



PDC Open Hearings

Interim Meeting 2018

St. Petersburg, FL



National Conference on Weights and Measures
"That Equity May Prevail"

EDU-1 Professional Certification

Ross Andersen

Professional Certification Program

➤ Certificates issued since program inception:

	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

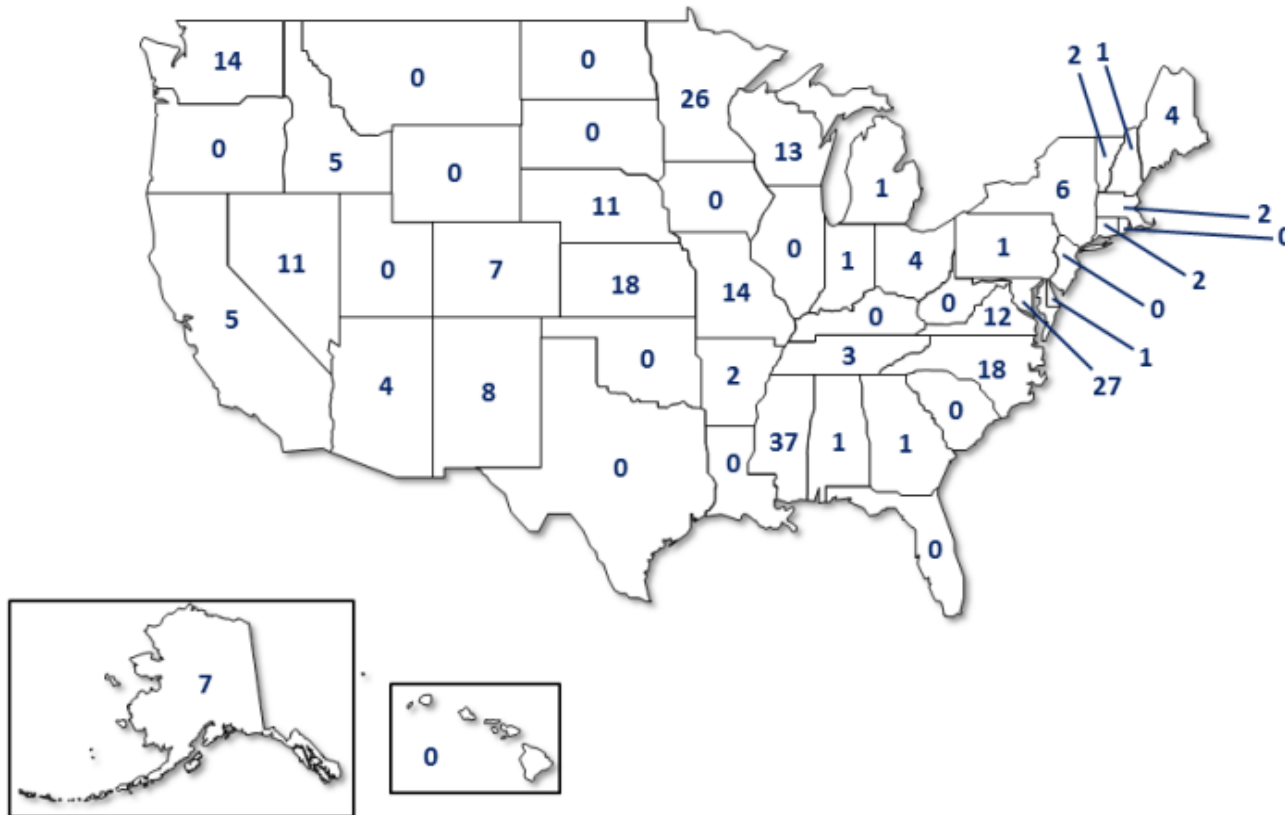
➤ NCWM Fiscal year basis Oct 1 to Sept 30

