are targeted toward laboratory programs and their availability will be announced in the list of upcoming training provided to the state labs.

***Metric Program.*** The Metric Program, which is now located in the Laboratory Metrology Program, conducted five webinars and web-based sessions in 2023. This training covered three different topic areas presented in four sessions and included 42 students.

**National Legal Metrology Program (NLMP)**

***General.*** The development and delivery of field inspection training in the areas of laws and regulations and legal metrology devices have slowed due to staff shortages and an increased workload for the technical staff. However, OWM is beginning to resume work on some of the projects already in progress and to develop more training products and services moving forward. An overview of training and training resources presented and under development is shown below.

***Webinars.*** The NLMP Program conducted 13 webinars on topics related to “Laws and Regulations” in 2023, this included 6 different topic areas as outlined in the tables above, with 13 sessions and 699 students. These courses were offered on a frequency based on the level of demand, but no less than once per quarter during the year.

***Retail Motor-Fuel Dispensers Blended Course.*** In July 2023, OWM reported the development of its first “blended” training course. This “blended” training course consists of both virtual sessions and in-person sessions, with all students participating in the same format for a given segment of the course.

The first field inspection course selected for this is “Retail Motor-Fuel Dispensers.” The course is divided into approximately 8 segments. In addition to virtual sessions, the design of this course includes a final segment to be conducted as in an in-person session that will include a written exam and “hands-on” assessments of individual learners at a retail gasoline station. This design will develop a group of regional trainers to assist in regularly conducting the hands-on sessions.

Two virtual segments have been completed and were presented in July 2023 as pilot sessions to a group of volunteers and NIST staff. Three webinars were presented with a total of 22 participants. Additional segments are under development for presentation in 2024.

OWM extends a sincere “thank you” to the State of Louisiana’s weights and measures program and its staff for participating in and providing valuable feedback during these sessions and for agreeing to assist with other segments as they are developed.

***High-Precision Scales Training Course.*** NLMP staff Loren Minnich and Jan Konijnenburg are updating and finalizing a course developed in 2020 by prior NIST OWM staff members John Barton, Steve Cook, and Rick Harshman.

The course will be presented virtually and will include a series of videos to illustrate specific tests and features of these weighing devices and their applications. The term “high-precision scales” refers to scales used in applications such as jewelry, prescriptions, grain measurements, and cannabis. The target date for this course is late spring/early summer 2024.

***Information Hours – Field Inspection Topics.*** At the last several NCWM meetings, OWM has shared plans for the development of a series of informal, interactive “Information Hours” targeted at field inspection activities. Each NLMP staff member has been assigned to develop one of these sessions, which will be presented in a webinar format and include the opportunity for question-and-answer sessions. The sessions will be open to all interested students and will cover a variety of technical topics related to field inspections. Plans are to launch these sessions beginning in late spring 2024.

***Price Verification for NCWM National Survey.*** OWM has developed training on price verification inspections in conjunction with a national survey being conducted by the NCWM. Thus far, NIST OWM has offered four sessions in the tie frame of November 2023 to December 2023 and looks forward to working with NCWM on this project.

***NIST Handbook 112, NIST Examination Procedure Outlines (EPOs) – Update.*** OWM is in the process of preparing an updated publication of NIST Handbook 112. This project had been delayed due to staffing shortages and other changes but is now on track to be completed in spring 2024. This publication will update the NIST EPOs to reflect the current NIST Handbook 44 and other references. NIST plans to include enhancements and revisions to future editions to reflect feedback it has been collecting from its stakeholders.

**General – OWM Training**

OWM’s presentation material summarized the following statistics for OWM’s 2023 training as follows:

* 40 classes presented in-person and virtually on topics related to laboratory metrology, metric, laws and regulations, and device inspection and testing
	+ Laboratory Metrology Program (including metric-related training) – 24 classes
	+ National Laboratory Metrology Program – 16 webinars
* 1039 total students

***Course Formats.*** OWM is actively exploring and developing options for a mixture of in-person, blended, and virtual training as staffing and conditions permit. This includes “hybrid” courses in which some students attend virtually while others attend in person as well as “blended” courses which include both virtual and in-person options, but all students participate in the same format for different portions of the course.

