

M-TRAC ANNUAL MEETING

MILWAUKEE, WISCONSIN

SEPTEMBER 23-25, 2007



M-TRAC MEETING
Sept. 23 – 25, 2007
Milwaukee, Wisconsin
AGENDA

Sunday, September 23

5:00 P.M. – 8:00 P.M. Reception

Monday – September 24

7:30 A.M. – 8:30 A.M. Continental Breakfast and Registration
8:30 A.M. – 9:00 A.M. Welcome and Introductions
9:00 A.M. – 10:30 A.M. State Updates
10:30 A.M. – 10:45 A.M. Break
10:45 A.M. – 11:15 A.M. ACI and NHI Updates
11:15 A.M. – 11:30 A.M. Smoothness Training – Ray Spellman
11:30 A.M. – 11:45 A.M. Basic Ethics of Inspectors – Albert Oyerly
11:45 A.M. – 12:00 P.M. M-TRAC Update – Chris Anderson
12:00 P.M. – 1:00 P.M. Lunch
1:00 P.M. – 1:30 P.M. TCCC Update and FHWA Update – Chris Anderson and Dennis Dvorak
1:30 P.M. – 2:00 P.M. Audits for Certification Training – Dennis Dvorak
2:00 P.M. – 3:00 P.M. State Problems – Open Forum
3:00 P.M. – 3:15 P.M. Break
3:15 P.M. – 4:30 P.M. Training Incentives – Supervisor Problems, Success Stories, etc.
State Problems Cont. – Open Forum

Tuesday, September 25

8:00 A.M. – 9:30 A.M. State Updates
9:30 A.M. – 9:45 A.M. e-Learning Update – Chris Anderson
9:45 A.M. – 10:00 A.M. Break
10:00 A.M. – 10:15 A.M. Learning Network – Julie Rodriguez
10:15 A.M. – 10:30 A.M. Integrated Materials and Construction Practices – Cathy Betts
10:30 A.M. – 11:15 A.M. State Updates/Problems
11:15 A.M. – 11:30 A.M. Wrap-up

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M-TRAC ANNUAL MEETING
Best Western Milwaukee Hotel & Conference Center, Milwaukee, Wisconsin
September 23-25, 2007

A reception kicked off the 2007 M-TRAC meeting on Sunday, September 23rd. This gave everyone an opportunity to say hello. Information sharing started off during the reception and lasted throughout the meeting.

The meeting began on Monday with a special thank you to the University of Wisconsin - Platteville for the work they did as meeting hosts. Next there were introductions of the 22 participants representing 17 state DOT's or universities, organizations, and FHWA. The meeting began with state updates. All Power Points are attached.

The National Institute For Certification In Engineering Technologies (NICET) – Ahmed Farouki – Power Point

American Concrete Institute (ACI) has an audit program now.

Smoothness Training – Ray Spellman – University of Wisconsin Platteville – Power Point

Philosophy of Inspection – Albert Oyerly – Kansas DOT – Power Point

M-TRAC Update – Chris Anderson – Power Point
It was suggested that we send another note out for State Comparison of certifications.

TCCC Update – Chris Anderson – Power Point

eTEC- Susan Schemmel – Power Point

FHWA – Dennis Dvorak, FHWA - Chicago – Power Point

Integrated Materials and Construction Practices – Cathy Betts - Cathy discussed Integrated Materials and Construction Practices and National Concrete Pavement Center concrete classes. This is part of a joint effort of ISU and National Concrete Center. The classes are delivered at various locations. The center has plans to make the sections into web based training.

E-Learning Update – Chris Anderson – Power Point

Learning Network – Julie Rodriguez - North Dakota State University – Julie works with the Transportation Learning Network. Their website is www.translearning.org. Video conferencing and web conferencing are good ways to give classes during bad weather and a good way to review for exams. A three day class can be presented via video conference or web conference and people don't mind. They can observe the video

conference from their own personal computer, but cannot take part. They recently put in place a Learning Management System (LMS) and are starting to enter training. They will be able to sort through information. The LTAP center that was formerly housed at NDSU – Fargo has been moved to Upper Great Plains. They have been pod casting to connect people. They are offering an LTAP101 course. They are not doing any certifications. They do offer a PE exam review course through web conferencing. They are using videoconferencing for specialty training. A Workzone Safety class is done via web conference using toy equipment and army men as examples.

STATE REPORTS

Kansas DOT – Lora Kowach – Lora reported that Rick Kreider was promoted to Bureau Chief. They combined their concrete specification - QC/QA and Cement Treated Base (CTB) classes. They removed Plasticity Index (PI) from Aggregate Field class, but will offer it by itself if the asphalt industry wants it. They are creating 5 new classes for Engineering Technicians that are not always in the field. Kansas industry has created another Certified Inspector Training (CIT) program. Please make sure it is the Kansas State-Salina program that you are working with, as the similar terminology is causing confusion. They received a new specification book for the first time in 14 years. Kansas DOT e-mails course confirmations to enrollees. The Kansas DOT has been using a mentoring program with 1 or 2 mentors per district available to assist young workers.

Missouri DOT – Jeff Huffman - Power Point

Missouri will offer any certification test for \$100 for reciprocity from other states. This is restricted to test methods in common. Missouri now offers classes in one central location, where everyone gets the same message. They have changed to PVC certification cards, similar to the Wisconsin DOT and the Iowa DOT. They split their Level 2 concrete training course since there were many new changes and regulations. They allow Personal Development Hours (PDH) at a 10-1 ratio for Continuing Education Units (CEU). No approval is necessary but interested parties need to fill out a document on the website. MoDOT can produce a certificate for individuals upon request. CCRL and AMRL have been calling quite often to confirm certifications. Auditing is going from project based to technician based, and is performed two times a year.