State Utilization of Program

Number of Individuals Certified

Distribution of Certified Professionals per State

Updated: September 2017





States with Highest Utilization

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

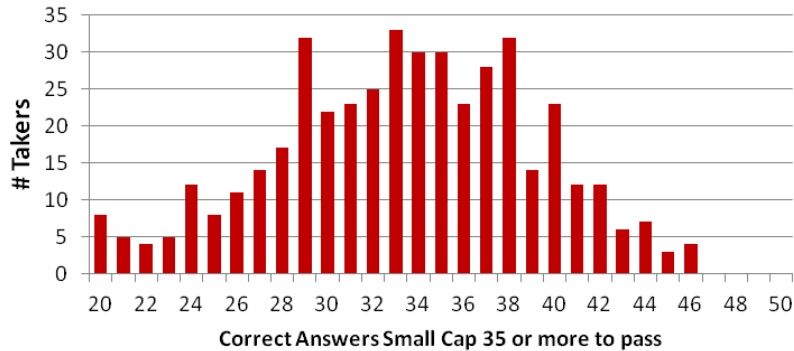
Certificates Issued

	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	All
Small Scale		6	59	21	46	21	26	179
Med Scale					30	18	27	75
Lg Scale					11	19	25	55
RMFD	44	83	22	16	67	40	34	306
VTM					20	18	14	52
Pkg Chk		5	25	23	25	19	14	111
Total	44	94	106	60	199	135	140	778

Exam Results (All FY's)

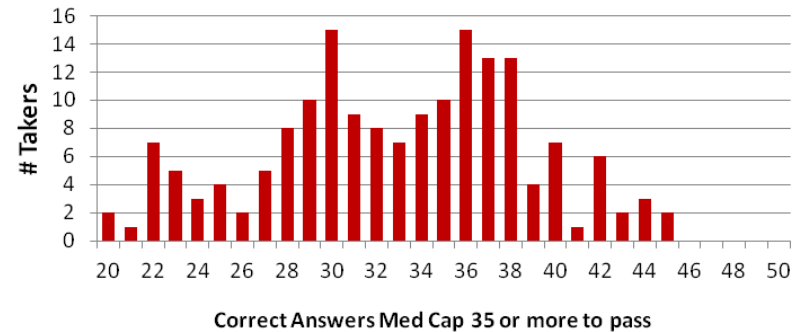
Small Capacity Scales

FY All Scoring (All 50 Questions)
avg 33.1 median 33



Medium Capacity Scales

FY All Scoring (All 50 Questions)
avg 33.3 median 35

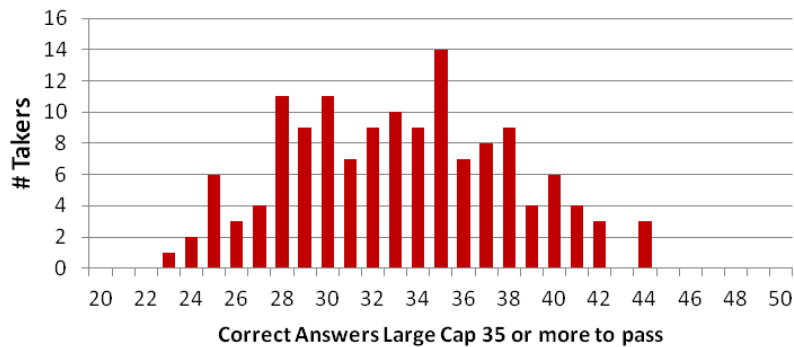


Exam Results (All FY's)