OWM has reached a significantly larger number of students with virtual training and students who have never had the opportunity to attend NIST OWM training in the past have been able to access training because of the virtual format. It is clear that virtual training also offers the advantages of flexibility and reduced costs to learners as well as trainers and makes offering multiple sessions of a given course more practical. However, OWM is mindful of the need for “hands-on” or experiential learning components to its courses and is actively seeking options that will maintain those experiences for learners. Thus, OWM is experimenting with available technology and tools to best incorporate elements of “hands-on” in its field inspection training.

OWM is developing three blended and hybrid courses in the Laboratory Metrology Program and in the National Legal Metrology Program and has already presented three virtual sessions from a blended course on retail motor-fuel dispensers as part of a pilot program. Sessions for these courses may also include “asynchronous” formats in which learners can participate in portions of the class through pre-recorded presentations or interactive virtual formats.

***Informal Learning Resources.*** OWM is working to expand available “informal learning” tools targeted toward field inspection topics. This includes adding to existing informal learning resources currently offered by NIST such as study guides, examination procedure outlines, field manuals, and videos as well as exploring the development of new tools such as checklists and frequently asked questions to assist in field inspections. OWM redesigned its website in response to feedback collected through a survey of state weights and measures directors in spring 2023 and continues to refine it to make resources more readily accessible to all its stakeholders.

***Virtual Training Studio.*** NIST has made significant progress on the creation of a “Virtual Training Studio” at its Gaithersburg, MD campus, with significant monetary and facility support from OWM’s parent operating unit, the Physical Measurement Laboratory. This will include outfitting a virtual training space in NIST OWM offices for delivering virtual training and hosting web-based meetings such as work groups and standards development sessions. This “studio” will result in a mid-level space for conducting virtual training, live demonstrations, enhanced livestream capabilities, and other resources.

***Ongoing Updates.*** Mrs. Butcher will continue to provide updates to the Committee and NCWM members at future meetings about available OWM training and future training plans. In the meantime, she reminded those interested in OWM training, to periodically consult the OWM Calendar of Events for upcoming training at the following link on the OWM website:

<https://www.nist.gov/pml/weights-and-measures/about-owm/calendar-events>

NIST OWM looks forward to continued work with the weights and measures community to develop and implement training to assist weights and measures officials and service personnel in their continued professional development.

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: The PDC Chair reviewed the item using updated slides with comments provided by Tina Butcher (NIST OWM). Doug Rathbun (Illinois) commented on the cost of NVLAP, citing that previously the cost of this service was covered by NIST.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: Mike Harrington, Iowa took NIST online classes and found them to be very helpful. Requests more on demand video training. Helpful to justify job class increase.

Steve Peter, Wisconsin, Developing Training videos in Wisconsin. As they move into editing those videos they will be reaching out for feedback. Service agents have been requesting where to find training materials.

Wes Sommerfield, Iowa, took online LP Cylinder training and found it very helpful.

Greg Vanderplaats, Minnesota, NCWM exam have their modules and objectives posted on the NCWM website for each exam and NIST has HB 44 self-study available.

Greg Vanderplaats, Minnesota. Goal for NCWM RSA exam is to have one test that other states may recognize.

The committee recommends this as an informational item.

WWMA 2023 Annual Meeting: WWMA PDC Chair, Miland Kofford (Utah) recognized Dr. Katrice Lippa (NIST OWM) for her update earlier in the meeting introductions and thanked NIST OWM for the presentation.

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: The PDC heard no comments on this item and recommends the item remain an informational item.

