2013 ISSUE 2

NCWM - NEWS

National Conference on Weights and Measures

INSIDE THIS ISSUE

NCWM Headquarters
1135 M Street, Suite 110 / Lincoln, Nebraska 68508
P. 402.434.4880
F. 402.434.4878
E. info@ncwm.net
W. www.ncwm.net
Don Onwiler Executive Director
Jim Truex NTEP Administrator
Elisa Robertson Office Manager
LuAnne Groenjes Project Coordinator

Stay Connected

Join us on facebook:
www.facebook.com/WeightsMeasures

Join us on Linked in:
www.linkedin.com/in/weightsmeasures

Follow us on twitter:
www.twitter.com/WeightsMeasures

Chairman's Column

Stephen Benjamin — North Carolina Department of Agriculture and Consumer Services

Are we there yet? This was the question I posed during my speech last July, related to my theme "On the Path to Tomorrow". No, we're not; however, we are methodically working our way along improving our organization, the marketplace and hopefully, our programs.

I would like to make you aware of the progress of some of our task groups.

The Tool Kit Task Group had a conference call in April and we are excited about doing – something. We will survey the regional meetings to get a feel for what project the Weights and Measures programs think may be of the most benefit to them and we'll start with that one first. I plan to survey NEWMA and CWMA while I'm at those meetings. I would like to survey the WWMA and SWMA during the regional sessions at the NCWM Annual Meeting in Louisville, KY. We want to focus our time and resources to get a high-impact product or tool out to you that you will use and keep the momentum of the group going.

The Training Manual Task Group needs help with members and materials. Mike Cleary is the chairman and is looking for others that are interested in helping him. He is also interested in any training materials you may be willing to share. He is looking to develop a comprehensive field training manual based on NIST Handbook 44, including training timelines and evaluation of the employee. He wants to create universal templates for use by the Weights and Measures jurisdictions. We expect this to dovetail nicely with the Professional Certification Program.

The Natural Gas Vehicle Fuel Steering Committee has four members at the moment and I am looking for one other interested party. We do have meeting space available during the Annual Meeting. I hope to have the membership set by then, so that they are able to take advantage of that opportunity. Please contact me if you have an interest in serving on this Steering Committee.

I was able to attend both NEWMA and CWMA in May. There were some lively discussions on some of the items before them, especially those concerning natural gas and printer ink & toner cartridges, which I hope will carry over to the NCWM Annual Meeting.

Speaking of which, our 98th Annual Meeting will be July 14-18, 2013, at the Seelbach Hilton in downtown Louisville, KY. We'll have a number of voting items to consider, exciting technical sessions, distinguished speakers and recognition of the contributions of our members through our Awards Subcommittee. I look forward to seeing everyone there, one more step on the Path!

Stephen Benjamin

-Stephen Benjamin, NCWM Chairman

NCWM Welcomes New Members (2/12/13 - 5/28/13)

Berry Plastics
Jon Slaughter
Butte County Agricultural Commissioner Sealer's Office
James Shrout
Certified Scales, Inc.
Jason Syverud
CNG Fueling, Inc.
Robert Nemeth
Coco-Cola North American Group
Richard Saunders
Cortland County Weights & Measures
Wesley Foley
County of Hudson
Kamon Singh
Rose Ann Fisher
Frank Alonso
Digi Europe Ltd.
Mark Richardson
Discount Drug Mart
Mike Filbert
Electronic Scale Systems
Jeramy Jackson
Hawaii Department of Agriculture
Jeri Kahana
Ian Fellows, Ltd.
Stephen Milling
InfoTouch Corporation
Jeffrey Ballard
IWS Scales
Giesela Muccillo
K Squared Global
Kenneth Bakefelt
Kentucky Department of Agriculture
Benson Bell
John Cook
Kilotech
Volodymyr Duszara
L2 TECH
David Li
Mississippi Department of Agriculture and Commerce
Randy Triplett
Craig Allgood
John Childress
Monterey County Ag Commissioner
Larry Simon
Montgomery County Indiana
Alan Goff
Motorola Solutions
Hector Santini
James Heath
Adrian Caraballo
Lloyd Morton
Leonard Rothluebber
National Raisin Company
Sharon Jensen
Tim Ramirez
NCWM
Elisa Robertson
NMB Technologies Corporation
Francis Alandy
NMDA Standards & Consumer Services
Juan Rodriquez
David Esquibel
David Hill
Christopher Hall
Ohio Department of Agriculture
Tom Buck
Northern Metering Systems Consulting
Patrick Haney
PBUS Tech Inc.
Chang Kim
Radwag USA, LLC.
Mike Makuch
Santa Clara County Weights and Measures
Stan Toy
Schenck Process
Hayden Cornish
ThinkSmart, Inc.
Greg Hoelscher
Town of Braintree
Michael McGourty
Trapeze Software Group Inc.
Ron Boulton
TruStar Energy, LLC
Chuck Gregg
Jake Hines
VelaPOS
Youngil Cho
Virginia Department of Agriculture & Consumer Services
Duane Lam
World Bankcard Services
John Park

98TH ANNUAL MEETING • JULY 14 -18, 2013 • LOUISVILLE, KENTUCKY

The Annual Meeting is the high point of our year where all the hard work pays off. At this meeting, stakeholders will debate important proposals to amend the United States standards for weights and measures. When the debating is done, the votes will be cast.

