



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

# Professional Development Committee

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# PDC Reference Key

## **400 INTRODUCTION**

## **410 EDUCATION**

410-1 Professional Certification Program

410-2 Instructor Improvement

410-3 Recommended Topics for Conference Training

## **420 PROGRAM MANAGEMENT**

420-1 Safety Awareness

420-2 PDC Publication

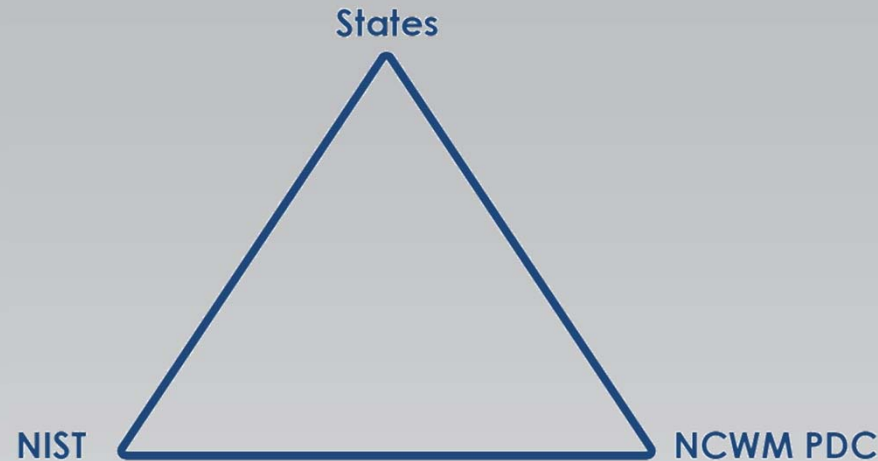
## **APPENDICES**



# Applying Certification Triangle

(Triumvirate Partnership)

Item 410-1



## States

- National Certified Workforce
- Assessment Tools and Certification Triangle Applied
- Student Meets Training Milestones
- Feedback to Trainer and Employee
- Value Exam Results = Recognition + Adult Learning
- Develop New Training Standards
- NCWM/NIST Regional Education and Training

## NCWM PDC

- Website and Administer Professional Certification Program
- Enlist Subject Matter Experts
- Learning Objectives and Standards
- Curriculum Work Plans, Discipline, Segments
- Write/Verify Exam Questions
- Exam Evaluation/Statistical Analysis

## NIST

- Training and Education
- Instructor Improvement "ADDIE"
- State Instruction Support
- Technical Materials
- Train and Trainer Material
- Classroom and Field Training



# Body of Knowledge (BOK)

Item 410-1

## Currently Developed or In Development

- Retail Motor Fuel Dispensing Systems Certification - available at [www.ncwm.net](http://www.ncwm.net)
- Basic Package Labeling/Checking
- Small Capacity Scales
- Vehicle Tank Meters



# Subject Matter Experts (SMEs)

Item 410-1

## Critical Role in Professional Certification Program

- Formalize Learning Expectations Through the BOK
- Create New Exam Questions Matching the BOK
- Review Submitted Exam Questions
- Maintain Integrity of the Program  
(e.g. do not disclose materials written or reviewed)
- May Use Web Meetings to Train SME's and Review Exam Questions



# Exam Development Process

Item 410-1

## Understanding the Certification Coordinator's Role

Activity	SME	Coordinator
Draft BOK (content focus)	X (work group)	
Review, Revise, Format BOK	X	X
Draft Questions	X	X
Review Questions (each SME gets only 25% of the bank)	X	X
Review Questions as Indicated From SME Responses		X
Final Questions Review (typically difficult or controversial)	X	X
Final Edit, Send Questions to NCWM		X
Review Exam Performance		X



# Current Exam Development

Item 410-1

1. Retail Motor Fuel Dispensing Systems
  - Service persons taking the exam and commenting
2. Basic Package Labeling/Checking
  - Awaiting SME review of draft questions
  - 7 responses of 18 SME's
3. Small Capacity Scales
  - Awaiting SME review of draft questions
  - 5 responses of 20 SME's



# Current Exam Development

Item 410-1

## 4. Vehicle Tank Meters

- BOK drafted and reviewed by PDC
- Request for SME volunteers proceeding

## 5. Basic Math

- New area and mostly a side project
- BOK drafted for entry level (e.g., new hires)





# Professional Certification Program Survey

Item 410-1

## Part 1: Exam Priorities

### Weighing Devices:

- Automatic Bulk Weighers
- Automatic Weighing Systems
- Belt-Conveyor Scales
- Large Capacity Scales  
III and III L
- Medium Capacity Scales  
III and III L
- Multiple Dimension Measuring
- Precision Scales Class II