NEWMA 2023 Interim Meeting: During the NEWMA Interim Meeting Ethan Bogren (Westchester Co., NY) the NCWM PDC Chair discussed correspondence sent to the NCWM PDC members by Michael Cleary (California, Retired) that suggested that the NCWM Field Training Manuals be prioritized and catalogued for accessibility. Jason Flint (New Jersey) suggested that the PDC oversee the development of future Field Training Manuals. Mr. Flint suggested subjects for training manuals include automatic bulk weighing systems and multi dimension measuring devices. Several regulators expressed support for the development of more Field Training Manuals. Cheryl Ayer (New Hampshire) noted that the manuals are live digital documents that can be edited by NCWM when necessary.

The committee recommends this as an informational item.

EDU-3 I Instructor Improvement

The Committee has reiterated multiple times in the past that the responsibility for the training employee 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.

NIST OWM has also provided ongoing contributions to assist the community in the development of instructors. OWM has provided legal metrology training for weights and measures jurisdictions and industry for many years but does not have the resources to respond to the numerous training requests it receives. OWM has long recognized that there are many individuals with extensive legal metrology experience who have the skills needed to provide this type of training. OWM hopes to continue 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. In the past ten years, NIST OWM has taken on more field inspection classes than it would otherwise be able to do because of the co-instructors drawn from its current pool of trainers.

Mrs. Tina Butcher (NIST OWM) has routinely updated the Committee on instructor development work by NIST OWM and has regularly emphasized that OWM sincerely appreciates the time and resources committed by these trainers and their organizations in support of this important partnership and the expertise that these trainers bring to NIST training events and looks forward to continued collaboration. During the 2023 NCWM Annual Meeting, Mrs. Butcher touched on the topic of ‘blended’ training programs which use a blend of training delivery methods (e.g., combining virtual training mechanisms such as instructor-led webinars, on-demand or self-study with in-person hands-on content) during discussions on this item. She noted this may also be a path to revive the ‘training the trainer’ initiative and grow outreach.

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.

See the Committee’s past reports for background information on this item along with other details on available tools for trainer development and NIST OWM’s efforts and partnership with the NCWM to continue this work.

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: During the 2024 Interim Meeting open hearings, PDC Chairman Ethan Bogren presented an update on NIST OWM Training prepared by NIST PDC Liaison, Tina Butcher, who was unable to attend the meeting due to budget restrictions.

OWM reports that it has not undertaken any new work in the area of external instructor improvement in 2023. Plans are underway to include the use of external trainers in a new blended course on “Retail Motor-Fuel Dispensers.” OWM hopes to be able to share an update on these plans by the NCWM Annual Meeting in July 2024.

If successful, this model may be used for other field inspection training offered by OWM.

The PDC Chair discussed the concept of “Blended” training programs being developed by NIST OWM. This concept involves training modules that consist of both in-person and virtual sessions. The first “Blended” training course will be on retail motor fuel devices. If successful this concept will be applied to other field inspection training. Matt Douglas (CA) suggested an updated list of trainers including their respective regions and areas of expertise be provided. Mr. Douglas also commented on training possibly being provided using available web-based meeting platforms.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: No Comments

The committee recommends this as an informational item.

WWMA 2023 Annual Meeting: David Aguayo (San Luis Obispo County, CA) – Appreciates and supports efforts for online training that provides consistency with current staff turnover rates.

Kevin Schnepp (Division of Measurement Standards, CA) – Appreciates the challenge to find qualified trainers for NIST training. Recommends focusing on identifying SMEs as trainers in regions and develop talent.

Miland Kofford (UT) – Appreciates NIST for online training. Recognizes jurisdictions are responsible for training but appreciates the help and guidance from NIST.

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: The PDC heard no comments on this item and recommends the item remain an informational item.

NEWMA 2023 Interim Meeting: During the 2023 NEWMA Interim Meeting Cheryl Ayer (New Hampshire) suggested that NIST Web based training sessions be more accessible. Ms. Ayer cited an instance where she became aware of an upcoming webinar she thought would be of benefit to a member of her staff, however the inspector could not participate because the registration had closed. Ms. Ayer suggested that Webinars be recorded and then made available for review for those that were not able to participate or for future reference. Marc Paquette (Vermont) suggested a Train the Trainer type program for metrologists.