Our committees have their work cut out for them with some very full and diverse agendas. Proposals address railway track scales, belt-conveyor scales, vehicle-tank meters, taximeters, motor oil, gasoline oxygenates, compressed and liquid natural gas, minimum antiknock index, moisture loss allowance for pasta, BOV packaging vs. aerosol, animal bedding, and more.

Special Presentations Will Explore:

- **Taximeter Technology Advancements:** A panel of speakers representing technology companies, regulators, and the U.S. National Work Group on Taximeters will explore the new technologies and efforts to bring Handbook 44 up to speed.

- **Making Sense of Electronic Receipts:** Speakers will discuss new practices and explore how they fit in with existing Handbook 44 specifications for POS systems and recorded representations.

The Seelbach Hotel is adjacent to the Fourth Street Live entertainment district in downtown Louisville, and within walking distance of several attractions. Louisville will be a great venue in July and we have a lot of business to complete, so we'll see you there!! Register today to beat the early bird deadline of June 21, 2013 at www.ncwm.net.

98th NCWM Annual Meeting Registration

National Conference on Weights and Measures / National Type Evaluation Program

2013 Annual Meeting Registration Form

July 14-18, 2013 / Louisville, Kentucky

Please complete registration form legibly. Illegible forms may delay processing times. Submit form in one of the following ways:
E-mail: info@ncwm.net **Mail:** 1135 M Street, Suite 110 / Lincoln, NE 68508 **P.** 402.434.4880 **F.** 402.434.4878

ATTENDEE INFORMATION

Check One: ☐ NCWM Member ☐ Non-Member ☐ Retired Member ☐ Observer
Retired Member: A person who has retired member status, and the same voting privileges as Associate Members.
Observer: A first-time attendee, with no voting rights and will pay additional fees associated with special events.

Member ID #:	Name:	Name for Badge:
Organization / Jurisdiction:		Title:
Street Address:		
City:	State:	Zip Code: / Country:
Phone Number:	Email Address (Required):	

ATTENDEE'S GUEST INFORMATION

Name:	Name for Badge:

REGISTRATION FEES *25.00 FEE WILL BE ADDED TO ON SITE REGISTRATION

	NCWM Member	Non-Member	Retired Member	Observer	Guest
Before June 21, 2013	$300.00	$375.00	$0.00	$200.00	N/A
After June 21, 2013	$350.00	$425.00	$0.00	$250.00	N/A
Sunday OR Tuesday Only	$100.00	$150.00	$0.00	$100.00 Member $150.00 Non-Member	N/A

SPECIAL EVENT FEES

	NCWM Member	Non-Member	Retired Member	Observer	Guest
Chairman's Reception	$0.00	$0.00	$0.00	$35.00/person	$35.00/person
Light Breakfast	$0.00	$0.00	$0.00	$0.00	$30.00/person (4 day package)
An Evening at Churchill Downs	$0.00	$0.00	$55.00	$55.00	$0.00 under age 5 $27.50 ages 6-13 $55.00 ages 14 older

PAYMENT INFORMATION

Will You Be Attending the Chairman's Reception: ☐ Yes ☐ No	Will Your Guest Be Attending the Chairman's Reception: ☐ Yes ☐ No
Will You Be Attending the Special Event: ☐ Yes ☐ No	Will Your Guest Be Attending the Special Event: ☐ Yes ☐ No

☐ VISA ☐ MasterCard ☐ Discover ☐ American Express ☐ Check Enclosed (made payable to NCWM)

Account Number: | Exp. Date: | Security Code:

Billing Address:	Zip Code:
Name on Card:	**Total Amount Enclosed:** $

No audio or video recording devices are allowed. Written reports will serve as the official record for meetings.

Cancellation Policy
Cancellations received by June 21, 2013 are subject to a 15% cancellation fee. Cancellations received after June 21, 2013 is subject to a 50% cancellation fee. No refunds will be given after the event has commenced. In the case of a state-declared natural emergency a full refund will be issued. Refund requests due to personal medical emergencies shall be considered based on documentation. In such instances, a full refund may be issued. Refunds will only be made on registration fees paid to the National Conference on Weights and Measures.

