CWMA Professional Development Committee (PDC)
2018 Annual Meeting Report

Ms. Brenda Geist, Committee Chair
Kansas

INTRODUCTION

The PDC Committee (hereinafter referred to as the "Committee") submits this Committee Interim Report for consideration by National Conference on Weights and Measures (NCWM). This report contains the items discussed and actions proposed by the Committee during its Interim Meeting in St. Pete Beach Florida, January 21-24, 2018. The report will address the following items in Table A during the Annual Meeting. Table A identifies the agenda items by reference key, title of item, and page number and addresses the appendices by appendix designations and page number. The acronyms for organizations and technical terms used throughout the report are identified in Table B. The first three letters of an item's reference key are assigned from the Subject Series List. The status of each item contained in the report is designated as one of the following status: **(D) Developing Item:** the Committee determined the item has merit; however, the item was returned to the submitter or other designated party for further development before any action can be taken at the national level; **(A) Assigned Item:** the committee has assigned development of the item to a recognized subcommittee or task group within NCWM. **(I) Informational Item:** the item is under consideration by the Committee but not proposed for Voting; **(V) Voting Item:** the Committee is making recommendations requiring a vote by the active members of NCWM; **(W) Withdrawn Item:** the item has been removed from consideration by the Committee.

Some Voting Items are considered individually; others may be grouped in a consent calendar. Consent calendar items are Voting Items that the Committee has assembled as a single Voting Item during their deliberation after the Open Hearings on the assumption that the items are without opposition and will not require discussion. The Voting Items that have been grouped into consent calendar items will be listed on the addendum sheets. Prior to adoption of the consent calendar, the Committee will entertain any requests from the floor to remove specific items from the consent calendar to be discussed and voted upon individually.

Committees may change the status designation of agenda items (Developing, Assigned, Informational, Voting and Withdrawn) up until the report is adopted, except that items which are marked Developing, Informational or Withdrawn cannot be changed to Voting Status. Any change from the Committee Interim Report (as contained in this publication) or from what appears on the addendum sheets will be explained to the attendees prior to a motion and will be acted upon by the active members of NCWM prior to calling for the vote.

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 **<u>underlining</u>** information to be added. Requirements that are proposed to be nonretroactive are printed in ***bold faced italics***. Additional letters, presentations and data may have been part of the Committee's consideration. Please refer to https://www.ncwm.net/meetings/annual/publication-16 to review these documents.

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 List

Education ..... EDU Series
Program Management ..... PMT Series
Other Items ..... OTH Series

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Appendix

A EDU-1: Additional Statistics on Professional Certification A1

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 Nation al 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 Association
		WWMA	Western Weights and Measures Association

Details of All Items
(In order by Reference Key)

EDU – EDUCATION

EDU-1 I Professional Certification Program

Professional certifications are offered in many professions as a means of demonstrating competence in a specific field of expertise. Certification may be a means of qualifying an individual for employment or a higher pay grade within a profession. The NCWM Professional Certification Program provides confidence that an individual has a strong understanding of U.S weights and measures standards as adopted by NCWM and published in NIST Handbooks, 44, 130, and 133.

Professional certification is available to NCWM members and non-members alike within the private and government sectors. Please note that the person taking the test must be an NCWM member to take the exams for free. Professional Certifications are now available in six areas covering (in order of deployment): Retail Motor Fuel Devices, Small Capacity Scales Class III, Package Checking – Basic, Medium Capacity Scales, Large Capacity Scales, and Vehicle-Tank Meters.

The Committee is encouraged to see states and industry utilizing the program in positive ways. Entities are incorporating certification as a part of probation requirement for new hires. While others use them as an important part of their training programs to measure progress. Some states have even used certifications to justify additional compensation or changes in classification.

In December 2016, the Certification Coordinator delivered the materials for two new, basic competency exams. The NCWM staff is in the process of posting these exams to the testing website. The basic competency exams were created to provide an objective measure of development of new hires among regulatory officials and potentially test service agents for basic knowledge of weights and measures requirements. However, deployment of these new exams is on hold until the NCWM can establish a proctoring system to better ensure the integrity of the testing process. (See discussion later in this item.)

Work continues on additional certification exams. Priorities had been set to complete LPG Meters, Precision Scales, and Price Verification. The PDC is always looking for additional Subject Matter Experts (SME) volunteers for all active projects. Any interested parties should contact Mr. Andersen through NCWM Office at info@ncwm.net or at 402 434 4880 for further details. The SME volunteers are the real heart of the certification program. The successful creation of these exams is dependent on willing volunteers.

All materials for the Professional Certification Program may be found on the NCWM website, by holding your pointer over the Professional Certification title on the top navigation bar. You can find all the existing modules with learning objectives at the same location by selecting Body of Knowledge. The Body of Knowledge page shows the curriculum workplan. There you will find the hyperlinked active modules. Select your study program of choice and download to your computer. The NCWM modules are intended for wide distribution and may be freely copied.