The committee recommends this as an informational item.

EDU-4 I Recommended Topics for Conference Training

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 topics and to submit those to the NCWM Chairman. The Chairman will coordinate with NCWM staff to secure presenters.

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-archive](https://www.ncwm.com/annual-archive).](http://www.ncwm.net/meetings/annual/archive)

* 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 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)

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: The PDC chair presented possible training topics that were discussed during the regional meetings, including volumetric testing of bulk motor oils and diesel exhaust fluid and comprehensive training on e-commerce regulation. Matt Douglas (CA) discussed training on Robert’s Rule of Order and type approval requirements for software. Justin Wilson (Charge Point) suggested training be offered on HB 44 requirements concerning the application of the EVSE code in the HB. Mahesh Albuquerque (CO) discussed part of the BOD’s overall strategic plan is to hold smaller scale more focused trade show type conferences starting with EVSE providing guidance on how to launch a program centered on recently adopted HB 44 requirements. Mr. Albuquerque stated that he would be communicating with regions to foster participation in the organization of the event.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: Mike Harrington, Iowa, wants to continue having professional development programs at conferences. This helps with justification for expense of going to conferences.

The committee recommends this as an informational item.

WWMA 2023 Annual Meeting: Kurt Floren (Los Angeles County, CA) – Recommends comprehensive e-commerce training. He commented on the need for uniform training to avoid possible inconsistencies. Consistency will be critical in regulating this marketplace.

Mahesh Albuquerque (Division of Oil and Public Safety, CO) – BOD discussed training for future regional meetings. Reach out to Roxanne Chepsongol (NM) or anyone on the BOD with recommended training topics.

Matt Douglas (Division of Measurement Standards, CA) - Recommends training on the Roberts Rule of Order. He feels it would be beneficial to the committees. He also believes a training portion for committee chairs would help them know their boundaries. What questions they can ask and what their role is.

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: The PDC heard no comments on this item and recommends the item remain an informational item.

NEWMA 2023 Interim Meeting: During the 2023 NEWMA Interim Meeting Cheryl Ayer (New Hampshire) suggested gravimetric testing procedures for bulk motor oils as a training topic. Jason Flint (New Jersey) agreed with Ms. Ayer and suggested that gravimetric testing procedures could also be applied to DEF. Several other regulators agreed that conference training on gravimetric testing procedures for motor oil and DEF is needed.

The committee recommends this as an informational item.

# PMT – PROGRAM MANAGEMENT

PMT-1 I Safety Awareness

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

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

At the 2018 Annual Meeting, the NCWM BOD decided to make the task group a permanent subcommittee associated with the PDC. The newly formed Safety Subcommittee will assume responsibility for:

* Maintaining and updating the safety toolkit.
* Writing and deploying the NCWM annual safety survey, as well as reporting on the results each year.
* 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 the Safety Subcommittee

The Safety Subcommittee 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 information they need before completing the survey.

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

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| **Safety Subcommittee Members** |
| Chair | John Bell | Missouri |
| Public Sector Member | Jason Flint | New Jersey |
| Private Sector Member | Tisha Arriaga | Marathon Petroleum, LLC |
| Private Sector Member | Bill Callaway | Crompco |
| Private Sector Member | Remy Cano | Northwest Tank & Environmental Services |
| Private Sector Member | Robert LaGasse | Mulch and Soil Council |

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

**Regional Safety Liaisons:**

**Central Weights and Measures Association (CWMA)**
Mr. John Bell, Missouri Department of Agriculture

**Northeastern Weights and Measures Association (NEWMA)**
Mr. Michael Peeler, New Jersey Weights and Measures

**Southern Weights and Measures Association (SWMA)**
Mr. Robert Huff, Delaware Department of Agriculture

**Western Weights and Measures Association (WWMA)**
Mr. Remy Cano, Northwest Tank & Environmental Services

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 Date** | **Source** | **Article Deadline** |
| Issue 2 (May 2023) | NEWMA | April 15, 2023 |
| Issue 3 (September 2023) | CWMA | August 13, 2023 |
| Issue 1 (February 2024) | WWMA | January 15, 2024 |
| Issue 2 (May 2024) | SWMA | April 15, 2024 |