New Mexico DOT – Brian Legan – Power Point

The New Mexico DOT does all the training. There is a huge demand for construction inspection training.

Minnesota DOT – Cathy Betts – They produce a laminated certification card. The card is part of a larger sheet, which also contains instructions. The card itself is designed to be punched out of the larger sheet. Expiration dates are put in red to stand out. They also printed a brochure and catalog to help advertise and explain the program. They make sure that their calendar is on their web site by October 1. People can begin registering immediately after that. Cathy showed a pocket sized reference book that is a

great field resource. Lake Superior helps with training. Training classes range in cost from \$150 to \$400. They offer a Bridge course that is 3 weeks long and costs \$1,100. In Minnesota, the engineers have to go through the certification program, also. Their degree does not exempt them (if they are going to be doing testing). Minnesota was asked to have a list of certified technicians made available. They checked with their legal department and were told the data was considered private data. MnDOT did not publish the data. They can answer “yes”, certified, or “no”, not certified, if someone calls to check on an individual’s certification status. The Minnesota DOT materials training unit is comprised of 3 people who cover the entire state.

North Dakota DOT – Mike Kisse – Mike reported that Upper Great Plains came to Bismarck to help with coordinating training between LTAP and Upper Great Plains and DOT. The North Dakota DOT is having a difficult time hiring and replacing employees. They have implemented a Succession Planning Program to help train young new employees. The mentoring program has matched 40 pairs of workers this year. A very positive result was that people are learning about other parts of the organization. They started a maintenance training academy for equipment operators about 3 years ago. It is filtering over to construction side now and is called the Transportation Technician Program. The program has trained 90-100 operators and results have been very positive. They shot video of veteran workers, asking them (unscripted) how things have changed since they started. That has been beneficial in planning training and also understanding what is needed. They are focusing on educating workers in safety to meet SAFTELU requirements. They are also doing a Construction Rotational Training Program. This is a 3 year program where workers choose three divisions to work in out of five or six choices. This exposes workers to a variety of different areas of construction. It is for both engineers and technicians.

Wisconsin DOT – Ray Spellman – University of Wisconsin Platteville – Power Point

Iowa DOT – Chris Anderson – Power Point

QUESTION/ANSWER

The next section covered question and discussion time by the attendees.

Discussion on decertification:

KDOT – Lora reported that a certified technician admitted changing test results, but if he had not admitted it, they wouldn’t have been able to decertify him according to the present language of their policy. They have met with their legal department and entirely rewritten their decertification policy. The M-TRAC group requested to see the new policy draft.

E-learning: Just for training or for certification?

Iowa – Iowa is not planning to use e-learning for certification purposes. They plan to use it for information purposes, providing review material, and for providing non-certification training.

Transportation Learning Network – Julie said that it is possible to get testing online, but may not be cost efficient.

eTEC – Susan reported that some online quizzes in Texas are used as a prerequisite for certain certification classes. She would not want to offer certification online, as there are many potential problems.

Discussion of generational resistance to computer training:

Several states commented that older workers are more resistant to working with computers.

Discussion on testing out:

Minnesota – Cathy reported that people can test out of certification classes in Minnesota. They have to apply, pay a fee and have experience in the field. Full tuition is charged, as well as a proctor fee if necessary.

Discussion on apprentice program:

MoDOT – Jeff reported that they have started registering interns in an apprenticeship program. Their supervisor signs off on the tests they perform for 6 months. They are not certified at the time.

How do people handle rounding?

The discussion proved that states round in multiple ways. Some follow AASHTO E-29.

Wrap-Up

The 2008 M-TRAC meeting will be held in Albuquerque, New Mexico.

The group decided to continue having the M-TRAC meetings annually. The following are the meeting locations for the next two years:

- 2008 – New Mexico
- 2009 – South Dakota

Technician Certification Program (TCP)



Overview

- Any acceptance testing for MoDOT projects is to be completed by a Certified Technician.
- Certification consists:
 - Classroom Instruction
 - Written Examination
 - Performance Demonstration

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Overview

- Certifications are valid for 3 years.
- Reciprocity honors other states certifications, restricted to test methods in common.
 - May take supplemental test to receive unrestricted certification.

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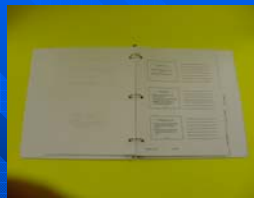
Overview

- Written examinations are open book.
- Re-certification consists of student self study, short review of any changes, written exam and performance demonstration.
- Students allowed 1 re-test on written exam and performance demonstration.

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Training Material

- Course books consist of PowerPoint material note pages.
- Available **MTRAC** training material.
- Materials and/or Construction Manual excerpts.
- Publishable Test Methods.



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Course Locations

- Linn State Technical College – Linn MO
 - Aggregate Technician
 - Bituminous Technician
 - Soil Density
 - Profilograph
 - Concrete Field
 - Concrete Strength
 - Plasticity Index
- University of Missouri, Rolla (UMR)
 - Superpave QC/QA
 - HMA Aggregate
 - TSR
- Central Laboratory – Jefferson City MO
 - Aggregate Specific Gravity
 - T85 Absorption
 - Low Slump

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Certification Cards

- Temporary cards issued upon successful completion of each class.
- Permanent cards issued July 1, each year, to include all of a technicians current certifications.
- Used PVC Cards this past season. Cost around \$1 each. Much less labor to produce.



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De-Certification

- Any documented cases of fraud, abuse, willful negligence will be investigated and appropriate action taken to suspend or remove individual from the certification program.
- Demonstrated incompetence may require repeat of certification course.

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Changes!!