One Tool: # 1 Inspection Software WinWam Software

There is only one Software product that addresses all of your Weights & Measures Inspection needs. That tool is WinWam Software.

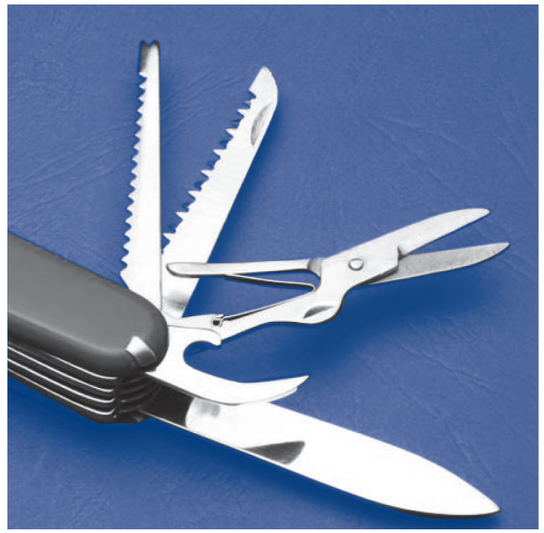
WinWam Software is a collection of four powerful modules, which can be purchased separately or together. All of the Weights & Measure modules have been built to perform inspections in accordance with NIST regulations.

One Tool and # 1 Inspection Software. WinWam is the most widely used Weights & Measures inspection software on the market. Currently, thirty-one (31) states have purchased WinWam, along with numerous county and city governments.

Package Checking

WinWam Package Checking Software is designed for W&M officials and quality assurance professionals to perform standard and random inspections in accordance with NIST Handbook 133. WinWam Package Checking Software guides you through the inspection process. Error, MAV, Cost Error are calculated for each test. Color displays allow easy identification of Pass Fail or Gray Areas. Some of the features include:

- Category A & B Sampling Plans
- Automatically Calculates MAV's Normal USDA Standard, USDA Fluid, Bark Mulch, Polyethylene Sheeting
- Allow variations due to moisture loss
- Calculates SEL and Standard Deviation
- Dynamically calculates Rc/Rt for tare
- Calculates conversion factors for volume inspections
- Calculates Cost Error, Average Error, Average Cost Error % Error



Device Inspection

WinWam Device Inspection Software is designed to perform and record Handbook 44 inspections WinWam Device Inspection Software supports all devices specified in Handbook 44 including but not limited to: scales, (apothecary, computing, livestock, shipping, vehicles, etc.) meters, LP Gas, LMD, linear devices, timing devices, etc. Whether acceptance or maintenance WinWam calculates tolerances for nearly all tests.

WinWam Device Inspection Software provides a comprehensive database of business establishments with a complete inventory of devices. Full detail inspection data allows management the ability to better measure economic impact of the W&M program.

Price Verification

WinWam Price Verification Software is designed in accordance with NIST Handbook 130. The Software runs standalone or with a handheld scanner. Software calculates error, lot cost error, net dollar error and calculates Over / Under Ratio. Accommodates Intentional Under-charge and Not On File.

Hypertext Handbooks

Hypertext Handbooks are a collection of on-line reference manuals in which the user can view government regulations, search on a particular topic and print any part of the handbook with the touch of a button.

2013 Hypertext Handbooks available now!

Nover Engelstein & Associates, Inc. Developers and sole source providers of WinWam Software
3000 Atrium Way, Suite 2203 Mount Laurel NJ 08054
phone: (856) 273-6988 web-site: www.winwam.com e-mail: sales@winwam.com

New Requirements for Right-to-Know Training

The Occupational Safety and Health Administration (OSHA), has revised its Hazard Communication (Right-to-Know) Standard in order to improve worker understanding of the hazards associated with the chemicals in their workplace. This was done in order to align the OSHA standard with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and contains significant changes including: the use of new labeling elements with pictograms and a new standardized format for Safety Data Sheets (SDS) formerly known as Material Safety Data Sheets (MSDS). In order to phase in these requirements OSHA is requiring specific training for employees by December 1, 2013. Some of the topics for this training include:

- Label elements: including a product identifier, a signal word used to indicate the severity of the hazard (e.g. "Danger" or "Warning"), pictograms (see link below), hazard statements and precautionary statement(s).

- Label use: including proper storage and how to quickly locate information on first aid.

- How the Label Elements Work Together: such as a single chemical with multiple hazards and how different pictograms are used to identify these hazards.

- Safety Data Sheets (SDS): The new SDS will have a standardized 16 section format including Exposure Controls/Personal Protection.