The Committee would like to thank the following individuals for their contributions since the 2021 Annual Meeting:

* *A Resource For Safety*– Mr. John Bell (MO)
* *The Danger Zone of Familiarity* – Mr. Ron Armstrong (NWTES)
* *Ergonomics and Musculoskeletal Disorders* – Mr. Ron Armstrong (NWTES)
* *Taking Unnecessary Risks* – Mr. Robert Huff (DE)
* *Food Safety and the Weights and Measures Inspector* – Mike Peeler (NJ)
* *Metrology Laboratory Safety* – John Bell (MO)

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: The PDC Committee Chair updated membership on the filling of the previous vacancy for the position of NEWMA Regional Safety Liaison. This position has been filled by Michael Peeler (New Jersey). A brief Safety Subcommittee update was provided by David Fraser (Montana). Mr. Fraser noted that activity had been limited during 2023. Mr. Fraser suggested that the hazards and proper handling of lead as a possible topic. Matt Douglas (CA) suggested that EVS testing safety for inspectors as a topic.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: No Comments

The committee recommends this as an informational item.

WWMA 2023 Annual Meeting: Kevin Schnepp (Division of Measurement Standards, CA) – Recommends EVFS safety training.

David Aguayo (San Luis Obispo County, CA) – With staffing changes, the safety page on the NCWM site is utilized often. Supports a regular safety newsletter or updates. Recommends a new NCWM safety survey with published results.

David Sefcik (NIST OWM) – Suggests WWMA partner with industry to ask for safety training and guidance at the session on Wednesday (September 20, 2023).

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: The PDC heard no comments on this item and recommends the item remain an informational item.

NEWMA 2023 Interim Meeting: During the 2023 NEWMA Interim Meeting Jason Flint (New Jersey) recommended that NEWMA Safety Liaison Mike Peeler (New Jersey) replace him on the NCWM Safety Subcommittee. Jim Willis (New York) commented that he would like to see a repository to document accidents and safety issues. These shared experiences will help promote a culture of safety awareness. Cheryl Ayer (New Hampshire) noted that since Julie Quinn (Minnesota, Retired) completed her tenure as chair of the Safety Subcommittee the committee has not conducted any safety surveys. This information was found to be useful in targeting areas of need related to safety awareness. In addition, Ms. Ayer suggested a repository of safety resources be compiled. She noted that on the NCWM website OSHA is the only resource currently listed.

The committee recommends this as an informational item.

PMT-2 I Skimmer Education Task Group

This is a new agenda item added to the report by the PDC after the Publication 15 printing deadline.

The Skimmer Education Task Group (SETG) held its first meeting during the 2021 Annual Meeting. The SETG is made up of industry members, regulatory officials, and interested parties for the purpose of continuing work identified by the S&T Committee’s Credit Card Skimmer Task Group. Under the guidance of the Professional Development Committee (PDC), the task group will develop education and outreach strategies and gather or produce materials to educate regulatory officials, fuel retailers, industry members and consumers on payment card information theft via skimming devices. The SETG will provide information and organize education sessions to share recommendations for safety procedures and technologies to better protect consumer payment information and reduce the risk of skimmer installation at fuel dispensers. The SETG will continue in force until the task group Chair and the PDC Chair agree the work has been completed. The task group may also be disbanded by vote of the NCWM Board of Directors. The task group will meet via electronic media, teleconferences, face-to-face meetings, or other means available.

Co-Chair, Ms. Paige Anderson (NACS) provided a report of their meeting held on January 10, 2021 during the open hearing. Following is a summary of her remarks.

The SETG expressed their appreciation for the leadership and assistance of Mr. Hal Prince (FL), the NCWM board and staff, Mr. David Aguayo (San Luis Obispo Co., CA) and the PDC in helping to create the Task Group. Many of the Task Group members worked on the policy item before the Specifications and Tolerances (S&T) Committee to establish user requirements on fuel dispensers to prevent skimming, and during that time recognized the importance of education and training.