- Split "Level 2 Concrete" into two separate certifications – Concrete Field, Concrete Strength.

Concrete Field

- TM 20 Air Temp.
- T 141 Sampling
- C1064 Temp.
- T 119 Slump
- T 152 Air

•T 23 Specimens - *Expanded*

Concrete Strength

- T 24 Cores - *Added*
- T 148 Length
- T 231 Capping
- T 22 Comp. Strength - *Expanded*

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Removed "Level" Designations on Certification Courses

- Level 1 Technician — ■ *Aggregate Technician*
- Level 1 Bituminous — ■ *Bituminous Technician*
- Level 2 Concrete — ■ *Concrete Field - New*
■ *Concrete Strength - New*
- Level 2 Soils — ■ *Soil Density*
- Level 2 Bituminous — ■ *Superpave QC/QA*

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Status Reports

- Status report sent to each company
- Included
 - Letter highlighting changes to the program
 - Listing of company's employee(s) who are currently certified
 - Individual techs certification(s) with expiration date
- Good response
 - Our data base is more up to date
 - Early class registration is up
 - Intend on sending annually



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Michigan Department of Transportation
111 Francis Drive

Technician Certification Program
Status Report

Tech: 300 6379

Last Name	First Name	L1 Tech	PI	L1 Bit	L2 Soils	L2 Agg	L2 Conc	L2 Bit	ASG	Profile	Low Slump	TSM	ABS	HMA App
Bethkamp	James	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Birkbe	John	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Burke	Charles	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Chapman	John	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Harper	James	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Kelly	Lee	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Khanlou	Edgar	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						
Ortiz	Thomas	03/00/00		03/00/00	03/00/00	03/00/00	03/00/00	03/00/00						

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Information

■ Calendar, Locations, Certification Levels, Specific Tests, Policy located on the web.

– www.modot.mo.gov

- » Contractor Resources
- » Technician Certification Program
- » Tech Cert

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Thanks Ray!



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Questions?

The National Institute For Certification In Engineering Technologies



The NICET Update

Almond Farouki
Senior Director, Technical Services

MTRAC
Milwaukee, WI
September 24-25, 2007

NICET ... 2007

- ❖ Active certificants ... over 38,000
- ❖ Certifications issued ...over 120,000
- ❖ Staff additions and realignments:
 - ❖ Continue to improve on customer service
 - ❖ Increased focus on Program maintenance & development

Transportation Engineering Technology

- ❖ Highway Construction
- ❖ Highway Maintenance
- ❖ Highway Design
- ❖ Highway Traffic Operations
- ❖ Highway Surveys
- ❖ Bridge Safety Inspection
- ❖ Highway Materials

Highway Maintenance & Preservation

Program Update Started ... 2002

PENNDOT Bureau of Maintenance & Operations expressed the need for a:

“Highway System Maintenance & Preservation Certification Program”

Program Development Committee ...

Representation from:

- ❖ **PENNDOT BOMOP**
- ❖ **Maintenance Managers Training Committee (MMTC),**
- ❖ **PA LTAP**

Completed first draft in 2004

National Program Validation

- ❖ Review by the Mississippi DOT's Highway Maintenance Division & Professional Development Group.
- ❖ Review by the AASHTO Subcommittee on Maintenance - Workforce Development Focus Group & the Bridge Maintenance Task Force.

Completed validation in 2006

National Program Validation ...

The TCCC Connection:

The Highway Maintenance & Preservation Certification Competencies mirror the FHWA's Transportation Curriculum Coordination Council's Maintenance Training Competencies.

A New Program For ...

Public & private sector engineering technicians who perform and inspect maintenance and preservation of highway systems in the following work domains:

- ❖ Maintenance and Preservation
- ❖ Erosion & Sediment Control
- ❖ Construction / Reconstruction Inspection
- ❖ Materials Testing

The Program's Test Categories ...

- ❖ Written and Verbal Communications
- ❖ Mathematics and Data Entry
- ❖ Surveying, Plans and Specs
- ❖ Environmental Protection
- ❖ Installation & Maintenance of Drainage Pipes
- ❖ Worksite Safety & Incident Response
- ❖ Materials Sampling & Testing

The Program's Test Categories ...

- ❖ Roadway Maintenance & Preservation
- ❖ Highway Construction/Reconstruction Inspection
- ❖ Structure Inspection & Maintenance
- ❖ Roadside Maintenance
- ❖ Maintenance Equipment & Materials Mgt.
- ❖ Maintenance Operations/Asset Management.
- ❖ Weather Related Maintenance Operations.

The new Highway Maintenance & Preservation program opened for testing on May 1, 2007.

Highway Construction Inspection

Steering Committee

6/17/2005

- ❖ J. Sorenson / FHWA
- ❖ D. Townes / FHWA
- ❖ J. Rapol / FAA
- ❖ J. Taylor / NHI
- ❖ D. Liston / VDOT
- ❖ T. Ferguson / PennDOT
- ❖ S. Bartos / Nebraska DOT
- ❖ J. Wathen / KY Trans Cabinet
- ❖ J. Twedt / MS DOT
- ❖ J. Gower / Oregon DOT
- ❖ E. Powell / NC DOT
- ❖ M. Phillips / PA Turnpike
- ❖ N. Syed / NY-NJ Port Auth.
- ❖ D. Buchek / Urban Engineers
- ❖ R. Hale / PBSJ
- ❖ R. Samson / Vollmer & Assoc.
- ❖ K. Fryer / Wilbur Smith
- ❖ J. Epps / Granite Construct.
- ❖ P. Kutt / APWA
- ❖ T. Giancola / NACE
- ❖ A. Shaw / Hampton Roads
- ❖ M. Stark / CMAA
- ❖ B. Deery / AGC

Transportation & Public Works Construction Inspection Program

Four New Tracks

- ❖ Highway Construction Inspection
- ❖ Airfield Construction Inspection
- ❖ Transit Systems Construction Inspection
- ❖ Public Works Construction Inspection

Program Development for the New Highway Construction Inspection Started in 6/2007

Testing & Certification Levels

- ❖ Level I 6 months experience
- ❖ Level II 2 years experience
- ❖ Level III 5 years experience
- ❖ Level IV 10 years experience
- ❖ Level V (optional?) ... 15 years experience

Program Domains ...