- Relating information on the label to the SDS.

This training is planned for New York State Weights & Measures Specialists at our annual training school in June. Training requirements may vary in each state so I would encourage officials to contact their safety coordinator for specific state requirements.

For a detailed explanation of OSHA's requirements, other effective dates, pictograms, safety data sheets and other important information please visit: http://www.osha.gov/dsg/hazcom/index.html

- Mike Sikula
NYS Bureau of Weights and Measures

Professional Certification Program Taking Shape

What is Professional Certification?

A certification is issued by a professional society to individuals who have earned it. Certification provides assurance of one's qualifications to perform a task. Often, these certifications use letters after one's name to designate the achievement. For example, "CPA" designates Certified Public Accountant and the certification is conferred by State Accountancy Boards.

Ultimately, NCWM will seek accreditation of its certification program. We envision a certification that can be referenced as a qualifier for inspector pay grades. Some agencies are also hoping to use NCWM Professional Certification as a qualifier for licensing (or registering) scale and meter sales and service persons. Service agencies may see it as a way to assure their customers of their competency. Still others may simply see it as an attractive component to their résumé, perhaps in employment as regulatory liaisons or consultants.

Program Overview

Once the program is complete, there will be a full compliment of exams on the various disciplines of weights and measures. The NCWM Professional Development Committee develops the body of knowledge for each of these disciplines to define what must be verified in terms of competency in each of the exams.

Mr. Ross Andersen is our Certification Program Coordinator and he continues efforts to expand the exams offered. It is no small task to develop an exam. Questions must be compiled and compared to the Body of Knowledge to ensure that all areas are covered. The questions must also be vetted to ensure they are unbiased, well written, correct, and represent various levels of difficulty. Mr. Andersen relies heavily on a corps of volunteers who serve as Subject Matter Experts in the various disciplines - more on them later.

New Exams Under Development:

- Vehicle Tank Meters
- Medium Capacity Scales
- Large Capacity Scales

The first exam was introduced in 2010 on Retail Motor Fuel Dispensing Systems. It served as an opportunity for NCWM to test the waters and work out some kinks. In 2012, two more exams were released: Package Checking Basic and Small Capacity Weighing Systems Class III. These later releases caused a sense of excitement for the program that was accompanied by a rush of many individuals to become certified.

Among other exams on the horizon, work will begin on Liquefied Petroleum Gas Meters. Eventually there will be many more exams, making the program extremely useful as a means of demonstrating proficiency in specific areas or over a broad base.

continued on next page

Professional Certification Continued

How much does it Cost?

We anticipate that most individuals will want certification in multiple disciplines. For example, many inspectors are responsible for meter, scale, and package inspections. Even service agents will want to complete multiple exams because there will be several exams just to cover various types of weighing instruments or metering devices.

One would think the need or desire to achieve certification in multiple disciplines would be quite expensive, but that is not the case. The cost to members is $0; Yes, that is correct. We value our members. Considerable resources are required to develop and maintain this program, but the Board of Directors recognizes that NCWM gets its strength from its members. Members provide the leadership, expertise, and their time in order that NCWM as a volunteer standards development organization can meet its mission.

The cost to non-members is $75 per exam. Since membership is just $75 per year/government and $90 per year/non-government it becomes an easy choice to join NCWM. Especially when you add in the other many benefits of membership such as complimentary NIST Handbooks, access to the online membership database, etc.

In short, NCWM does not expect to collect many exam fees.

How it Works

The exams are administered online. An employer has the option to proctor their employees during the exams. When the program becomes accredited, it may be necessary for the applicant to take the exam at one of the several thousand proctored testing centers across the country, but for now that is not necessary.

Here are the steps:

1. Go to www.ncwm.net and "purchase" an exam. The cost per exam is $0 for members and $75 for non members. Our new website will allow you to apply for membership and receive member pricing for exams all in a single process through the online shopping cart.

2. You will immediately receive an email confirmation and receipt. With our new website, this is now an automated process so you will have immediate access. You no longer have to wait for NCWM to process your request.

3. Log in to www.ncwm.net and click the "Dashboard" button. This is your personal dashboard giving you access to your profile, order history, and so on. In the "My Tests" category, click "Take A Test".

4. A pop-up window will ask you for an email address to receive the test results. It might be your own or, more commonly, it is your supervisor's email address.

5. Proceed to the test site. Since you are already logged in to the NCWM website, it will not be necessary to log in again on the test site.

6. Select "Click here to Take a Test".

7. Select the Practice Exam. It is only 5 questions and simply designed to ensure that your computer isn't blocking images and that you understand how to answer certain types of questions. This is critical and only takes a couple minutes.