The SETG’s mission to educate the membership and bring together all stakeholders in sharing information on skimming. The SETG recognizes that technology changes include the devices used to steal debit and credit card information, the technology to prevent these thefts, and the criminals become more organized and sophisticated. NCWM provides a powerful platform to bring together all stakeholders – state officials, law enforcement, manufacturers, service companies, retailers, security providers and consumers.

In organizing the SETG, it was decided that having co-chairs representing both regulatory officials and the private sector demonstrates partnership in combatting skimming and the criminal organizations.

The SETG held their first meeting on Sunday, January 10th, 2021 via web conference. The number of attendees who attended the meeting was remarkable. It clearly demonstrated that there is a significant need for knowledge on this issue. The SETG discussed and finalized their 2021 goals. The two goals are to:

1. Establish a library of resources for the public on the NCWM website. The resources will consist of videos, articles, reports, checklists, contact information, best practices, and other information. The SETG recognized that there may be some sensitive or proprietary data that should not be put on the public-facing website but may be shared with the membership or a targeted group of the membership. Alternative distribution methods would be determined and used in these cases. Communicating the availability and location of these resources to the membership and beyond is an important element of the strategy and project.
2. Host presentations and briefings from subject matter experts at future NCWM meetings. The SETG is planning to provide such a briefing at the Annual meeting in July 2021. The SETG is looking at 3 key constituencies to provide presentations:
	* Law enforcement - overview of the landscape of activity on skimming (e.g., U.S. Secret Service)
	* Private sector security experts - to share what they are seeing and describe the types of technology being used by the criminals and methods used to combat skimming
	* Retail/industry - updates on the transition to EMV card readers, etc.

The SETG is also working to identify other key stakeholders to either present or to join the SETG. These key stakeholders included financial institutions such as banks, credit card providers, and credit unions.

The SETG welcomes volunteers and encourages participation from all members. If you or your staff are interested, contact members of the PDC or the NCWM staff.

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| **Skimmer Education Task Group Members** |
| Co-Chair | Alan Walker | Florida |
| Co-Chair | Robert Huff | Delaware |
| Public Sector | Bobby Fletcher | Louisiana |
| Public Sector | John Larkin | California |
| Public Sector | Mike Harrington | Iowa |
| Public Sector | Vince Wolpert | Arizona |
| Public Sector | Scott Borse | PEI |
| Public Sector | Owen Dewitt | FlintLoc Technologies, LLC |
| Public Sector | Brent Price | Gilbarco, Inc. |
| Public Sector | Mike Roach | Invenco Payment Systems |
| Public Sector | Scott Schober | Berkley Varitronics Systems |

**NCWM Meeting Comments:**

NCWM 2024 Interim Meeting: The PDC Chair provided an update regarding the group. Alan Walker (Florida) and Robert Huff (Delaware) have assumed leadership roles as co-chairs of the Task Group. With new leadership in place the Skimmer Education Task Group will likely be renamed to reflect to demand that the role of the group be expanded to address other types of fraud due to the waning instances of skimmer activity being found throughout the states. Kurt Floren (LA County, CA) has reiterated his suggestion from the previous NCWM meeting that the scope of the work include EBT benefits fraud and other types of fraud that are not necessarily affiliated with retail motor fuel devices. Matt Douglas (CA) supported the name change and agreed that the scope of work of the group be expanded and has shown support for Mr. Floren’s comments that EBT benefit fraud be considered as a topic to be addressed by the group. Tim Chesser (Arkansas) suggested the group possibly consider fraud involving payment apps commonly used by cellular phone users.

**Regional Association Comments:**

CWMA 2023 Interim Meeting: Brenda Geist, Kansas, Kansas does not want to see this task group disbanded. States need to be proactive on skimmers.

Mike Harrington, Iowa, Skimmer Education Task Group needs a chair. Anyone interested can let Mike Harrington know and he will pass it on to the Task Group.