- ❖ Drainage Facilities & Structures
- ❖ Earthwork
- ❖ Utilities
- ❖ Pavement Structures
- ❖ Structure Construction
- ❖ Geotechnical Construction

Program Domains ...

- ❖ Work Zone Traffic Control
- ❖ Protection Of The Environment
- ❖ Contract Administration
- ❖ Incidental Construction
- ❖ Worksite Safety

Program Development ...

The TCCC Connection:

The Highway Construction Inspection Competencies mirror the FHWA's Transportation Curriculum Coordination Council's Highway Construction Inspection Training Competencies.

Participation in the program development activities for the highway construction inspection program is still open. The next development group meeting is on 10/15/07

Thank You

www.nicst.org

M-TRAC Annual Meeting

September, 23-24-25, 2007
Milwaukee, WI

PROFILER

- What we had
- Where we're going
- Where we're at!



Highway Technician Certification Program -HTCP

- A recent partnering event with WisDOT
 - Spring Break on Campus
 - Industry Profiler Training, 3-13-2007
 - HTCP Profiler Training and Certification on 3-14-2007
 - Profiler Computer training. 3-15-2007
-





Highway Technician Certification Program -HTCP

In Closing ...

Questions?



M-TRAC ANNUAL MEETING - 2007

Philosophy of Inspection

Albert Oyerly
Quality Assurance Engineer
Materials and Research



Philosophy of Inspection

1. Definitions
2. Ethics
3. Four Phases of Inspection
4. The Triangle of Testing/Inspection
5. The Spec...
6. Control vs Influence



2 the study of the theoretical basis of a branch of knowledge or experience.

3 a theory or attitude that guides one's behaviour.

– ORIGIN ME: from OFr. *philosophie*, via L. from Gk *philosophia* 'love of wisdom'.



Definitions

Wise

- *adj.* **1** having or showing experience, knowledge, and good judgement.
2 (**wise to**) **informal** aware of, especially so as to know how to act.
- *v.* (**wise up**) **informal** become alert or aware.



Definitions



· *n.* the body of moral principles or values governing or distinctive of a particular culture or group.

– ORIGIN ME: from OFr. *éthique*, from L. *ethice*, from Gk (*hU*) *UthikU* (*tekhnU*) '(the science of) morals', based on *Uthos* (see **ethos**).



Ethics:

Texas Instruments' Quick Test

Is the action legal?

*Does it comply with **KDOT Values**?*

If you do it, will you feel bad?

How will it look in the newspaper?

If you know it's wrong, don't do it!

If you're not sure, ask.

Keep asking until you get an answer!



KDOT Core Values

- *We are accountable to the people.*
- *We will continually improve.*
- *We will manage our resources wisely.*



KDOT Core Values

- *Our employees are our most valuable resource.*
- *We depend on our employees and business partners to get the job done.*
- *Our work environment will motivate and encourage them to be productive.*



ASCE: Ethics for Engineers

Engineers uphold and advance the integrity, honor, and dignity of the engineering profession by:

1. Using their knowledge and skill for the enhancement of human welfare and the environment;
2. Being honest and impartial and serving with fidelity the public, their employers and clients;



ASCE: Ethics for Engineers

Engineers uphold and advance the integrity, honor, and dignity of the engineering profession by:

3. Striving to increase the competence and prestige of the engineering profession; and
4. Supporting the professional and technical societies of their disciplines.



This is Your Community!

- The jobs you work on are directly impacting your community
 - Economics
 - Growth
 - Tax Base
 - Wear and Tear on Vehicles
 - Quality of Life



Four Phases of Inspection

1. Finding
2. Reporting
3. Communicating
4. Approving



The Asphalt Institute; Northern Division (1967)



1. Finding

- Know the plans and specs!
(This Requires Preparation)
- Recognize when the quality doesn't meet specs.
- If you foresee difficulties, **take a proactive approach!**
- It's always easier to do the task right the first time.



2. Reporting

- This is not "I spy".
- Document, then...
- Communicate
- Communicate
- Communicate



3. Communicating

- It's important to maintain good communication channels to **all** involved parties.
- ADD MORE INFORMATION...



3. Communicating "bad news"

- Remain calm.
- Refrain from being emotional.
- Take a moment and think about how you're going to communicate with the contractor prior to talking with him. You might want to reconsider your words.
- Be concise (*"Just the facts, ma'am"*).
 - This requires you to know the spec and to know the contractors process.



4. Approving

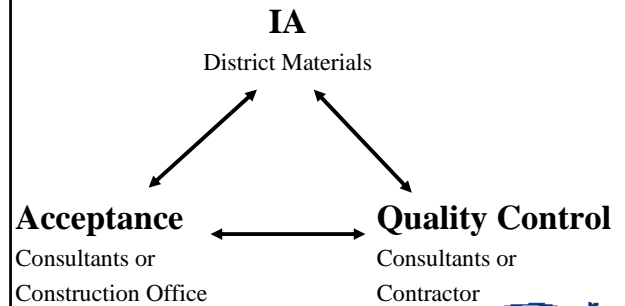
- Let the contractor know as soon as possible when they are doing something wrong **and** when they are doing something **right**.



