

WAQTC Meeting Minutes – January 2007

Sponsored by New Mexico DOT and
Associated Contractors of New Mexico's
Technician Training and Certification Program (TTCP)
Albuquerque, NM
January 29 – February 2, 2007



Monday (1-29-07)

Introductions – Meeting opened at 1:00 p.m.

All states gave impromptu overviews of their state's programs

- Classes offered
- Cost of classes
- Proctor (evaluators)
- Facilities
- Class sizes
- Support staff
- Support provided and offered by the state and private sector
- Percentage of participation between in-state students and private sector students

Montana – Jeff Rayman

\$160 general class cost for all classes

Jeff only trainer

Three day class embankment, base, mix design, nuclear densometer

Students are 90% inside (DOT) and 10% outside (private sector)

Jeff does all statewide QC inspections

25 student maximum class size

Classes at each district

Evaluators are current DOT lab personnel

Colorado – Alan Hotchkiss

Colorado uses WAQTC Soil module only

CDOT utilizes the local Asphalt user-producer group to deliver the HMA training and certification

Colorado run, but not funded

Contract every three years – consultant runs

Six months worth of OJT before they can certify

Cost \$100 per student

840 people certified up through 2006 with 75% private and 25% CDOT

CDOT's program feeds lunch to the students

Evaluators are paid \$300 per class to get them to proctor certification classes

18-20 students for an average class

Facilities provided by CDOT - large room for lecture/lab with 4000 square feet - ACI, WAQTC

CAPA does the certification for HMA

Colorado (continued)

CAPA basic inspector \$500, volumetric \$500 both 1-2 day class
CDOT helped create CAPA and now can't get rid of them.

Washington – Randy Mawdsley

Internal only for all classes – nothing provided to the private sector
Design build jobs are predominant for large projects (in excess of \$200m) in Washington
General engineering consultants – three sets of rules
Individual must be proctored by someone in the WDOT organization
They have to go to Idaho or Oregon to be qualified (certified)
They found Independent Assurance (IAs) in the field to go through remedial processes and proctor for qualification
They run through R-18 for field labs and revisit every six months
All acceptance testing is performed by WDOT personnel
Proctored by IAs
Tacoma Narrows Bridge was Design/Build and then audited by Bob Briggs (WDOT) and found to be lacking – D/B did not respond with corrections
Qualify one time and then IA annually on all items
7 trainers
9 IA

Utah – Bryan Lee

\$300 for outside students
75% inside 25% outside
NO training
Qualification program – OJT required
Two trainers
WAQTC Embankment, Base, Aggregate, Asphalt, Sampling
Lost Desna – set up contract with private to provide some classes
\$450 a day for private trainer
Salt Lake lab is used primarily
Do go out to the districts if they have to – do courses in the region lab and private labs when they have to and will have fee for the private if their lab is utilized
They do IA on all techs – two a year. Qualifications are good for 5 years and if they are not
Lab certification required

Alaska – Greg Christensen

Only train internal – no private sector training
25% that are qualified (certified) are private, but private sector are responsible for own training
Send ADOT proctor to private lab when they want to get certified
NO cost for that process
\$330,000 to move WAQTC training to Web based training
University of Alaska will administer the web – outside entities may be able to tap in at a cost.
They've used two of the computer based training
After CBT, they go into the lab at U of A and practice the procedures
The qualification program receives \$400,000 per year for 125 students – Greg's salary comes out of that money
Private sector folks must have two years experience

Oregon – Sean Parker

QC/QA state

Lost many DOT personnel after going to the QC/QA to the private side

Joint venture with Oregon AGC type group

Centralized training facility in Salem – all training delivered there

Built-in projectors in the training facility

Lab trailers at the location to perform hands-on testing

Warehouse for soil work

2nd warehouse for sampling and splitting of aggregates

3900 certified techs

350 students last season – the season runs November through June

Association for training delivery CAT 1 all WAQTC modules, CAT 2 troubleshooting for HMA

Class costs range from \$500 to \$1100 per session

Package includes ½ day classroom, taught in lab then trial exam, then given graded materials of known value for the students to perform and compare

Certified mix design class – 7 days

They do a mix design in the classroom – 16 students

Aggregate, Embankment, Density, Combined (embankment and density)

Exam review class for seasoned techs – refresher class for experienced techs

Specs taught as part of each class

Greenhorn class series – extra day for extra delivery – exam process is the same as the regular class

25% fail rate for various classes

IA is the proctor staff for all classes

90% industry and 10% DOT

Western Federal Lands (FHWA) – Bruce Wasill

Contractor testing exclusively

Aggregate, Soil, HMA and Concrete classes

No charge

80% contractor and 20% federal folks

Federal Lands - federal aid side and federal lands three offices

They test and inspect on BIA, BLM, military, forest and national parks

Started in 1983

Testing is geared to their contracts

Do not teach WAQTC – they teach Federal Lands which is primarily AASHTO

Administering a contract, Bruce goes out and is willing to accept the WAQTC test procedures.