The committee recommends this as an informational item.

WWMA 2023 Annual Meeting: Matt Douglas (Division of Measurement Standards, CA) – Supports and appreciates the Task Group, recommends adding pulser technology and include other devices that facilitate fraud.

Gene Robertson (NCWM Chair) – Named Alan Walker (FL) as co-chair of Task Group and suggests name change to include more types of fraud activities.

Vince Wolpert (AZ) – Arizona recently saw pulser and multiple skimmer devices causing losses over $3,000. The technology is advancing, and AZ is seeing different designs. Supports expanding the group to include all types of fraud.

Kevin Schnepp (Division of Measurement Standards, CA) – Echoes Vince Wolpert’s comments and recommends name change to “Fraud Prevention Task Group”.

Kurt Floren (Los Angeles County, CA) – Reiterates NCWM Annual Conference comments about EBT and WIC benefit thefts growing in LA County and more USDA money is being stolen. Thefts of government benefits have gone from hundreds of thousands to hundreds of millions of dollars. This will eventually affect state Departments of Agriculture budgets. Taking on this issue may help secure funding from USDA and other federal programs to support fraud prevention and investigation. Suggests continuing to pursue the issue.

The committee recommends this as an informational item.

SWMA 2023 Annual Meeting: Alan Walker (FL) has volunteered to Chair the Skimmer Education Task Group. The PDC recommends continuing the Skimmer Education Task Group and look forward to the work they are doing.

NEWMA 2023 Interim Meeting: During the 2023 NEWMA Interim Meeting Jimmy Cassidy (Massachusetts) suggested that the scope of work of the TG be expanded to include other types of fraud. It was suggested that the TG begin to look at instances of fraud involving other devices as well as RMFD. Several other regulators commented on the need to keep the TG active and agreed that expanding the scope of work should be considered.

The committee recommends this as an informational item.

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Mr. Brian Fuller, Iowa | Committee Chair

Mr. Greg VanderPlaats, Minnesota | Member

Mr. Konrad Crockford, North Dakota | Member

Ms. Lauren Lee, Michigan | Member

Mr. Ryan Rodgers, Hoidale Company | AMC Representative

Mrs. Sherry Turvey, Kansas | NCWM Representative

**CWMA Professional Development Committee**

**Appendix A**

**Summary of NIST OWM Training Conducted in 2023**

(PDC Agenda Item EDU-2)