Status of Current Tests
The NCWM has issued 778 professional certificates from the inception of the Professional Certification Program to September 30, 2017. 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 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 NCWM staff to alert certificate holders prior to expiration. Both the Committee and NCWM are hopeful this will help facilitate with recertification. The NCWM Executive Director has advised the Committee he will work with staff to begin notifying expiring certificates holders several months in advance. This would allow certificate holders time to prepare in retaking the exams.

Number of Certificates NCWM Has Issued as of the end of Fiscal Year 2016 (September 30th)							
	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17
Count in Year	44	94	106	60	199	135	140
Cumulative	44	138	244	304	503	638	778

Certification (posted)	Certificates
RMFD (5/2010)	306
Small Scales (8/2012)	179
Package Checking (8/2012)	111
Medium-Capacity Scales (4/2015)	75
Large-Capacity Scales (4/2015)	55
Vehicle-Tank Meters (4/2015)	52

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 two certificates in Arkansas are private sector individuals. This data only includes certificates which have not expired as of September 30, 2017. The list shows those states with the highest utilization of the program. The table values include activity since program inception and may include expired certificates.

State	Certificates
Missouri	102
Minnesota	92
Maryland	70
Washington	48
Mississippi	45
Virginia	41
Kansas	36
Wisconsin	36
Nebraska	33
California	30
Alaska	25
North Carolina	25
New Mexico	23
Nevada	22

More information on current exam utilization and results may be found in Appendix A.

Certification Program Improvement
The Committee continually works to improve the exams and the exam experience. A key goal is to make sure the exams stay meaningful and current as handbook changes are made. This includes an annual review of the current exams by the Certification Coordinator.

At the regional meetings candidates expressed concern there was insufficient time to complete Part 1 of the Package Checking Exam. Analysis of FY 2016/17 data indicated many people used all time allowed for Part 1. Comparisons with previous years indicated the same problem existed, but to a lesser extent. The Committee reviewed the analysis and agreed to move five minutes from Part 2 to Part 1.

In order to obtain valuable feedback on the Certification Program, the Committee has created an exit survey which will be implemented using Survey Monkey. The questions on the exit survey will address some general assessment of the candidate's position and experience, mechanics of taking the exam, preparation for taking the exam, and general feedback (e.g., How did the candidate react to the content of the exam? Was it challenging? Was it too easy? Did the candidate feel the exam was fair?). The Committee will be working with NCWM staff to deploy the survey. When it is ready, we will create links to the survey from the NCWM website and possibly also include the link with the email of the exam results. We highly encourage candidates to take the survey after their exam experience.

Proctoring

The Committee keeps the goal of accrediting the Professional Certification Program as an important long-term objective. The PDC endeavors to create an infrastructure which will eventually support accreditation. Proctoring is an infrastructure item we believe necessary to accreditation. The Committee worked on a set of guidelines for proctoring. These guidelines impact both the candidate and the proctor. For the candidate, the guidelines will prohibit bringing materials into or taking materials out of the exam, having a cell phone activated, accessing the internet or other computer programs while taking the exam, etc. For the proctor, the guidelines will establish who can serve as a proctor (with approval of NCWM). The Committee is looking at allowing state weights and measures divisions to provide the proctor, but is recommending that the proctor be someone other than an immediate supervisor. It could be someone from the personnel department or some independent third party. The guidelines specify what the proctor must provide to the candidate, such as: scrap paper, clean copies of pertinent NIST Handbooks, computer access, a quiet environment to take the exam, etc. It further requires the proctor to collect all scrap paper, as no written materials may be removed from the testing site in order to protect the integrity of the questions.

At the Interim Meeting the Committee provided a revised draft of the guidelines to the Board for final action.

Regional Association Comments:
At its 2017 Annual Meeting, the WWMA heard the following comments during its open hearings:

- The first certification exams are nearly five years old. Will certificate holders receive notification about pending expiration of certifications and notice to recertify?
- The charts show there are quite a few states that have not had employees participate with the certification exams. Can NCWM find out the barriers and impediments to participation? Perhaps send out a survey or convene a focus group for this purpose.

The WWMA recommended this item be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Annual Meeting, the SWMA received no comments on this item and recommended it be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Interim Meeting, the CWMA heard comments from Don Onwiler (NCWM), who mentioned that proctoring is mandatory to be a certified program and a director or designated individual is permissible to be the proctor. Test questions are reviewed annually and are taken from the most current version of the handbooks. A question was raised that individuals want to know what they missed, but Don said this would be considered

training. This cannot be done to be accredited. John Albert (MO) indicated his inspectors preferred to repeat tests without a cooling off period. The CWMA recommended retaining this item as an Information Item on the NCWM PDC's Agenda.

At its 2017 Interim Meeting, NEWMA reported it was very pleased to hear that some jurisdictions are using the exams and certifications to justify increases in compensation for inspection staff and supports informing other jurisdictions of this possibility, Incentives can be used to encourage an increase in the participation rate for the Professional Certification Program which can have a positive impact on knowledge, skills, and professional development in the Weights & Measures community. NEWMA supports moving the basic competency exams forward in hopes that they can be utilized for new inspection staff and service company employees. The committee supports considering ways to make the pass-fail rate statistics for the Professional Certification exams available to members. An example could be a supporting document to the NCWM Publication 16 Report, accessible through a web link. This would make more information accessible without having to include a significant amount of printed information in Publication 16. NEWMA supports moving the proctoring process forward and addressing questions and defining requirements for the proctoring process. NEWMA recommends working with the Board of Directors to answer questions of the proctoring issue. NEWMA recommended retaining this item as an Information Item on the NCWM PDC's Agenda.