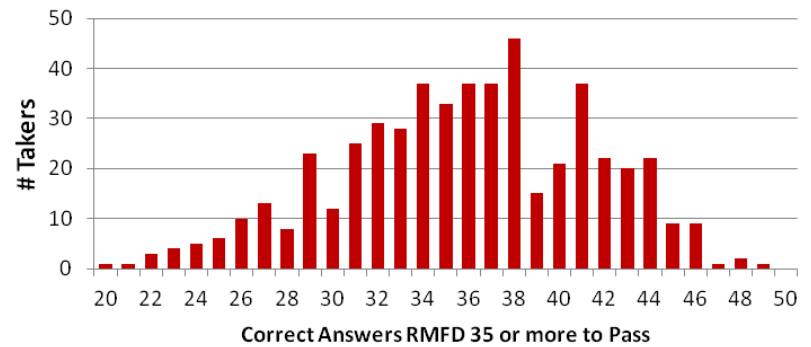
Large Capacity Scales

Retail Motor Fuel Devices

FY All Scoring (All 50 Questions)
avg 32.8 median 33



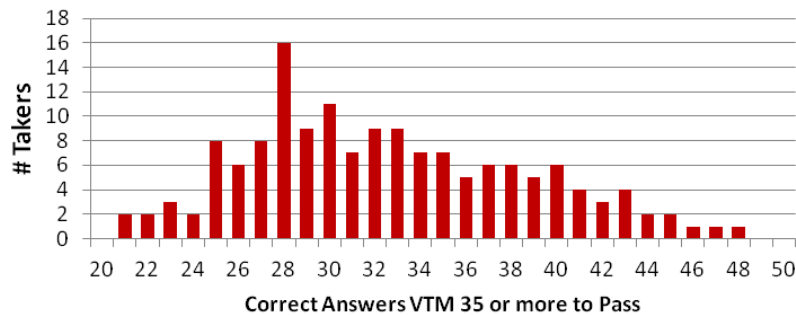
FY All Scoring (All 50 Questions)
avg 35.5 median 36



Exam Results (All FY's)

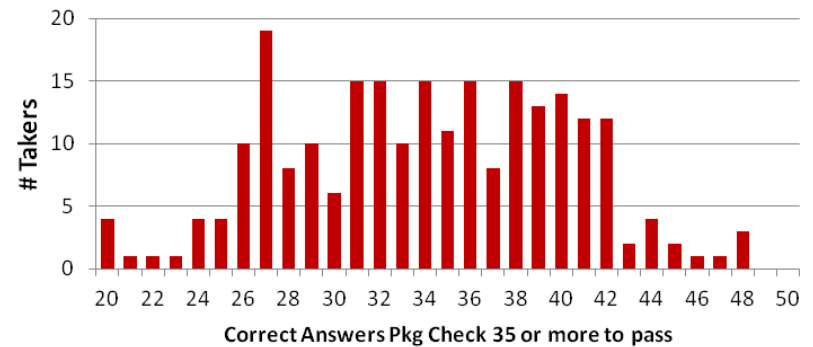
Vehicle Tank Meters

FY All Scoring (All 50 Questions)
avg 32.0 median 31.0



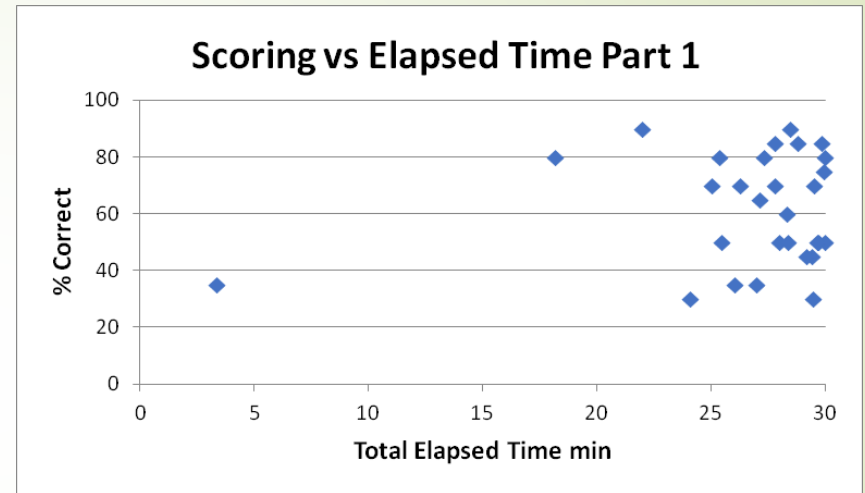
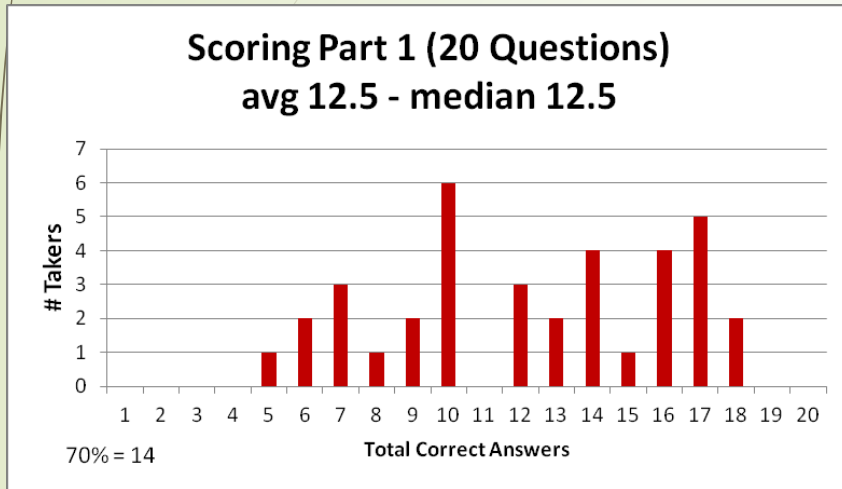
Package Checking