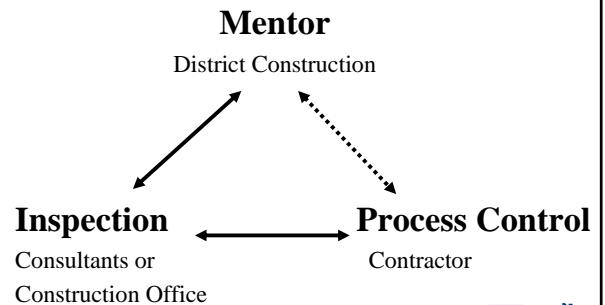
This is referred to as



Tester Triangle Philosophy



Inspector Triangle Philosophy



The 1990 Spec...

105.11 DUTIES OF THE INSPECTOR.

Inspectors employed by the Secretary shall be authorized to inspect **all work** performed and materials furnished...

...The Inspector is not authorized to alter or waive the provisions of the contract.



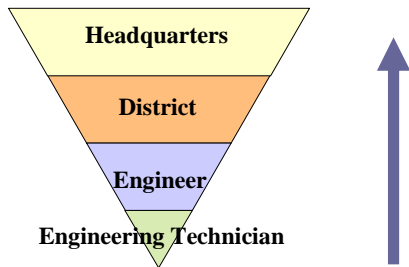
The 1990 Spec...

105.11 DUTIES OF THE INSPECTOR.

The Inspector is not authorized to issue instructions contrary to the contract, or to act as foreman for the Contractor; however, he shall have the authority to reject work or materials until any questions at issue can be referred to and decided by the Engineer.



Decision-Making Process



KANSAS
DEPARTMENT OF TRANSPORTATION



Control vs Influence...

- Escalating emotions rarely solve problems!
- **You** are the only person that can *control your emotions*.
- Keep a cool head and *focus on the challenge!*

KANSAS
DEPARTMENT OF TRANSPORTATION

Thanks for your attention.

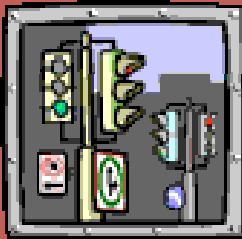


M-TRAC UPDATE

- Revised Manuals
- Chris and Cathy are TCCC representatives from M-TRAC
- Updated Contact Information
- Thanks to Superpave Center for Website
- State Comparison (Anyone want this effort continued?)

M-TRAC Update

- M-TRAC e-mail list
 - Additions
 - Deletions
- TCCC Materials Distribution
 - One copy of each new material sent to state
 - I send M-TRAC's to a state contact to be forwarded to appropriate person
 - Materials purchased through NHI
 - Now through internet
- Any questions or concerns



E-LEARNING UPDATE

- TCCC E-Learning Task Group
- Collect Web Based Materials
 - Application and Standards
- Material Development
 - Generic for use by any agency
 - Ethics for Highway Technicians and Basic Materials completed



E-LEARNING UPDATE

- Future Courses
 - Math
 - Plan Reading
 - Basic Welding Inspection
 - Bolt Inspection
 - Basic Survey
 - Pavement Preservation Curriculum
- LMS
 - Current problem is how to house
 - Make available on LMS for everyone's use through the TCCC website





Transportation Curriculum Coordination Council (TCCC)

Addressing Challenges in Construction and Maintenance Workforce and Quality

Topics of Discussion

- What is the TCCC
- Workforce development challenges
- TCCC core curriculum matrices
- Training data base
- Ongoing activities
- How can you support the TCCC

2007 AASHTO SCOM Meeting



Transportation Curriculum Coordination Council

A seven-year old public/private partnership that is assembling a curriculum aimed at producing the highly-skilled transportation workforce our mobility demands.

2007 AASHTO SCOM Meeting



Partnership Effort

- Regional certification groups
- AASHTO subcommittees
- Local transportation agencies
- FHWA / NHI
- Industry groups
- Academia

2007 AASHTO SCOM Meeting



TCCC Mission

- Coordinate training and certification efforts
- Establish a national core curriculum
- Develop training materials
- Support agency training efforts

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Why Do You Need the Transportation Curriculum Coordination Council?

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Workforce Facts

- Average age nationwide of workers in the construction skilled trades area is 48 years old
- Those born during 1945–1950 will start retiring in 2010–2015
- There were not enough children born in America between 1990–1995 to replace them

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Workforce Facts (continued)

- There will be over 950,000 vacant positions in the construction skilled trades area by the end of next year, and it is estimated that we will lose one million a year thereafter
- A career in the construction industry was rated 498th out of 500 by high school students and their parents

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Core Curriculum Matrix Development

- Developed matrices listing core competencies for four skill levels in the following areas
 - Maintenance
 - Construction
 - Materials
 - Safety and Work Zone
 - Workforce Development

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DISCIPLINES	COMPETENCIES BY SKILL LEVELS			
	Level I	Level II	Level III	Level IV
Surface Preparation	Assists in performing surface inspections	Inspects surface for proper preparation in accordance with contract documents	Recommends acceptance or corrective action based on inspection results	Determines contract decisions related to surface preparation acceptance and payment
			Documents and follows up on corrective actions	Recommends disciplinary action when corrective measures are not taken in a reasonable time frame
Concrete Delivery	Assists in inspections of delivery vehicles to make sure they are in good working condition	Inspects trucks to assure that all gauges, meters, etc. are in working order	Recommends acceptance or corrective action based on inspection results	Determines contract decisions related to concrete delivery acceptance and payment
			Documents and follows up on corrective actions	Recommends disciplinary action when corrective measures are not taken in a reasonable time frame
			Checks for worn parts that could affect mix quality	
			Collects load tickets	
		Verifies correct mix was shipped		