CWMA Report
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☒ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda (*In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
No comments.

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.

Tina Butcher (NIST OWM) has continued to provide updates on training provided to the weights and measures community by NIST OWM. Prior to the 2018 Interim Meeting, Mrs. Butcher submitted an update to the Committee of the NIST courses completed in 2017; this information was included in the Committee's presentation during its Open Hearings and is available in the Committee's presentation located with the PDC documents on the NCWM website. Training schedule for 2018 is listed below. *Note that the list below includes some updates made following the Interim Meeting.* Scheduled training is contingent on NIST OWM's budget and anyone interested in these courses should consult OWM's "Calendar of Events" at:

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

Packaging & Price Verification

NIST HB 133 –Checking the Net Contents of Packaged Goods, Basic:
- October 2017 – Sacramento, CA (completed)
- March 26-29, 2018 – Lebanon, MO
- April 16-19, 2018– Montgomery, AL
- May 14-17, 2018 – Plantation, FL

NIST HB 133 – Chapter 3 – Volumetric
- February 5-8, 2018 – San Diego, CA

NIST HB 130 - Packaging & Labeling
- March 12-15, 2018 – Orange County, CA
- June 5-7, 2018 – Cleveland, OH

Price Verification
- October 2017 – SWMA Annual Meeting (completed)
- February 9, 2018 – San Diego, CA
- May 18, 2018 – Plantation, FL

Laboratory Metrology

Fundamentals of Metrology
- December 4-8, 2017
- February 5-16, 2018

Mass Metrology Seminar
- October 23-November 3, 2017
- April 16-27, 2018
- May 14-15, 2018

Advanced Mass Seminar
- August 13-23, 2018

Volume Metrology
- June 4-8, 2018

Webinars – Feb 2018 through October 2018
- Multiple webinars offered; see OWM Calendar of Events
- Topics including:
  - Calibration Certificate Evaluation;
  - Conducting Management Review;
  - Calibration Method Evaluation;
  - Internal Auditing; Software Verification & Validation;
  - Contract Review; and
  - Document Control & Recordkeeping

Regional Measurement Assurance Programs
- Southwestern Measurement Assurance Program (SWAP)
  - October 2-5, 2017
  - September17-20, 2018
- Southeastern Measurement Assurance Program (SEMAP) – April 30 – May 3, 2018
- Western Regional Metrology Assurance Program (WRAP) – May 7-10, 2018
- Northeast Measurement Assurance Program (NEMAP) – September 10-13, 2018
- MidAmerica Measurement Assurance Program (MidMAP)
  - October 16-19, 2017

- October 1-4, 2018 (FY 19)

Weighing and Measuring Devices

Compressed Natural Gas Metering Systems
- April 17-19, 2018 – Sacramento, CA

Livestock and Animal Scales
- April 10-12, 2018 – Harrisonburg, VA

LPG Liquid-Measuring Systems
- May 14-18, 2018 – Sacramento, CA
- June 11-15, 2018 – Columbus, OH

Retail Motor-Fuel Dispensers
- October 23-27, 2017 – PA W&M Association – Harrisburg, PA (completed)

Regional Association Comments:
The WWMA PDC Committee heard the following comments during its 2017 Annual Meeting Open Hearings and recommends maintaining this item as an Information item on the NCWM PDC Agenda:

- Is there a way to provide more technical training to industry representatives? Several commenters said this would be valuable for them to participate and they would understand the regulator's perspective more.
- Another commenter stated that it is difficult for businesses to send service agents to trainings that are a week long; it is expensive to have them in training and not working.
- Industry has been participating with some training events with successful results.
- The NIST website is a valuable resource to check for upcoming courses and training dates.
- A suggestion was made that training be offered concurrently with regional conferences, and that planning training twice a year (spring and fall) where one training is independent of a conference.

At their fall 2017 meetings, the CWMA and the SWMA heard no comments on this item and recommend maintaining this item as an Information Item on the NCWM PDC Agenda.

At its fall 2017 Interim Meeting, NEWMA recognized the value and supports all states making their training schools available to other attendees from different jurisdictions where it is practical and appropriate to do so.

CWMA Report

Regional recommendation to NCWM on item status:

☐ Recommend as a Voting Item on the NCWM agenda
☒ Recommend as an Information Item on the NCWM agenda
☐ Recommend as an Assigned Item on the NCWM agenda
(To be developed by an NCWM Task Group or Subcommittee)
☐ Recommend as a Developing Item on the NCWM agenda
(To be developed by source of the proposal)
☐ Recommend Withdrawal of the Item from the NCWM agenda
(*In the case of new proposals, do not forward this item to NCWM)*
☐ No recommendation from the region to NCWM

Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

A suggestion was made that NCWM take over the NIST training to assit with the NIST budget constraints. Comment was made that it may take up to 2 years to get NIST scheduled to provide training. Comment was made that members get hung up on the train the trainer program and that it is everyones responsibility to train each other. Comment was made that if NIST is unavailable to provide the training and certificate that receiving the traning is more than important than to receiving a certificate.