FY All Scoring (All 50 Questions)
avg 33.2 median 34

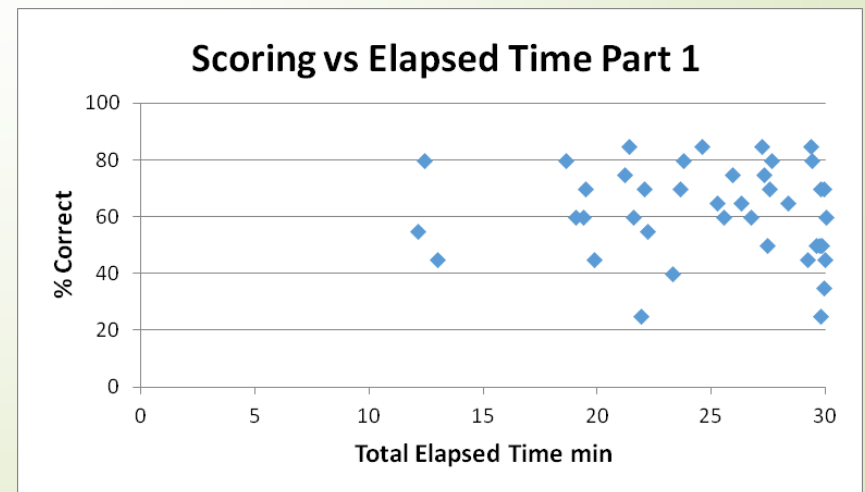
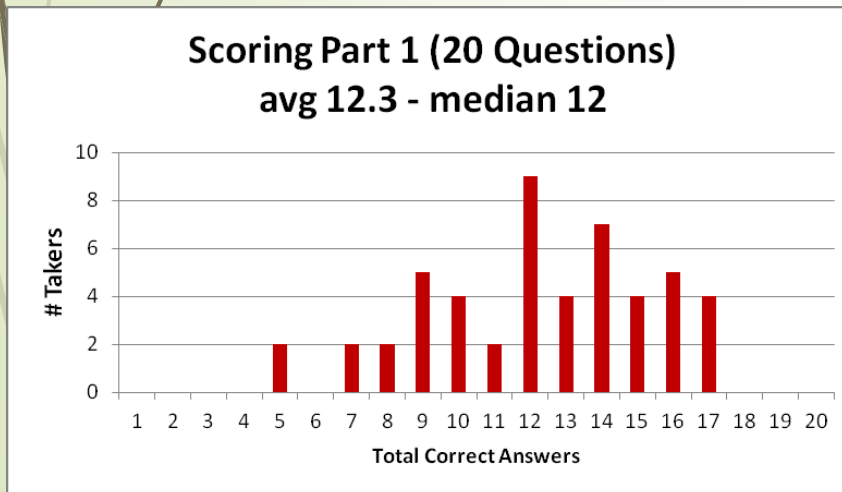


Time Constraints Issue Package Checking Exam Part 1

FY 16-17



FY 15-16





Update on Exam Proctoring

- ▶ NCWM Board has requested minor revisions to proposed proctoring guidelines
- ▶ PDC has agreed and resubmitted
- ▶ Board has approved the revised guidelines
- ▶ NCWM Staff now to commence
 - ▶ Work with testing service on mechanics
 - ▶ Begin outreach to the states to set up system
 - ▶ Think about means to internally audit system



Exam Surveys

- ▶ Looking for means to get additional feedback from candidates on the exam experience.
- ▶ Plan to use Survey Monkey (post exam) to collect data and feedback.
- ▶ Will include general demographic questions.
- ▶ Main focus on exams, i.e. ease of taking the exam, difficulty of the exam, and whether candidates took advantage of training resources provided by NCWM.
- ▶ Links to survey on exam announcements and possibly on email sent with results



National Conference on Weights and Measures
"That Equity May Prevail"