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		Verifies correct mix was shipped		

TCCC Current Activities

- National training data base
- Maintenance academy
- Training development

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National Training Database

- National Interest:
 - TCCC, NTTD, LTAP
 - AASHTO, TRB, ITE
- Locating existing training from a wide variety of disciplines within construction and maintenance
- Assist in gap analysis for new course development
- Under development for summer of 2007

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Training Products Database

- Complete data on training courses
 - objectives, level, audience, tests, manuals, contacts, etc.
- Review and link to competencies by level
- Maintain online searchable training database
 - more than 50 subject areas

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The screenshot shows the website for the Transportation Curriculum Coordination Council (TCCC) Training Resource Database. At the top, it identifies the U.S. Department of Transportation Federal Highway Administration and includes links for FHWA Home and Feedback. The main heading is 'Transportation Curriculum Coordination Council TRAINING RESOURCE DATABASE'. A welcome message states the purpose is to provide transportation professionals with resources for developing a skilled workforce. Below this, there are navigation tabs for Construction, Employee Development, Maintenance, Materials, and Safety & Workzone. A 'Search for Resources' section includes dropdown menus for Subject Area, Discipline, Skill Level, and Resource Type. A 'Key Word Search' field is also present.

Maintenance Academy

Expert panel was convened last August to determine critical knowledge and skill areas required of maintenance supervisors/managers functioning at Level IV as defined in the TCCC Matrices

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Maintenance Academy Subject Areas

- Maintenance administration
- Roadway and shoulder
- Drainage
- Weather related operations
- Roadside maintenance
- Bridge preservation

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Maintenance Academy Subject Areas (continued)

- Fleet management
- Work zone traffic control
- Traffic services and safety
- Environment*
- Pavement preservation*

* Identified by panel as additional subject areas

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Training Development

- Inspection of Bridge Rehabilitation
- Environmental Factors in Construction
- GPS Applications in Construction
- Pavement Preservation Online Training



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Web Based Training

- Courses Developed or Under Development
 - Ethics for the Transportation Industry
 - Math
 - Plan Reading
- Requesting Courses
- Accessibility

For more information about the TCCC go to:

www.nhi.fhwa.dot/tccc

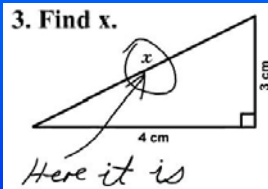
Or contact:

Christopher Newman
FHWA Office of Asset Management
202.366.2023

christopher.newman@dot.gov



QUESTIONS?



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Construction Materials Technician Training

Online Training Update

Core Mission

- To provide the most up to date and comprehensive training tools for construction material testing technicians.



Construction Materials Technician Training

eTEC Training Products

- Computer based
 - ✓CD or online
- Focused primarily on ASTM standards
 - ✓AASHTO and DOT
- Annual updates
- Single user and Instructor products



Construction Materials Technician Training

eTEC Training Modules

- "Plain language" review of the standard
- Flash video demonstrations
- Step-by-step summary
- Scored quiz
- Glossary
- Printable PDF's



Construction Materials Technician Training

eTEC Training Bundles

- Concrete Field Testing
- Concrete Strength Testing
- Self Consolidating Concrete

- Laboratory compaction of soil
- Aggregates - Series 1



Construction Materials Technician Training

Online Training

- www.go2etetraining.com
- Server and software
 - ✓Dell PowerEdge
 - ✓Housed at CoSentry
 - ✓Management software by Hintz Consulting



Construction Materials Technician Training

U.S. Department of Transportation
Federal Highway Administration

RESOURCE CENTER

September 24, 2007

Quality Assurance

Dennis Dvorak
FHWA Resource Center
Pavement and Materials TST

U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Topics

- Quality Assurance Stewardship reviews
- Quality Assurance Technologist Course
- CFR Changes

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RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

FHWA Quality Assurance Stewardship Reviews

Title 23 Code of
Federal Regulations
Part 637
(23 CFR 637)
June 29, 1995

U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Stewardship Reviews

Reviews started in 2003 as routine stewardship of 23 CFR 637
Late 2003 we received reports of fraud
Raised concerns about use of contractor test results
Scope – DOT implementation strategies, policy and procedures, and office records

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RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

33 States using Contractor Test Results in the Acceptance Decision

Hawaii
Alaska

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Stewardship Reviews

- FY 2003
 - Maine, Missouri, Colorado, Oklahoma
- FY 2004
 - California, Georgia, North Carolina, New York
- FY 2005
 - Maryland, Oregon, Minnesota, Connecticut
- FY 2006
 - Virginia, Nebraska, Nevada, Wisconsin
- FY 2007
 - Pennsylvania, New Mexico, South Carolina, Wyoming
- FY 2008
 - Delaware, Rhode Island, and etc

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RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Stewardship Reviews

- Interviews
DOT Headquarters, Region/District, and Project Field Offices
- Review
DOT implementation strategies, policy and procedures, and office records
- Visit
Construction projects to assess field procedures and practices

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U.S. Department of Transportation
Federal Highway Administration

Positive Findings

Technician and Laboratory Qualifications
Electronic Materials Management Systems
Participation in, and use of NTPEP
Sampling HMA behind the paver

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U.S. Department of Transportation
Federal Highway Administration

Opportunities for Improvement

- **Need to strengthen the validation procedures of Contractor's results used for acceptance**
 - No independent samples
 - No statistical comparison
 - Number of samples for comparison
 - Increase frequency (non-comparison)
 - No defined time frame for comparison
 - Control of Contractor supplied data
 - Security of samples

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U.S. Department of Transportation
Federal Highway Administration