EDU-3 I Instructor Improvement

NIST 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 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.

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 NIST training for trainers. This partnership has enabled NIST to bring in candidates for NIST-sponsored training such as "train the trainer" classes and to participate in NIST technical training schools. Through an application process, in collaboration with weights and measures directors and nominated training candidates, NIST has identified a group of people who are now working with NIST to develop the knowledge, skills, and abilities to work 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 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 NIST OWM cannot possibly train all the 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.pro-net2000.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 in order 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, Mrs. 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, Mrs. 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:

- Procedures for Selection, Evaluation, and Feedback to Instructors
- Instrument - Instructor Competency Assessment and Feedback – Overall
    - Based on US Dept. of Education model for overall development
- Instrument - Instructor Competency Assessment - specific courses
- Criteria 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.

Mrs. 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.

Mrs. 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. Mrs. 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 external trainers have had on the success of the NIST courses and expressed appreciation for the trainers who give of their time and expertise and the directors who allow the trainers time away to assist with these courses.

Prior to the 2018 NCWM Interim Meeting, Mrs. Butcher provided a written update to the Committee; this information was included in the Committee's slide presentation during its Open Hearings. NIST OWM has begun to use a new Instructor Competency Core Assessment Instrument in assessing NIST trainers and external trainers for individual learning events. OWM has only been able to devote a limited amount of time on program development since the 2017 Annual Meeting. However, OWM continues to discuss how to best proceed with the overall program and is looking at funding in light of its current budget situation. OWM cannot replenish the NCWM-NIST grant at this point. OWM plans to maintain some external trainer participation through "invitational travel" using OWM's staff travel budget, though that budget is rather limited. OWM reiterated its appreciation of these trainers' contributions to NIST training seminars and their directors' support of their continued participation.

The Committee understands that there are many pieces to any training program. The PDC and NIST Train the Trainer are important but the primary responsibility for training resides with your own organization, each organization needs strong leadership that:

- To conduct needs assessments
- To set goals and initiatives
- Define metrics that permit you to verify goals are met
- Monitor employee performance
- Ensure content of training engages trainees

All of this requires buy-in from upper management which drives home the importance of a training program, assists in accountability, and verifies appropriate expectations. Employees must understand the "why" behind training and be given opportunities to apply the new knowledge. Studies show that trainees forget all in less than a week if the new knowledge is not put into practice.

Regional Association Comments:
The WWMA PDC Committee heard the following comments during its 2017 Annual Meeting Open Hearings and recommends maintaining this item as an Information item on the NCWM PDC Agenda:

- Doug Olsen (NIST OWM) provided an update on the NIST Train the Trainer Program: The Train the Trainer Program has produced trainers which assist NIST OWM staff with their workload but reminded attendees that persons who have successfully completed the Train the Trainer program are not NIST certified. Students completing training from persons other than NIST OWM staff are not eligible for continuing education units (CEU). OWM staff have been meeting monthly to discuss and review the goals of this program.
- Lisa Warfield (NIST OWM) stated that there is a current need for persons to assist NIST staff with Handbook 133 courses. Persons interested in assisting should fill out the Train the Trainer application and submit it to NIST OWM.
- The short two-hour Metrology webinars offer timely training on a variety of topics and have been well-received by participants. The WWMA PDC Committee recommends NIST OWM and the NCWM Toolkit Task Force consider expanding this format for other suitable weights and measures topics.

At its 2017 Interim Meeting, the CWMA PDC Committee heard comments from Don Onwiler (NCWM) who reported NIST has received multiple concerns on the time it takes to become certified as Train-the-Trainer and their process is being reviewed. NIST is working on NIST accreditation. The CWMA recommends maintaining this item as an Information Item on the NCWM PDC Agenda.

At their fall 2017 meetings, the SWMA and NEWMA heard no comments on this item and recommend maintaining this item as an Information Item on the NCWM PDC Agenda.

CWMA Report

Regional recommendation to NCWM on item status:

☐ Recommend as a Voting Item on the NCWM agenda
☒ Recommend as an Information Item on the NCWM agenda
☐ Recommend as an Assigned Item on the NCWM agenda
(To be developed by an NCWM Task Group or Subcommittee)
☐ Recommend as a Developing Item on the NCWM agenda
(To be developed by source of the proposal)
☐ Recommend Withdrawal of the Item from the NCWM agenda
(*In the case of new proposals, do not forward this item to NCWM)*
☐ No recommendation from the region to NCWM

Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Comment was made that persons listed on the NIST website having completed the Train the Trainer program are not allowed to train NIST courses on their own. This continues to prove difficult for the regions to receive NIST training. Comment was made even though NIST training is limited they are increasing the number of trainings inconjuntion with regional meetings. Comment was made by NIST that a significant number of trainings took place last year & when surveyed many states where unable to implient the training due to budget constraints.