### Measuring Devices:

- Grain Analyzers
- Grain Moisture Meters
- Meat and Poultry Evaluation  
Systems
- Taximeters
- Timing Devices
- Wire and Cordage Measuring



# Professional Certification Program Survey

Item 410-1

## Part 1: Exam Priorities

### Liquid Measuring Devices:

- Liquid Petroleum Gas (LPG) and Anhydrous Ammonia Liquid
- LPG Vapor Meters
- Mass Flow Meters
- Milk Meters
- Stationary Metering Systems
- Wholesale Rack Meters

### Market Practices:

- E-Commerce
- Engine Fuels and Lubricants
- Method of Sale
- Packaging and Labeling (not net contents)
- Price Verification
- Unit Pricing
- Weighmaster Licensing



# Exam Priority Survey Results

Item 410-1

Subject Area	#1	#2	#3	#4	Total Votes	Weighted Score
Medium Capacity Scales III and III L	45	50	12	3	110	357
Large Capacity Scales III and III L	47	33	12	6	98	317
LPG and Anhydrous Ammonia Liquid	53	16	8	13	90	289
Price Verification	42	20	18	11	91	275
Taximeters	37	22	10	8	77	242
Mass Flow Meters	17	31	31	14	93	237
Timing Devices	24	26	26	9	85	235
Packaging and Labeling (not net contents)	20	32	23	11	86	233



# Professional Certification Program Survey

Item 410-1

## Part 2: Scope of Priority Exams

- Assistance in defining the scope of the exam
- Identify the range of capacities
- Thoughts on the range of applications
- Professional Certification Program will be based on the National Standards published in *NIST Handbooks 44, 130* and *133* for the current year



# Professional Certification Program Survey

Item 410-1

## Part 3: Other Issues

- Did you review the instructions, format, duration, curriculum and grading prior to taking the Retail Motor Fuel Dispensing Systems exam?
- Did the Retail Motor Fuel Dispensing Systems exam test the spectrum of topics related to RMFD's?
- Did the Retail Motor Fuel Dispensing Systems exam mirror the subject areas outlined in the curriculum?
- Were the Retail Motor Fuel Dispensing Systems exam questions straight forward and clearly written?



# Professional Certification Program Survey

Item 410-1

## Part 3: Other Issues

- Was the Retail Motor Fuel Dispensing Systems exam appropriate to the basic level inspector?
- Did you finish the Retail Motor Fuel Dispensing Systems exam in the time allowed?
- Did you experience computer issues during the Retail Motor Fuel Dispensing Systems exam?