EDU-2 Training

EDU-3 Instructor Improvement

Tina Butcher – NIST

Presented by Marc Paquette



4100-2

Training – NIST OWM FY 2017

- Administrators' Workshop - April 2017 - NIST
 - All OWM programs participated
- NIST HB 133 – Checking the Net Contents of Packaged Goods, Basic
 - March 2017 – IL
 - March 2017 – NC
- NIST HB 133 – Chapter 4 – Count, Linear Measure, Area, Thickness
 - October 2016 – CA
- NIST HB 130 - Packaging & Labeling
 - December 2016 - CT
 - April 2017 – TX
 - June 2017 – MD (Industry Only Class)
 - September 2017– MN
- Price Verification
 - May 2017 - NEWMA Annual Meeting, Saratoga Springs, NY



4100-2

Training – NIST OWM – FY 2017

- Fundamentals of Metrology
 - Four seminars - Oct (2016); Jan (SIM only), Feb, June
- Mass Metrology Seminar
 - Three Seminars - March, May, October
- Advanced Mass Seminar
 - August 2017
- Dimensional Metrology – March 2017
- Volume Metrology – June 2017
- Webinars – Multiple Sessions and Topics
 - Topics including: Project-Based Learning; Basic Uncertainty Concepts; Calibration Certification Evaluation; Conducting Management Reviews; Contract Reviews; Document Control; Traceability and Calibration Intervals; Blooms Taxonomy and Learning Objectives; NIST IR 7383 & SOP 19
- Info Hours on Select Topics – Six sessions
 - Non-CEU, Information-Sharing Sessions via Webinar
- Statistics in Laboratory Metrology – 651 participants



4100-2

Training – NIST OWM – FY 2017

- MidAmerica Measurement Assurance Program (MidMAP) – October 2016
- Southwestern Measurement Assurance Program (SWAP) – October 2016
- Caribbean Measurement Assurance Program (CaMAP) – April 2017
- Southeastern Measurement Assurance Program (SEMAP) – April 2017
- Western Regional Metrology Assurance Program (WRAP) – May 2017
- Northeast Measurement Assurance Program (NEMAP) – September 2017



4100-2

Training – NIST OWM – FY 2017

- Compressed Natural Gas Metering Systems
 - April 2017 – UT
 - June 2017 – IN
- LPG Liquid-Measuring Systems
 - October 2016 – AK
 - April 2017 – OR
- Retail Motor-Fuel Dispensers
 - June 2017 – CA
- Livestock and Animal Scales
 - June 2017 – KS
 - September 2017 – WWMA Annual Meeting
- Medium Capacity Scales – May 2017 CWMA Annual Meeting



4100-2

Training – NIST OWM FY 2018

- 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



4100-2

Training – NIST OWM – FY 2018

- 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; Document Control & Recordkeeping



4100-2

Training – NIST OWM – FY 2018

- Southwestern Measurement Assurance Program (SWAP)
 - October 2-5, 2017
 - September 17-20, 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)



4100-2

Training – NIST OWM – FY 2018

- 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 2017 – PA W&M Association – Harrisburg, PA



4100-3

Instructor Improvement

- Continuing to work on infrastructure for program
 - Procedures for Selection, Evaluation, and Feedback to Instructors
 - Instructor Competency Assessment and Feedback Instrument (based on US Dept of Educ. model)
 - For overall development of trainers
 - Beginning to implement and use tools with trainers
 - Instructor Competency Course Assessment Instrument - for specific learning events
 - Criteria for Developing Participants in the NIST Instructor Training Program and Use of the NIST-NCWM Training Grant
 - Instructor Agreement
 - Shared with NCWM BOD in May 2017
- Discussing how to proceed with the overall program and considering options
 - Looking at funding in light of budget situation
 - Cannot replenish NCWM-NIST grant at this point, but may use some invitational travel
- In the meantime, continuing to use external trainers as co-instructors
 - Sincerely appreciate time devoted by those trainers and their directors' support



National Conference on Weights and Measures

"That Equity May Prevail"

- Champion a Program
- Needs Assessment
- Build a Program –
 - Needs & Initiatives
- Metrics
- Leadership (buy in)
- Engagement
- Creativity
- Marketing
- Training Reinforcement



National Conference on Weights and Measures
"That Equity May Prevail"

EDU-4 Recommended Topics for Conference Training

Marco Mares



National Conference on Weights and Measures
"That Equity May Prevail"

PMT-1 Safety Awareness

Julie Quinn



Overall Challenge for Any Organization

Creating 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.