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 2016. Presentations given since 2010

are available at 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)

The Committee appreciates the input and ideas that it has received regarding suggested training topics. Tim Chesser (AR) asked the Committee to consider recommending non-technical training such as public speaking, effective writing for managers or for investigations. Jerry Buendel (WA) asked the Committee to consider offering concurrent sessions to allow more topics to be presented. Allan Morrison (CA) suggested training for fuel quality laboratory managers. Marco Mares (San Diego, CA) suggested training for managers on how to do outreach to stakeholders on program initiatives like fee increases.

Based on the comments received during its open hearings, comments from the fall 2017 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:

- Verifying Compliance of Software-Controlled Weighing and Measuring Systems
  - This might include the verification of software versions, security, and other metrologically significant issues
- GPS-Based Measuring Systems Used in Applications Other Than Passenger Transport
- Vehicle-Tank Metering Systems "Flush Systems"
- Cannabis and W&M associated issues
- Building a culture of Safety and how OSHA can help

Regional Association Comments:
At its 2017 Annual Meeting, the WWMA heard the following suggested training topics:

- Implementation of a Tentative Code and Steps to Transition to a Permanent Code
- Scan and Go Technology
- Emerging Technologies (e.g., vending machines)
- Diesel Exhaust Fluid: Equipment selection and inspection methods
- Convert the NIST Handbook 44 Self Study Course into a classroom course offered at regional and/or NCWM meetings
- Weights and Measures-Related Emergency Response Training to Disaster Events (e.g., hurricanes or earthquakes which might disrupt fuel deliveries or result in retail fuel quality issues)

The WWMA recommended this item be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Annual Meeting, the SWMA received no comments on this item and recommended it be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Interim Meeting, the CWMA recommended retaining this item as an Information Item on the NCWM PDC's Agenda. Loren Minnich (Kansas) requested training on Class II scales. The CWMA also heard comments that more officials need education on how to test these scales. A request was made for additional training on skimmers and shimmers as well. A South Dakota official asked for a presentation on the new digital density meter.

At its 2017 Interim Meeting, NEWMA heard comments on the importance of how the issue of cannabis will impact the Weights & Measures community. NEWMA supports education in the form of regional and national presentations as well as formalized guidelines and training presented by the NCWM as well as NIST. NEWMA recommends maintaining this item as an Information Item on the NCWM PDC's agenda.

CWMA Report
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☒ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda (*In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Comment was made that training at the regional meetings needs to be more focued. Comment was made about a possible vehicle scale training may be offered in Ohio.

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 on the NCWM website (https://www.ncwm.net/resource/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 goal is to help every organization:

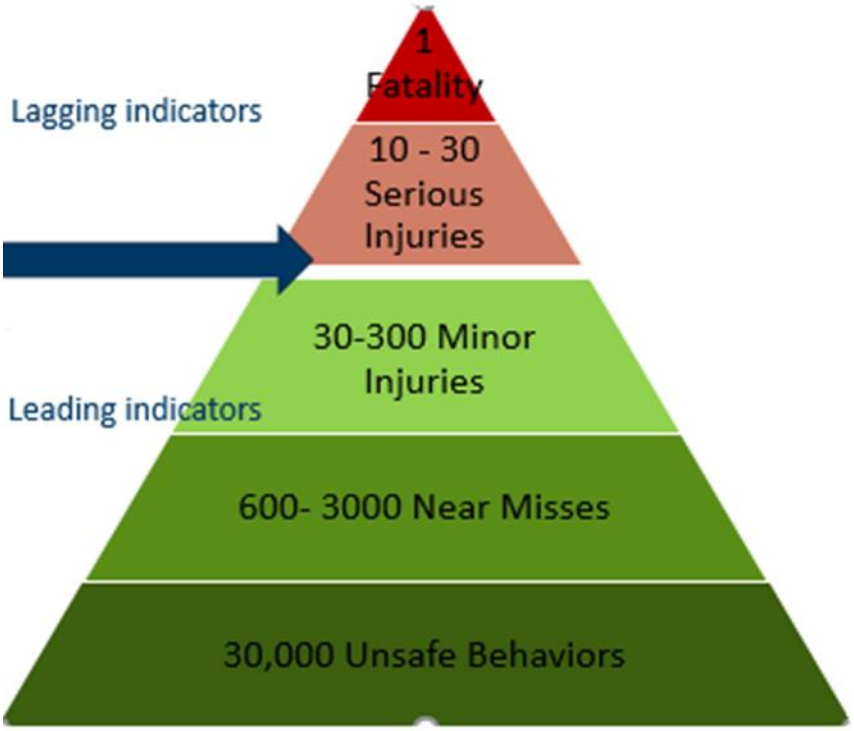
Create a "culture of safety" where accidents and injuries are just not acceptable. A culture where safety is everyone's personal responsibility; where everyone is given the training and tools they need to work safely; and where everyone is empowered to stop work if hazardous situations arise and to control safety hazards before work continues.