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| **Summary of NIST OWM Training Conducted in 2023** |
| **Area/Course Name** | **Start Date** | **Location** | **No. of****Students** |
| **Laboratory Metrology** |
|  Advanced Mass Seminar (Rev 2015) | 07/17/23 | Gaithersburg, MD | 6 |
|  Fundamentals of Metrology (3 sessions) | 1/30/23; 2/27/23; & 8/7/23 | Gaithersburg, MD | 26 |
|  Fundamentals of Metrology – IAOO Participants | 5/22/23 | Gaithersburg. MD | 11 |
|  Mass Metrology Seminar (2 sessions) | 2/6/23 & 4/10/23 | Gaithersburg, MD | 16 |
|  Volume Metrology Seminars | 8/14/23 | Gaithersburg, MD | 5 |
|  **Information Hours** |
|  Training Requirements for New Metrologists | 9/07/23 | Web-based | 32 |
|  **Regional Measurement Assurance Programs (RMAPs)** |
|  SEMAP | 3/27/23 | Nashville, TN | 17 |
|  WRAP | 5/15/23 | Anchorage, AK | 16 |
|  NEMAP | 6/12/23 | Albany, NY | 17 |
|  SWAP | 8/28/23 | Little Rock, AR | 21 |
|  MidMAP | 9/25/23 | Chicago, IL | 22 |
|  **Webinars** |
|  Basic Uncertainty Concepts | 9/14/23 | Web-based | 11 |
|  Calibration Certificate Evaluation | 6/22/23 | Web-based | 10 |
|  Document Control and Record Keeping | 8/17/23 | Web-based | 11 |
|  State Laboratory Annual Submission Process | 7/6/23 | Web-based | 55 |
|  **Metric** |
|  Info Session – Metric Education Resources | 2/9/23 | Web-based | 16 |
|  Info Session – Metric System Estimation (2 sessions) | 2/23/23 | Web-based | 6 |
| 8/31/23 | Web-based | 9 |
|  Measurement System Basics – SI and US Customary Units for Regulatory Officials | 3/02/23 | Webinar | 11 |
| **Laws and Regulations** |
|  **Packaging & Price Verification** |
|  NIST Handbook 130 – Examination Procedure for Price Verification (2 Sessions) | 1/03/23 & 5/02/23 | Web-based | 124 |
|  NIST Handbook 130 – Overview of the Uniform Packaging and Labeling Regulation (3 sessions) | 1/19/23; 2/27/23;5/01/23 | Web-based | 160 |
|  NIST Handbook 133 – How to Test Animal Bedding (2 sessions) | 1/04/23 & 4/25/23 | Web-based | 54 |
|  NIST Handbook 133 – Overview of Handbook 133 (2 sessions) | 1/17/23 & 4/20/23 | Web-based | 149 |
|  Weights and Measures Inspections – Evidence, Search and Seizure, and Due Process (2 sessions) | 1/25/23 & 4/24/23 | Web-based | 121 |
|  LPG (Propane) -Verifying the Net Contents of 20 lb Cylinders (Part 1) (2 sessions) | 1/24/23 & 4/19/23 | Web-based | 91 |
| **Legal Metrology Devices** |
|  Retail Motor-Fuel Dispensers - Part 0 – Course Overview, Blended Course (Pilot Session) | 7/19/23 | Web-based | 6 |
|  Retail Motor-Fuel Dispensers - Part 0 – Course Overview, Blended Course (Pilot Session) | 7/21/23 | Web-based | 6 |
|  Retail Motor-Fuel Dispensers, Blended Course - Part 4 – Test Notes (Pilot Session) | 7/24/23 | Web-based | 10 |

**Appendix B**

**NIST OWM Training: Future Plans – Updated Information**

(PDC Agenda Item EDU-2)

**No current commitments to in-person training for 2021**

* All in person field inspection classes postponed until further notice

**Training in FY 2022**

* Travel restrictions may lift later this summer
* Continuing to assess as the situation unfolds
	+ Local pandemic restrictions
	+ Travel restrictions for training staff and students
* Unclear how pandemic related restrictions will affect NIST OWM’s future in-person training for all programs
	+ Impact of social distancing requirements on classroom size, configuration, and ability to present to groups of students
* Lab Metrology Program closely watching NIST OWM policies regarding hosting events in-person

**Training Going Forward**

* Will continue to offer virtual training
* Plan to expand available virtual training topics
* Experimenting with available technology and tools to best incorporate elements of “hands on” in-field inspection training

**Virtual Training Space**

* Significant progress on outfitting a virtual training space at NIST for OWM’s use in delivering virtual training
	+ Small group within OWM has been working with their NIST staff to plan this effort
	+ Space has been allocated and equipment purchases are in progress
	+ Significant support from the Physical Measurement Laboratory (OWM’s larger operating unit)
	+ Looking forward to beginning work on this space

**OW­­M Trainers**

* Participating in a variety of training courses as part of their professional development
	+ Virtual training design, development, and delivery

**Considering Development of Hybrid Courses**

* For uses during and after pandemic
* Virtual sessions coupled with hands-on sessions using virtual technology and/or local on-site trainers to help facilitate

**See OWM Calendar of Events for Upcoming Training**

* [www.nist.gov/newsevents/upcomingevents/org/6436](http://www.nist.gov/newsevents/upcomingevents/org/6436)
* Note: A series of three new webinars planned on the topic of LPG Cylinder Refilling
	+ LPG (Propane) – Verifying the Net Contents of 20 lb Cylinders (Part 1)” already in progress with several upcoming sessions