8. Choose a time to take the exam when you won't be interrupted and you will have ample time. There are time limits to complete the exams and the clock won't stop if you have to leave and come back.

9. Use a reliable computer and internet connection.

10. Make sure you have applicable Handbooks and EPO's at hand because you will need them.

continued on page 11

Professional Certification

continued from page 9

11. Proceed to take the exam. When you finish, the results will be sent to the email you specified in Step 4.

12. If you fail, you will have one retake with your original purchase. It can be done now or at a later date.

13. If you pass, your certificate will be emailed to the address you specified.

The Training Component

A common question we receive is, "Do you have any classes or training materials to help me get certified?"

Quite simply, the answer is, "No". It is absolutely essential that the professional society conferring certification is not also providing the training. That is a key point for program accreditation. It provides integrity to the certification through assurance that individuals are not being trained to the questions on the exams. That makes sense. Certification is not a certificate for successful completion of a course. It is verification of one's overall knowledge and ability to apply that knowledge when performing a task.

Actually, this works out quite well in the NCWM / NIST partnership. NIST has long been known as the primary resource for weights and measures training. It is a cornerstone of the NIST Office of Weights and Measures Strategic Plan and they are good at it. NCWM supports NIST in that role which is so vital to the legal metrology system in this country.
NIST bases training priorities on needs of their stakeholders. You are encouraged to contact the Office of Weights and Measures to find out what opportunities are coming up on their training calendar.

Congrats to our Certified Professionals

There are too many certified professionals to list them all here, but congratulations are in order just the same. Some organizations have even achieved 100% certification of their staff in the 3 disciplines that are currently available. That's quite an accomplishment because these exams are not easy. They are designed to do more than simply verify one's ability to look up answers in the NIST Handbooks. The exams go further and test one's practical knowledge and ability to properly apply the standards in the field.

Thanks to our Volunteers

Mr. Andersen rounds up volunteer subject matter experts (SMEs) from all over the country to volunteer in the development of the exams. They come from industry and from regulatory programs at all levels. It seems proper here to formally recognize those who have contributed and those working with him now on new exams.

By the way, Mr. Anderson would greatly appreciate more volunteers for the Medium Capacity Scales and Large Capacity Scales. To volunteer, contact him at rjandersen12@gmail.com.

Unfortunately, we do not have a complete list of those SMEs who contributed to the first exam on Retail Motor Fuel Dispensing Systems. We hope that they will forgive us and accept our gratitude for their hard work. For the other exams that are complete or in development, the SMEs are listed on ***page 12*** of this newsletter. Thank you to all of you on behalf of NCWM's membership who benefit so greatly from your labors. We also express gratitude to Ross Andersen for his perseverance in this endeavor and the outstanding leadership provided by the Professional Development Committee throughout this process.

- Don Onwiler
NCWM, Executive Director

Slate of Officers for Election in July 2013:

NCWM recognizes the following slate of nominees as officers to the NCWM Board of Directors. The Nominating Committee selected these from the active and associate membership. Consideration was given to professional experience, individual qualifications, conference attendance and participation, and other factors considered to be important.

Chairman-Elect:
Mr. Ronald Hayes, Missouri Weights and Measures

Board of Directors Active Director - Southern: (5 years)
Mr. Terence McBride. Memphis, Tennessee Weights and Measures

Board of Directors Associate Director: (3 years)
Mr. Christopher Guay. Proctor & Gamble Co.

Board of Directors At-Large Director: (5years)
Mr. Chuck Corr. Archer Daniels Midland Co.

Treasurer: (1 year)
Mr. Mark Coyne. Brockton, Massachusetts Weights and Measures

The Nominating Committee will present its Slate of Officers for election on Thursday, July 18, 2013 in Louisville, Kentucky. They will take office at the conclusion of the Annual Meeting for the terms specified above.

Professional Certification Program - Subject Matter Experts (SMEs)

Package Checking Basic

Ken Butcher, NIST
Tim Chesser, AR
Carlos D'Arcy, FL
John Dillabaugh, PA
Bruce Feagan, WA
Brett Gurney, UT
Tyler Hicks, OK
Ray Johnson, NM
Robert McGee, SC
Kevin Merritt, ID
Rachelle Miller, WI
Marc Paquette, VT
Steve Shultz, NV
Jeff Tubacki, IL
Peter Wilson, VA

Small Capacity Scales Class III

Tim Chesser, AR
Carlos D'Arcy, FL
John Dillabaugh, PA
Bruce Feagan, WA
Brett Gurney. UT
Tyler Hicks, OK
Ray Johnson, NM
Robert McGee, SC
Kevin Merritt, ID
Rachelle Miller, WI
Marc Paquette, VT
Steve Shultz, NV
Dan Smith, AK
John Stokes, SC
Jeff Tubacki, IL
Peter Wilson, VA