The task group is utilizing the recently published draft of OSHA's Safety and Health Management Program Guidelines (https://www.osha.gov/shpmguidelines/SHPM_guidelines.pdf) to organize its work. This 44-page document is written in plain language and is aimed at helping small organizations establish, maintain, and improve safety and health management programs.

Topics covered to date:

- Economic case for safety
    - Direct costs of poor safety program
        - Medical and WC costs of injury
        - Loss of income produced by injured employee
        - Cost of temporary replacement
        - Higher insurance rates
        - Loss of ability to access some sites because of poor Employee Modification

Rate (EMR)
    - Indirect costs of poor safety program
        - Loss of overall productivity/low morale
        - Loss of reputation
        - Stress for team members who pick up the work of injured employees
        - Inability to follow up on rejections
- Management challenges
    - Lack of knowledge/training
        - Technical experts without safety management training
        - Little experience with job safety analysis and risk management assessment grids
    - Lack of resources
        - Fixed budgets and restrictions on how money can be spent
        - No dedicated safety professionals
        - Lack of commitment from higher-ups (That's- how-we-have-always-done-it mentality)
        - Difficulty taking employees away from "real' work for training
- Worker participation challenges
    - Employees not trained to recognize hazards
    - Employees may not feel safe to report unsafe conditions without retaliation
    - Employees may not feel empowered to stop work until an unsafe condition is corrected
    - Management may not have followed through when past safety hazards were reported
    - Some employees may feel like safety programs are a waste of time and slow them down in their work
- Hazard identification and assessment
    - It is important to track leading and lagging indicators
        - Leading
            - Near-misses
            - Property damage
            - Observations of unsafe conditions or behavior
            - Information from pre-task analysis and job hazard analysis
        - Lagging
            - Serious injuries
            - Fatalities



- Hazard prevention and control
  - Hierarchy of Controls:
    - Most Effective: Elimination; Substitution, Engineering Controls,
    - Least Effective: PPE, Policies,
    - Could be effective: Training, behavior modification
      - Example - GPS on trucks can provide strong behavior modification; game-ifying driving
  - Challenges:
    - WM controls most often PPE and Policies
    - Inspectors/service agents working without direct supervision
    - Clients may be willing to tolerate conditions we find unacceptable
    - Inspectors/service agents don't feel empowered to stop work and insist on safety changes in field conditions

Topics to be covered in upcoming meetings:

- Education and training
- Program evaluation and improvement
- Multiemployer worksites

The safety task group is also working to improve the annual safety survey.

For two years in a row, the survey has shown that the top three causes of lost or restricted time were:

- **Lifting/twisting/bending 54.5% - 6 incidents in 2016**
  - Soft tissue injuries (3), Back or neck injuries (3)
  - Lost days – 60+ days (2), 21-60 days (2), 0-5 days (2)
  - Restricted days – 60+ days (1), 16-20 days (1), 6-10 days (1), 0-5 days (3)
- **Slips/trips/falls 18.2% - 2 incidents in 2016**
  - Soft tissue injuries (1), broken bones (1)
  - Lost days – 21-60 days (1), 6-10 (1)
  - Restricted days – 16 – 20 days (1), 6-10 days (1)

- **Vehicle accidents 18.2%, 2 incidents in 2016**
  - Soft tissue injuries (2)
  - Lost days 0-5 (2)
  - Restricted days – none

In addition to asking about injuries which resulted in Days Away and Restricted Time (DART) injuries, the task group is going to add questions about leading indicators such as:

- Incidents with property damage/reported minor injuries
  - To your vehicles or equipment
  - To others' property
- Written reports of incidents that did not result in a DART injury (accident report/first report of injury/incident investigation/near-miss report/etc.)

The task group is working with the NCWM BOD to determine whether the NCWM may wish to apply for an OSHA Susan Harwood Training Grant to develop safety training. To help the BOD determine what training would be most beneficial to the greatest number of members, the task group intends to add additional questions to the safety survey about what training agencies are currently providing, and what training they need most.

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

Safety Task Group		
Office	**Name**	**Affiliation**
Chair	Julie Quinn	Minnesota
Public Sector Member	Jason Flint	New Jersey
Public Sector Member	Georgia Harris/Doug Olson	NIST, Office of Weights and Measures
Public Sector Member	Elizabeth Koncki	Maryland
Public Sector Member	Matt Maiten	Santa Barbara County, California
Public Sector Member	Brenda Sharkey	South Dakota
Public Sector Member	Mike Sikula	New York
Private Sector Member	Tisha Arriaga/Jeff Griffith	Marathon Petroleum, LLC
Private Sector Member	Bill Callaway	Crompco
Private Sector Member	Remy Cano	Northwest Tank and Environmental Services, Inc.
Private Sector Member	Brad Fryburger	Rinstrum, 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.