Opportunities for Improvement

Lack of knowledge about QC/QA Specifications
Inconsistent Application of QC/QA Specifications

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U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Technologist Course

NHI Course 134064

Technical walkthrough September 25-27

Pilot in Santa Fe, NM November 6-8

Will be available in 2008

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U.S. Department of Transportation
Federal Highway Administration

Quality Assurance Technologist Course

Target Audience

This course in its iterations is appropriate for, and is intended for, the following experienced personnel from contractor organizations or agencies:

- Project Managers/Resident Engineers
- Senior Production Facility Acceptance Technicians/Inspectors
- Senior Acceptance Laboratory Personnel
- Senior Field Acceptance Technicians/Inspectors
- QC managers/QC Plan Administrators
- Senior Production Facility QC Technician/Inspectors
- Senior QC Laboratory Personnel
- Senior Field QC Technicians/Inspectors

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Quality Assurance Technologist Course

- Chapter 1: Quality Assurance in Transportation Construction
- Chapter 2: Quality Assurance Program Elements
- Chapter 3: The Evolution of Quality Assurance Specifications
- Chapter 4: Measuring Quality with Testing Data
- Chapter 5: Contractor Quality Control Roles and Responsibilities
- Chapter 6: Agency Acceptance Roles and Responsibilities
- Chapter 7: Key Math Terms and Rules
- Chapter 8: Mathematical Tools for Quality Assurance
- Chapter 9: Applications for Quality Control
- Chapter 10: Applications for Acceptance and Payment

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Quality Assurance Technologist Course

- Management Course (1½ days)
Chapters 1 through 6
- Complete Course (3 days)
Chapters 1 through 10

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Code of Federal Regulations

No changes to 23 CFR 637 planned to address qualified construction inspection

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September 24, 2007



Questions and Comments?

Dennis Dvorak
FHWA Resource Center
Pavement and Materials TST
Olympia Fields, IL

dennis.dvorak@fhwa.dot.gov

Phone: 708-283-3542

M-TRAC Annual Meeting

September 24, 2007



New Mexico
Technician Training and Certification Program (TTCP)
M-TRAC Meeting
 Milwaukee, WI
 September 23-24, 2007

Joint Cooperative Effort

How Does The Cooperative Effort Work?

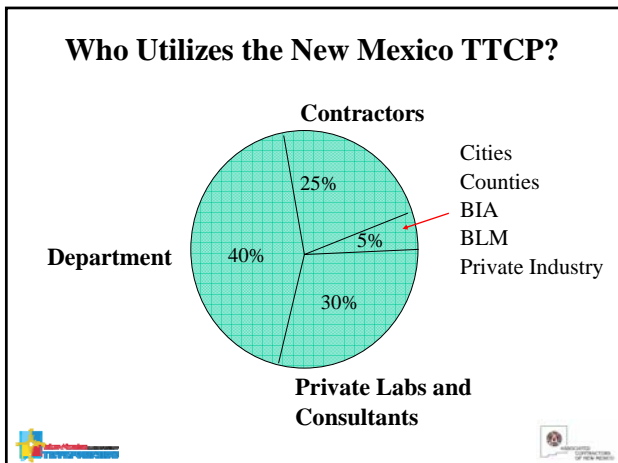
THREE Full-Time Trainers

- Testing Equipment
- Lease ACNM Facility

- Provide Facility
- Maintain Database
- Provide Billing/Collection
- Input From Industry
- Hire Proctors

New Mexico TTCP - Training and Certification Modules

Modules:	Days:	Cost:	Class Size:
• Aggregate Training	- 5	- Free	- 16
• Aggregate Certification	- 3	- \$350	- 12
• Soil Training	- 2	- Free	- 16
• Soil Certification	- 2	- \$300	- 16
• Asphalt/Superpave Training	- 4	- Free	- 10
• Asphalt/Superpave Certification	- 3	- \$350	- 10
• Concrete Field Technician Training	- 1	- Free	- 20
• Concrete Field Technician Cert.	- 1	- \$300	- 20
• Concrete Laboratory Train. & Cert.	- 1	- \$100	- 20
• Nuclear Densometer Training	- 2	- Free	- 20
• Nuclear Densometer Certification	- 2	- \$300	- 20
• Inertial Profiler Inspector Training	- 1	- \$100	- 20
• Ethics Awareness	- 1	- \$50	- 30
• Superpave Mix Design Training	- 4	- Free	- 8
• TTCP Overview for Decision-Makers	- 3	- Free	- 16





TTCP... What's new?

- Introduction of Construction Training Modules
- Expansion of Facility
- New Trainer
- 5-Year Certifications



Construction Training Modules

- Construction Training Committee
- Career Path – Multi-tier Progress
- Offered Statewide
- Offered at TTCP Facility



Construction Training Modules

- Anticipated Classes for 2007/2008
 - Ethics Awareness (April 2007)
 - HMA Laydown Inspection (October 2007)
 - Partnering (November 2007)
 - Documentation (December 2007)
 - Embankment/Trench Backfill
 - Site Manager



Construction Training Modules

Where Do We Get All of These Classes?

- TCCC  (Transportation Curriculum Coordination Council)
- NHI  (National Highway Institute)
- Other States
- Develop Our Own (Time and \$)



Expansion of Facility

- Add 4000 Square Feet
- Two Additional Training Rooms
- New Third Wet Lab
- Enlarged Material Prep Area
- Completed January 2008



Expansion of Facility



New Trainer

- Construction Experience
- Training Ability
- Statewide Responsibility for Classes and Materials
- Will hire October 2007
- Fourth Trainer, if needed



Who benefits?

Everyone benefits!