# "ADDIE" Model

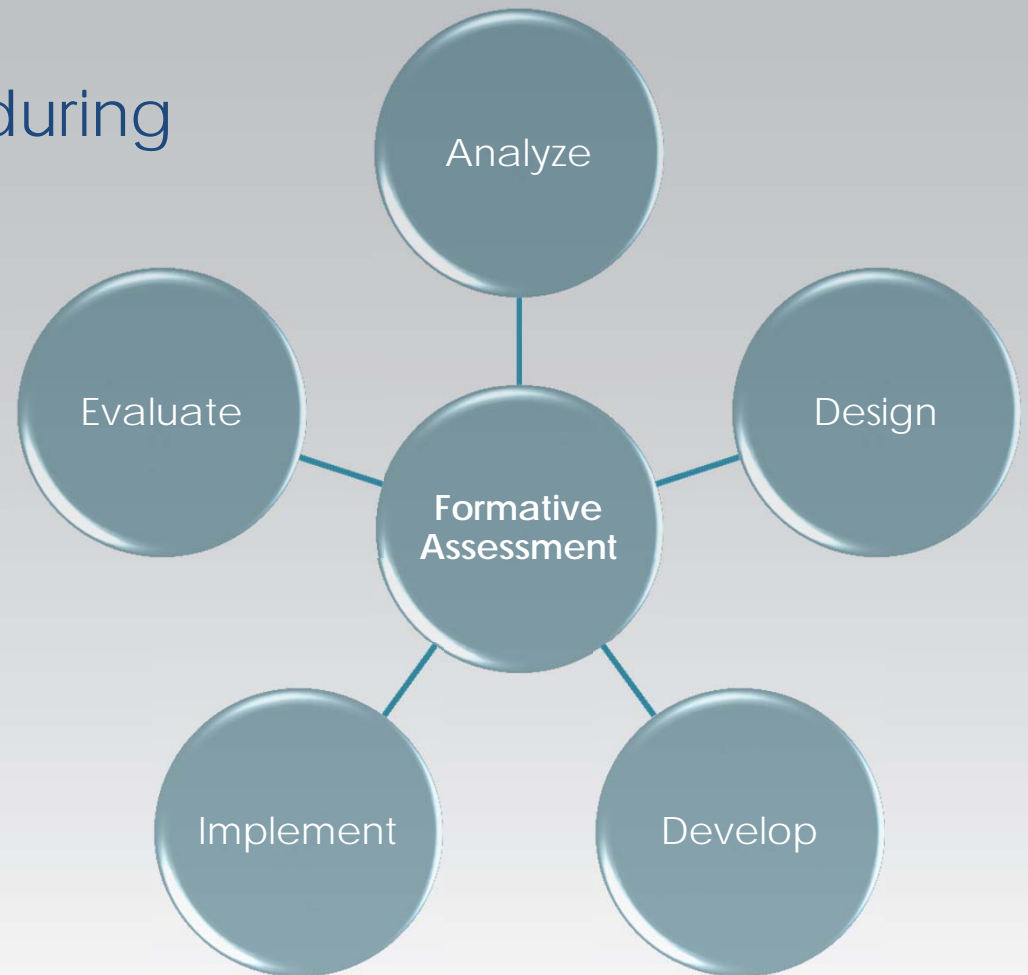
410-2

## Purpose

- Program improvements during their construction and implementation

## Techniques

- Surveys
- Interviews
- Data Collection
- Statistical Analysis
- Experiments
- Pilot Projects





# Instructor Improvement

Item 410-2

## Trainer Roles and Goals

- Utilize Professional Certification Program Curriculum Work Plan Modules
- Utilize Professional Certification Program for Subjects (e.g., Retail Motor Fuel Dispensing Systems, Basic Package Labeling/Checking, Small Capacity Scales)
- Train Using Adult Learning Methods and Training Materials
- Familiarize Students with Test Format
- Assess Test Results and Proficiency Improvement
- Self-Assess





# Recommended Training Topics

410-3

- Marketplace Surveys
- Auditing the Performance of Field Staff  
(Mr. Wotthlie, MD, volunteered to lead the session)
- Alternative Fuels  
(Fuel Volatility, Ethanol Blending, and Biodiesel Blend Issues)
- Device Inspections Using a Sampling Model
- Emerging Issues
- Ergonomics  
(Including Proper Lifting Techniques, Back and Stress Techniques and Office Ergonomics)



# Recommended Training Topics

Item 410-3

- Public Relations, Specifically Dealing with Aggressive/Angry People  
(recommended by the SWMA)
- General Safety Issues  
(recommended by the WWMA)
- Defensive Driving  
(recommended by the WWMA)
- Administrative Civil Penalty Process  
(recommended by the WWMA)
- Price Verification  
(recommended by the WWMA)



# Recommended Training Topics

Item 410-3

- Customer Service  
(recommended by the WWMA)
- Ethics  
(recommended by the CWMA)
- Automatic Temperature Compensation Testing for Field Inspectors
- Hydrogen Measuring Systems
- *NIST Handbook 44* Scale Code Tare Changes
- Wet Tare/U.S. Department of Agriculture Issues
- Moisture Loss



# Safety Awareness

Item 420-1

The committee will continue to ask the regions to prepare articles for NCWM Newsletter and has revised the schedule as follows for future issues. The committee plans to notify the Regional Safety Liaisons as their assignment date approaches.

Association	Issue	Publication Date	Article Deadline
CWMA	2011, Issue 3	September	July 22, 2011
NEWMA	2012, Issue 1	February	January 16, 2012
SWMA	2012, Issue 2	May	April 16, 2012
WWMA	2012, Issue 3	September	July 16, 2012

**Future Concept:** Creating a compilation of Right to Know Resources to assist states in meeting OSHA and state requirements.



# PDC Web Page Revisions

Item 420-2

- "Get Professional Certification" page as NCWM splash page
- Committee Chair will be the point person for adding documents to this page
- Professional Certification Program highlighted and document access by SME's and the membership
- PDC special page for working documents



# PDC Web Page Revisions

Item 420-2

- Professional Certification Program Administrative Procedures – next steps in formalizing Professional Certification Program policies and procedures based on ISO 17024 – *Guide to Certifying Bodies* in cooperation with Board of Directors
- Instructor Improvement – document archive for people who are interested in professional certification training material, resources, and PDC ongoing work



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Questions?



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Thank You