Large Capacity Scales

Jim Daggon, Rice Lake Weighing Systems
Dennis Fox, Central Illinois Scale
Nathan Garner, OR
Joe Grell, Rice Lake Weighing Systems
Matthew Maiten, Santa Barbara County, CA
Mike Mann, WA
John Pasko, WI
Kevin Pfeiffer, VA
Doug Rudy, PA
Mike Smith, NY
Richard Suiter, Richard Suiter Consulting
Courtney Ward, Quality Scales Unlimited

Medium Capacity Scales

Jim Daggon, Rice Lake Weighing Systems
Dennis Fox, Central Illinois Scale
Nathan Garner, OR
Joe Grell, Rice Lake Weighing Systems
Matthew Maiten, Santa Barbara County, CA
Mike Mann, WA
John Pasko, WI
Kevin Pfeiffer, VA
Doug Rudy, PA
Mike Smith, NY
Richard Suiter, Richard Suiter Consulting
Courtney Ward, Quality Scales Unlimited

Vehicle Tank Meters

Conrad Brown, ME
Charles Carroll, MA
Gabe Frezzo, Liquid Measurement Controls
Lewis Hutfles, KS
Paul Jordan, CA
Antony Joseph, NY
John Kirk, VA
Gary Kneissel, MN
Mike Mann, WA
Ron Pierce, PA
Gary Sassaman, Liquid Measurement Controls
Scott Simmons, CO
Mike Smith, NY
Michael Swimm, ME
Jared Williams, WI
Ray Woolfolk, AK
Jane Zulkiewicz, Barnstable, MA

Thank you for your contribution!!

NTEP Column:

Mixing and Matching Main Elements of a Scale - How to Determine Compliance / Part III

In the 2012, Issue 2 column we looked at the different main elements of a scale and NTEP certificates for the main elements. We reviewed NIST Handbook 44 (HB44) Scales Code terminology for an indicating element not permanently attached to weighing and load receiving element, weighing and load receiving element not permanently attached to indicating element, main element, and load cells for which an NTEP Certificates of Conformance (CC) had been issued.

In the 2012, Issue 3 and 2013, Issue 1 columns we discussed the use of NTEP worksheets to help the inspector with the determination of compliance when separate main elements are married together. That column took us through the completion of a worksheet for a Class IIIL electromechanical and fully electronic vehicle scales. This column will take us through the completion of a worksheet for a Class III fully electronic hopper scale system. The example worksheet used with this column is an actual scale system evaluated by NTEP.

It is highly recommended that regulatory officials complete the Class III worksheet upon initial inspection of newly installed and modified Class III scale installations with a capacity greater than 2 000 lb, where the main elements are traceable to their own NTEP certificates or main elements have been replaced. The Class III worksheet is a little different than the Class IIIL worksheet because the CLC markings and formula do not apply to Class III. It might also seem strange to consider a 250 000 lb hopper scale Class III but since the hopper scale is used for grain HB44, Scales Code, Table 7a. tells us the scale is Class III. The intent of the worksheet is to complete the top section (boxes numbered 1 through 39) first. Manufacturer's ID, model, serial number, NTEP CC number, accuracy class and nmax should be marked on all three main elements. However, please remember that Note 11 in Table S.6.3.b. allows most required markings to be in an accompanying document rather than on the load cell. Additional markings for the indicating element include: nominal capacity and value of d. Additional markings for the weighing element include: nominal capacity and emin. Additional information required for the load cell include: vmin and single (S) or multiple (M) cell certification by NTEP. With this information we can fill in the boxes on the top portion of the worksheet with the exception of boxes 19, 37, 38 and 39, which are not marking requirements. It will take a little more effort but we need this information to answer the 4 suitability questions on the bottom of the worksheet.

• Box 19 requires us to determine the number of divisions (n) for which the scale system being inspected is set up. Since the scale system is multi-interval, this is done by dividing the capacity of the first range (100 000 lb) by the division size (20 lb), equals 5000 n and dividing the second range capacity (250 000 lb) by the second range division size (50 lb), which also equals 5000. [Technical note: HB44 states that the number of n is determined by dividing the capacity by the verification scale division (e). Table S.6.3.b., Note 4 requires a marking of "e" only if different from "d", which is very unlikely, especially for large capacity scales.]

• Box 37 asks us to determine the number of sections in the scale being tested. HB44 defines a scale section as the "part of a vehicle, axle-load, livestock, or railway track scale consisting of two main load supports, usually transverse to the direction in which the load is applied." [Technical note: Another way to state the formula is the number of load bearing points divided by 2. For an example, see HB44, Scales Code, and Paragraph N.1.3.3.2., which includes an excellent illustration of a three section platform scale.] In this case box 37 is not applicable because it is a hopper scale.