- New Mexico D.O.T
- Contractor's personnel
- Traveling public
- Taxpayer



TTCP Contacts

Brian Legan

TTCP Administrator - NMDOT

(505) 344-2072, ext.18

brian.legan@state.nm.us

Mike Gibson

ACNM Executive Director

(505) 344-2072, ext. 11

mgibson@aconm.org

QUESTIONS?

Visit our Web Site at aconm.org
Or at the Intrans web page.



M-TRAC ANNUAL MEETING
Sept. 23-24-25, 2007
Milwaukee, WI

Wisconsin-HTCP

Ray Spellman

Highway Technician Certification
Program -HTCP

- ❑ "The program is administered in the College of EMS under an agreement with WisDOT
 - ❑ Self supporting
 - ❑ Revenue sources-course registration fees by technicians seeking certification
-

Highway Technician Certification
Program -HTCP

- ❑ "The program is administered by a Director who reports to the Associate Dean of the College of EMS"
 - ❑ "The Director is supported by one full-time Office Operations Associate
 - ❑ Twelve member HTCP Advisory Board
-



Highway Technician Certification
Program -HTCP

- ❑ 1,299 Technicians were certified in 2007
 - ❑ 51 events per year
 - ❑ 30% of the classes are held at Platteville
 - ❑ 70% are held throughout the state
-

Highway Technician Certification
Program -HTCP

- ❑ The HTCP instructional season is in session for 6 months-January 1 to July 1
-



Highway Technician Certification Program -HTCP

- Eau Claire
- Green Bay
- Madison
- Milwaukee
- Wausau
- Wisconsin Rapids
- Superior













Highway Technician Certification Program -HTCP

□ Support at UW-Platteville

- Vehicle rental for equipment transport
- Dining Services
- Class room
- Lab (adjacent)
- Computer support
- TV services
- Printing and Duplicating

Highway Technician Certification Program -HTCP

- Support at UW-Platteville
 - Educational environment
 - Office space
 - Parking
 - Dan Frommelt and the Web Page
 - Train-The-Trainer
-

Highway Technician Certification Program -HTCP

- The Program core ingredient is the instructors
 - Train-The-Trainers
 - Tony Valentine
 - Joe Lomax
-

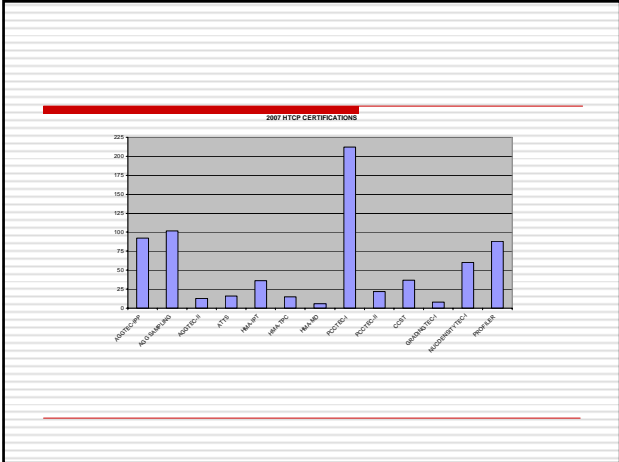
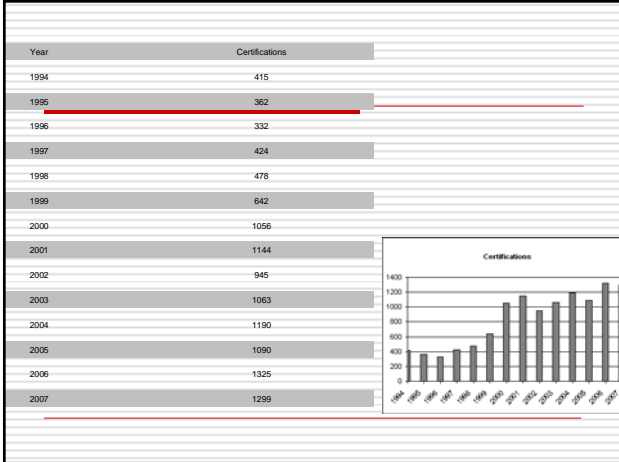




In closing

- Some statistics and numbers

HISTORICAL COMPARISON CERTIFICATION/RECERTIFICATION			
	2005	2006	2007
AGGTEC-IPP	96	115	92
AGG SAMPLING	74	86	102
AGGTEC-II	15	11	13
ATTS	20	19	16
HMA-IPY	37	47	36
HMA-TPC	10	9	15
HMA-MD	8	7	6
PCCTEC-I	142	225	212
PCCTEC-II	12	16	22
CCST	43	59	37
GRADINGTEC-I	14	16	8
NUCDENSITYTEC-I	65	69	60
PROFILER	9	13	88
TOTAL	545	692	707
*Audits			2
RECERTIFICATIONS	545	633	500
TOTAL	1090	1325	1299



Thank you.

Questions?

IOWA DOT TTCP UPDATE

- Changes in 2007 due to QC/QA changes
 - Add Material Tests to Certification Levels
 - Soils Certification
 - Developed Guides for technicians
 - Inspection
 - Independent assurance
 - verification

IOWA DOT TTCP UPDATE

- Special Classes
 - Welding Inspection on Bridges
 - Mine Safety and Information
- Updates
 - Still Require two in PCC II and HMA I
 - Plan to offer via web conference
- In-Design
 - Changing and Updating Materials

IOWA DOT TTCP UPDATE

- Hard Cards – Great!!!!!!!!!!!!!!!!!!!!!!
- Highway Technician
 - Performs maintenance operations, construction inspection, materials testing
 - New Highway Technician requires certifications
- Training Academy
 - Matrices for classification
 - Three weeks covering safety, ED, maintenance, construction, materials