Currently 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):
Ms. Julie Quinn, Minnesota Weights and Measures Division

Northeastern Weights and Measures Association (NEWMA):
Mr. Michael Sikula, New York Bureau of Weights and Measures

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

Western Weights and Measures Association (WWMA):

Mr. Brett Gurney, Utah Department of Agriculture and Food

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

Safety Article Schedule		
Issue 1 February 2018	WWMA	January 15, 2018
Issue 2 May 2018	CWMA	April 15, 2018
Issue 3 September 2018	NEWMA	August 15, 2018
Issue 1 February 2019	SWMA	January 15, 2018
Issue 2 May 2019	WWMA	April 15, 2019

Thanks to the following individuals for their contributions since the 2016 annual meeting:

- Brett Gurney, Utah *"Safety in Standard Operating Procedures,"* issue 3, 2016
- Julie Quinn, Minnesota *"OSHA's Powered Industrial Truck Standard,"* issue 1, 2017
- Mike Sikula, New York "*Working Around Stinging Insects*," issue 2, 2017

Regional Association Comments:

At its 2017 Annual Meeting, the WWMA received one comment from Kristin Macey (CA), who stated that jurisdictions may consider using OSHA on-site consultations when expanding their inspection programs into areas with potential safety concerns (e.g., electric vehicle fueling systems). The WWMA recommended this item be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Annual Meeting, the SWMA received no comments on this item and recommended it be retained as an Information Item on the NCWM PDC's Agenda.

At its 2017 Interim Meeting, the CWMA recommended retaining this item as an Information Item on the NCWM PDC's Agenda. The CWMA requested that its member states keep a log for reporting employee accidents, lost days from work, and near misses on the job. When the safety survey is received, please fill it out in a timely manner and send it back.

At its 2017 Interim Meeting, NEWMA supported active participation in the safety survey. NEWMA supports jurisdictions actively reviewing and supporting their safety program. The NEWMA safety liaison asked that in addition to safety incidences the safety Task Group look for safety improvements from industry and share that information in the regional and national meetings. NEWMA supported this recommendation and recommended that this item be retained as an Information Item on the NCWM PDC's Agenda.

CWMA Report

Regional recommendation to NCWM on item status:

- ☐ Recommend as a Voting Item on the NCWM agenda
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- ☐ No recommendation from the region to NCWM

Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

No comments.

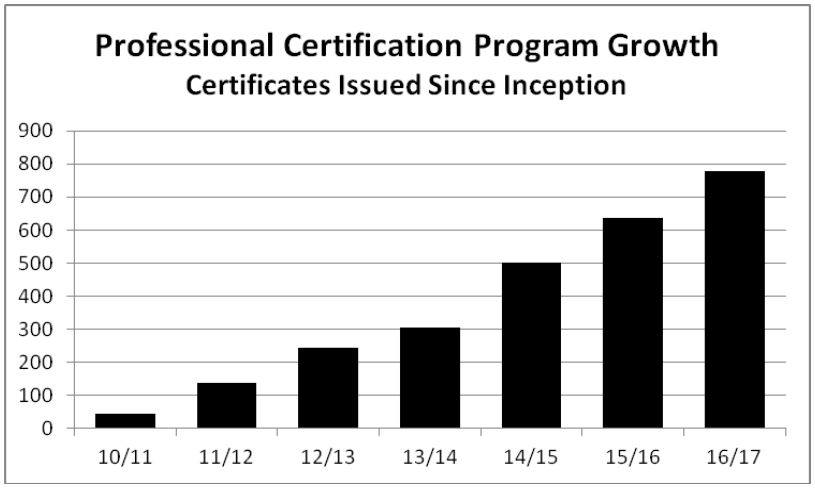
Ms. Brenda Geist, Kansas | Committee Chair
Mr. Mike Boehler, Nebraska | Member
Ms. Rachelle Miller, Wisconsin | Member
Ms. Brenda Sharkey, South Dakota | Member
Mr. Ryan Rogers, Hoidale Company | Associate Membership Representative
Ms. Julie Quinn, Minnesota | NCWM Representative

Professional Development Committee

Appendix A

Additional Statistics on Professional Certification

The Professional Certification Program continues to grow. The graph below shows the steady growth in certificates issued as of September 30, 2017. The Committee encourages widespread use of the program as indicated in the body of the Report (see item EDU-1).

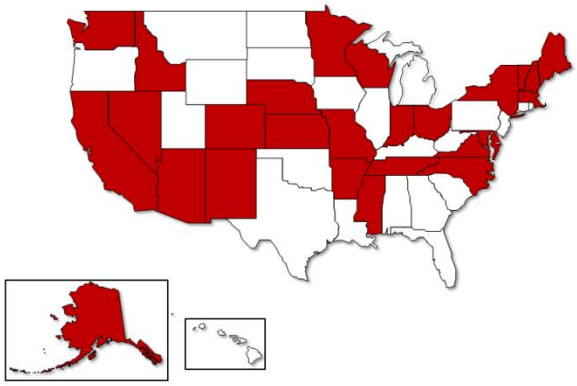


The table below shows all certificates issued since inception of the program by state. Item EDU-1 only showed the most active states. Note the state may have only state inspectors or may be a mix of state and municipal officials. Private industry certificate holders are listed separately in this table.