• Box 38 requires us to determine how many load cells are utilized in the scale being inspected. In this case 4. [Technical note: Table S.6.3.b., Note 7 states that it is acceptable to use a load cell with a single cell (S) designation in a multiple cell application but a load cell with a multiple cell (M) designation can only be used in multiple cell applications. Compliance with the requirement should also be verified.]

• Box 39 asks us to record of the scale multiple. This information is only applicable to mechanical lever system weighing elements when used with a load cell in an electromechanical system installation and is not applicable in this case.

Now that we have completed all the applicable boxes on the top portion of the worksheet we can work to answer the four suitability criteria questions on the bottom of the worksheet.

• Question 1 requires us to compare the emin value marked on the weighing element [Box 26] with the division size for which the system under inspection is set-up [Box 16]. The emin value is the smallest division for which the weighing element complies with applicable requirements so the system cannot use a division size less than the value. In this case the value marked on the weighing element (20 lb) is less than or equal to the system division size (20 lb), so the scale system meets the requirement and we check yes in the box on the worksheet.

• Question 2 requires us to look at the nmax value for each individual main element [Boxes 31, 32 and 33] and compare the smallest value to the number of divisions for the system [Box 19].

continued on page 14

NTEP: Continued...

continued from page 13

The nmax is the maximum number of divisions for which the element complies with applicable requirements and is stated on the NTEP CC. In this case all three elements had an nmax of 5000 and the system was also set up for 5000 divisions in each range, so the scale complies and we check yes. [Another example could be a system where the nmax values for the main elements were not the same. Suppose we had nmax values for the indicator = 10 000 , weighing element = 5000 and load cell = 3000. In that case it could be possible for the three elements to be interfaced together but only if the system were set up for 3000 divisions or less because the limiting factor would be the 3000 maximum number of divisions value for the load cells.]

• Questions 3 and 4 require a determination of the appropriate relationship of the load cell verification value (vmin) to the scale division. The requirement is traceable to HB44, Scales Code, paragraph S.5.4. Notice that we only need to answer one of the suitability criteria questions on the worksheet per scale system. Use the suitability criteria 3 formula if the scale does not have a lever system (fully electronic) or suitability criteria 4 formula if the scale has lever system and uses a load cell or cells (electro-mechanical). In this case we have a full electronic system and question 4 is not applicable. Question 3 tells us to compare the v min value for the load cell used, which is required to be less than or equal to the division size of the scale divided by the square root of the number of load cells in the scale. As a formula, this can be stated as vmin < d ÷ (√N). So we look at the value in Box 24 (6.6 lb) and make sure it is less than or equal to Box 16 (20 lb) ÷ the square root of Box 38 (the square root of 4 is 2). When we plug those numbers into the formula it results in 6.6 < (20 ÷ 2). 6.6 is less than 10, so the load cell complies with the requirement and we check yes on the worksheet.

Use of the worksheet for initial verification can not only help us determine that the installation meets HB44 suitability criteria but also that all required markings were available. NTEP is providing this information because of the large number of requests for guidance from the states, installation agencies, service agencies and manufacturers.

Hopefully this series of articles have helped you understand the importance of initial verification and NIST Handbook 44 marking requirements to determine if the elements are interfaced together properly to comply with applicable requirements. If you would like to discuss the contents of this column contact Jim Truex at jim.truex@ncwm.net.

NTEP Job Opening

ADVERTISEMENT

NCWM is Now Hiring: NTEP Technical Assistant

The National Conference on Weights and Measures, Inc. is requesting applications from qualified candidates for the position of NTEP Technical Assistant. This is a new position at NCWM, created to keep pace with increasing demands on NCWM staff and to assist in the many areas of NTEP services to our customers.

A detailed description of duties, desired qualifications, and competencies is available on the NCWM website at https://www.ncwm.net/ntep/job-opening. This page also provides information on salary range and benefits. Salary and headquarters will be negotiable and based upon qualifications of the applicant.

Applicants should be aware that this position will require significant travel to attend NCWM and NTEP Meetings, perform NTEP evaluations, and eventually to conduct VCAP audits.