Safety Task Group

- Covered Topics
 - Economic case for safety
 - Management challenges
 - Worker participation challenges
 - Hazard identification and assessment
 - Hazard prevention and control
- Upcoming Topics
 - Education and training
 - Program evaluation and improvement
 - Multiemployer worksites



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



Manager 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

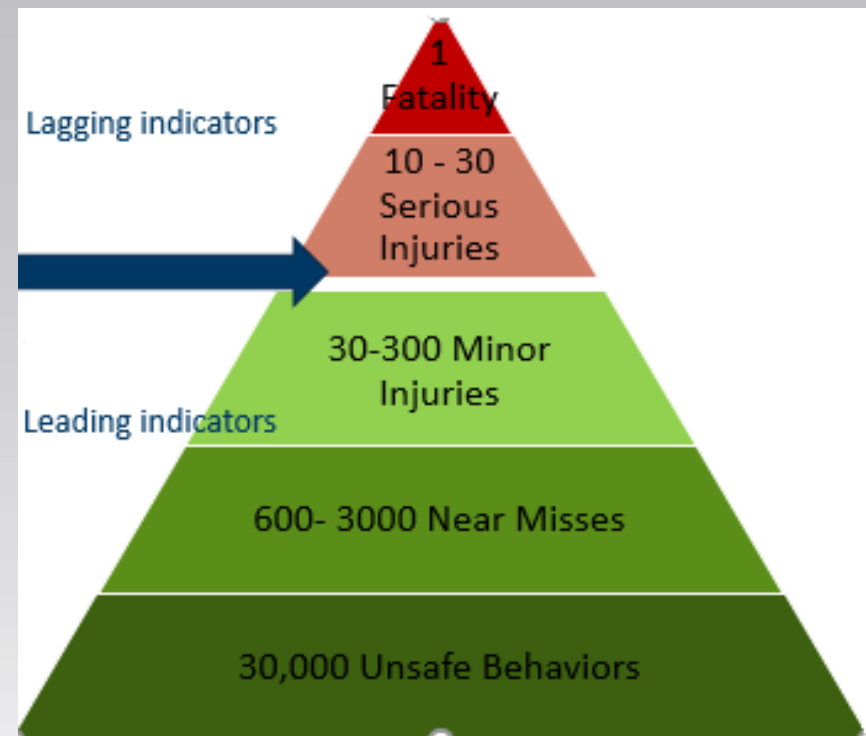
- Employees not trained to recognize hazards
- Employees may not feel safe to report unsafe conditions without retaliation
- Employees may not feel empowered to stop work until an unsafe condition is corrected
- Management may not have followed through when past safety hazards were reported
- Some employees may feel like safety programs are a waste of time and slow them down in their work



Hazard Identification and Assessment

Important to track both 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
 - 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



Survey to Add Leading Indicators This Year

FT employees in last calendar year - 2017

- Count FT and PT employees but convert PTE to FTE (40 hrs/week = 1 FTE)

Hours employees actually worked

- Do not include vacation/sick/holiday
- Get from HR or approximate (Employees x 40 hours/week x 50 weeks) assuming 2 weeks off for each employee

Incidents that had Days Away, Restricted Time (DART)

- Causes of DART injuries (vehicle accidents, slips/trips/falls/ etc.)
- The Types of DART injuries (soft tissue, broken bones, etc.)

Incidents with property damage/reported minor injuries

- To your vehicles or equipment
- To others' property
- Written report (accident report/first report of injury/incident investigation/near-miss report/etc.) but no DART
- ***Questions about your safety training needs***



Looking to Future

- Worksheet and instructions similar to workload survey will be attached to invitation to this year's safety survey to make it easier for all to participate
- NCWM Safety Task Group working on creating a toolbox with resources to help address safety issues unique to W&M world.
 - Possibility NCWM and private companies could qualify for OSHA Susan Harwood Training Grant
<https://www.osha.gov/dte/sharwood/index.html>



Thanks to the Task Group

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.



Safety Articles

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

The PDC thanks all of those contributing safety articles for the NCWM Newsletter.



NCWM PDC

Thank You