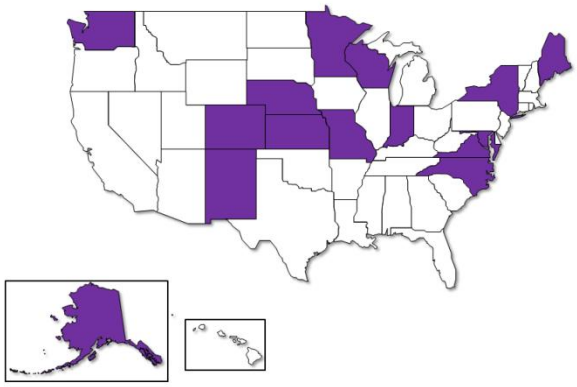
State	Certificates	State	Certificates
Missouri	102	Massachusetts	12
Minnesota	92	Ohio	12
Maryland	70	Private	11
Washington	48	Colorado	10
Mississippi	45	Idaho	8
Virginia	41	Arizona	5
Kansas	36	Pennsylvania	5
Wisconsin	36	Vermont	5
Nebraska	33	Wyoming	5
California	30	Delaware	3
Alaska	25	Arkansas	2
North Carolina	25	Michigan	2
New Mexico	23	Oregon	2
Nevada	22	Tennessee	2
New York	19	Louisiana	1
Maine	16	Montana	1
Connecticut	15	New Hampshire	1
Indiana	12	West Virginia	1

The maps below show the states with individuals presently holding professional certification in each subject area by state. Note: these graphics include private industry certificate holders within the state based on the candidates mailing address. The Committee would like to see all states participating in the future.

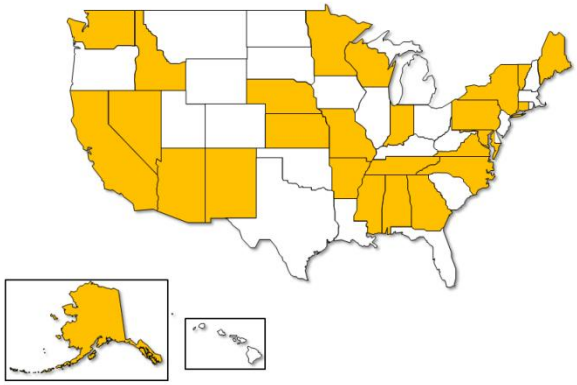
Distribution of Areas of Certification: Retail Motor Fuel Dispensing Systems
Updated: September 2017



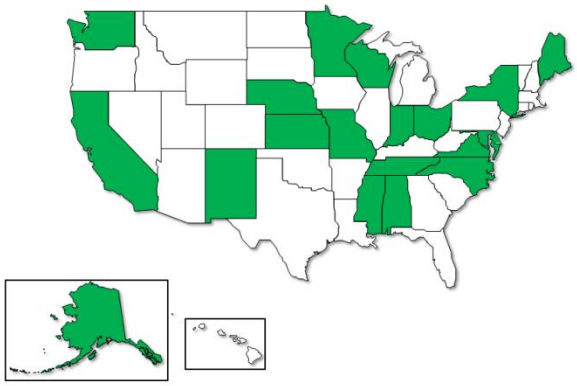
Distribution of Areas of Certification: Vehicle Tank Meters
Updated: September 2017



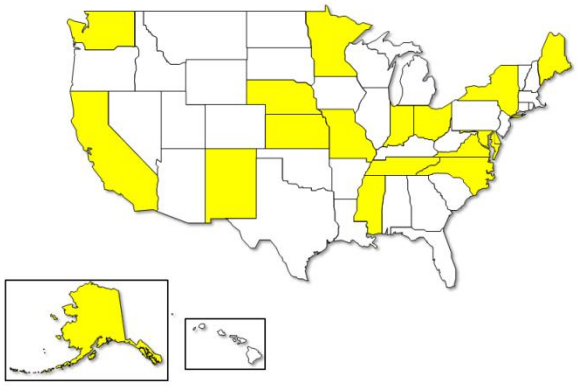
Distribution of Areas of Certification: Small Capacity Weighing Systems Class III
Updated: September 2017

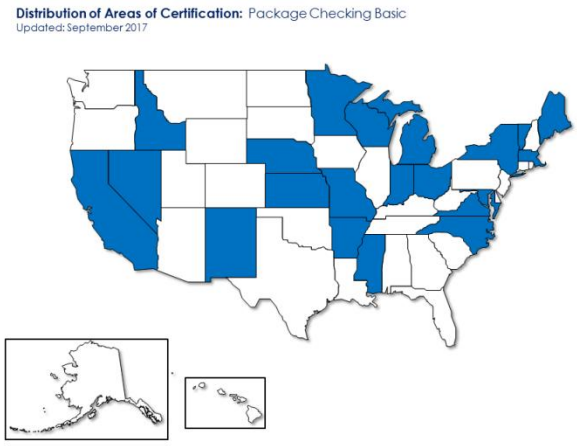


Distribution of Areas of Certification: Medium Capacity Weighing
Updated: September 2017



Distribution of Areas of Certification: Large Capacity Scales
Updated: September 2017




Distribution of Areas of Certification: Package Checking Basic
Updated: September 2017