To apply, please submit a cover letter and résumé electronically to the Executive Director, Don Onwiler at don.onwiler@ncwm.net **no later than July 31, 2013.**

NTEP: Worksheet

National Conference on Weights and Measures / National Type Evaluation Program

NTEP Worksheet – Class III Scales > 2000 lb Capacity

Company: ADM Location: Lincoln, NE Date: 12/11/2012

	MARKINGS		INDICATING ELEMENT		WEIGHING ELEMENT		LOAD CELL(S)
Information found on the device identification plate, badge or display.	Manufacturer	1	Rice Lake	2	ADM	3	Revere Transducers
	Model	4	820i-2	5	964161-1	6	5103-A5-100k-30P1
	Serial Number	7	I6789	8	W1234	9	LCabcd
	Class III, III/III L, III L	10	III/IIIL	11	III/IIIL	12	III/IIIL
	Capacity	13	100 000 x 20 lb / 250 000 x 50 lb	14	250 000 lb	15	NA
	"d" Scale Division Value	16	20 lb / 50 lb	17	NA	18	NA
	"n" for the System (divide box #13 by box #16)	19	5000	20	NA	21	NA
	"v_{min}" Verification Scale Division	22	NA	23	NA	24	6.6 lb
	"e_{min}" Minimum Scale Division	25	NA	26	20 lb	27	NA
Found on CC	CC Number (required on new mfg. devices after 1/1/03)	28	01-088A6	29	11-013A1	30	86-039A3
	"n_{max}" Maximum Number of "d"	31	5000	32	5000	33	5000
Info from Site	Single Cell (S) or Multiple Cells (M)	34	NA	35	NA	36	M
	Number of Sections	37	NA	Number of Load Cells "N"		38	4
	*NOTE: If the weighing element is a lever system, enter the lever (scale) multiple here:					39	NA

Suitability Criteria

						Meets Requirements		
1	**e_{min} ≤ d** Enter # from **Box 26** / Enter # from **Box 16**					Yes	No	NA
40	20 lb	≤	41	20 lb / 50 lb	→	x		
2	**"n" (for the system) ≤ n_{max} (smallest of any one)** Enter # from **Box 19** / Enter in **Box 43** (smallest # from Box 31 OR Box 32 OR Box 33)							
42	5000	≤	43	5000	→	x		
3	**v_{min} ≤ ("d" / (√ "N"))** **This is for a Full Electronic Scale.** Enter # from **Box 24** / Enter in **Box 45** (Calculate: divide Box 16 by the calculate square root of Box 38)							
44	6.6 lb	≤	45	20 ÷ (√4 is 2) = 10lb	→	x		
4	**v_{min} ≤ ("d" / (√ "N" x scale multiple))** **This is for Electro-mechanical Lever Systems.** Enter # from **Box 24** / Enter in **Box 47** (Calculate:divide Box 16 by (the square root of Box 38, times Box 39)							
46		≤	47		→			x

National Conference on Weights and Measures
1135 M Street, Suite 110 / Lincoln, Nebraska 68508

2013 Event Calendar

Be sure to mark your calendar for all the upcoming NCWM and regional meetings.

July

JUL 14-18

NCWM Annual Meeting
Louisville, Kentucky — The Seelbach Hilton Louisville
Contact: NCWM **P.** 402.434.4880
E. info@ncwm.net **W.** www.ncwm.net

August

AUG 21-22

NTEP Grain Analyzer Sector Meeting
Kansas City, Missouri — Chase Suites
Contact: NCWM **P.** 402.434.4880
E. info@ncwm.net **W.** www.ncwm.net

AUG 27-28

NTEP Weighing Sector Meeting
Albany, New York— Hotel TBD
Contact: NCWM **P.** 402.434.4880
E. info@ncwm.net **W.** www.ncwm.net

September

SEP 22-26

Western Annual Meeting (WWMA)
Kalispell, Montana — Hotel TBD
Contact: Tim Lloyd **P.** 406.443.3289
E. tlloyd@mt.gov **W.** www.wwma.org

October

OCT 4-5

NTEP Measuring Sector Meeting
Charleston, West Virginia — Embassy Suites Charleston
Contact: NCWM **P.** 402.434.4880
E. info@ncwm.net **W.** www.ncwm.net

OCT 7-9

Southern Annual Meeting (SWMA)
Charleston, West Virginia —Embassy Suites Charleston
Contact: Richard McComas **P.** 304.722.0602
E. rich.d.mccomas@wv.gov **W.** www.swma.org

OCT 16-17

North Eastern Interim Meeting (NEWMA)
Norwich, Connecticut — Holiday Inn Norwich
Contact: James Cassidy **P.** 617.349.6133
E. jcassidy@cambridgema.gov **W.** www.newma.us

NTEP VCAP NOTICE

NCWM is working to identify all active certificates for weighing elements 2000 lb capacity and less, using non-NTEP load cells. As a courtesy, certificate holders are being notified of VCAP requirements and the established time line. Please note that the NCWM Board of Director's does not consider it to be NCWM's responsibility to identify all certificate holders and affected certificates. Certificate holders are responsible for reviewing their active NTEP certificates and compliance with VCAP.