They don't require certified technicians

Split samples better agree with their results – they run only splits

They do F and T quality level analysis

Regulation says that split samples should be the exception

Folks are getting better at sampling and testing

Idaho – Garth Newman

For 8 years Idaho has offered training and qualification - 5 days

\$500 for training and qualifications or \$200 for straight qualification

Concrete is only three days for \$300

Idaho (continued)

65% contractor and 35% ITD

Maintenance and civil engineering techs are interchangeable

Verification testing by ITD

QC/QA – quality level analysis – (all states represented are QLA)

ITD offers both training and qualification and just qualification to both ITD employees and

contractors. Also the ACEC (American Council of Engineering Companies) Non- profit

organization offers three of the WAQTC qualifications outside of ITD ITD encourages

consultants to use this process and ACI for concrete. With ACEC the written exam is

administered by ITD of A Friday with ACEC proctors under the guidance of a P.E.

administering the performance portion of Saturday. ACEC proctors are certified by the Sampler

Tester Qualification Committee and Garth. ACEC pays \$27.50 per hour to proctors. The lead

performance examiner with on-site oversight is an ITD employee. Cost per student is \$500 per

training session and qualification or \$200 for just qualification.

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New Mexico – Brian Legan

New Mexico TTCP offers 15 different classes. All certification classes have a “training” class that is available to the student. The “training” classes are not required before attending the certification class.

General cost of classes is \$100 per day per student.

Most expensive classes are HMA Certification and Aggregate Certification both at \$350 for three days.

On-the-Job Training (OJT) hours are required to attend certification, but these are accepted on the honor system.

New Mexico is a QC/QA state

TTCP sees 50% NMDOT, 25% Contractor, 20% Private Lab and Consultants and 5% BIA, City, County and miscellaneous

New Mexico DOT has been in a cooperative partnership with the Associated Contractors of New Mexico (ACNM) for the last 12 years with great success.

New Mexico is in the beginning stages of a major program and facility expansion in 2007.

ACNM will add 3000 square feet with two additional training rooms and a wet lab for multi-purpose training capabilities.

A third NMDOT trainer will be hired to oversee the expanded Construction Inspection modules that are planned to meet the needs of the New Mexico industry and to fulfill the anticipated requirements of FHWA under 23 CFR 637.

New Mexico requires an annual certification of all inertial profiler machines used in measurement of roadway smoothness.

Discussion items that generated as the group evolved:

- NICET and the potential impact to the WAQTC states participating at this meeting. NICET is attempting to develop a demonstrated abilities portion of their process to meet the requirements of 23 CFR 637, but all attendees indicated that they would not utilize NICET in the future due to the fact that our states already have established programs to meet the need of 23 CFR 637.
- QC/QA was discussed as the “pendulum swings” from the old method where the state agency performed all testing to what most states use currently which is the QC/QA

statistical analysis program to involve and include the contractor in the pay factor for projects. Bruce Wasill discussed the genesis of the current version of QC/QA.

- Discussed states' punitive actions that have taken place and the ramifications of those actions. Some technicians have been suspended or de-certified under the states' certification programs.

Tuesday (1-30-07)

T-11, Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing

Made changes to Note 1 and also modified T-30, Note 1 to reflect the same wording.

Discussed changes to the use of a wetting agent and a mechanical washing device. Note 6 had additional wording that included agitation.

T-27, Sieve Analysis of Fine and Coarse Aggregate

Note 5 will change to match the T-30 version that discusses the 6 kg/m^2 of material for calculating the sieving area. It was 7 kg/m^2 .

TP-61, Fracture Face of Coarse Particles

There is concern that eastern states will push to eliminate the current TP version of this method and going to the ASTM version that talks about "quarter of the particle" as opposed to the current language where we talk about "half the projected particle area."

T-84, Specific Gravity and Absorption of Fine Aggregate

Reviewed Note 5

The various states use the following equipment (pycnometer, mason jar or flask):

Montana – scoop sample at SSD	500ml pyc
Utah – not sure	500ml pyc ?
Colorado – separate samples	1000ml pyc
Washington – run companion and SSD	1000ml mason jars
Alaska – Dry back	500ml pyc
Oregon – Dry back, no companion	1000ml pyc and mason jar
New Mexico – Run companion and SSD	1000ml mason jar and phunge flask
WFL – dry theirs back	1000ml mason jar
Idaho – companion and dry back	1000ml pyc

The group discussed the New Mexico version "phunge flask" as a new procedure to generate absorption and fine aggregate specific gravity. This process has been presented to AASHTO SOM during 2006 and is anticipated for full vote during 2007 meeting.

T-166, Bulk Specific Gravity of Compacted HMA Using SSD Specimen

Change 10.3 reference of the "6.4 mm" to match the current T-209 9.1 to "6.3 mm". Both reflect the 1/4" sieve. Reference also M-92.

T-309, Temperature of Freshly Mixed Concrete

Section 4.4 – removing the "liquid in glass" thermometer reference – R-18.

Miscellaneous Discussion

Some discussion revolved around the meaning of the different type of AASHTO designation letter for test methods. According to Tom Baker the following are AASHTO designation:

- T's are for Tests with results or Pass/Fail
- M's are for specifications
- And R's are practices

Wednesday (1-31-07)

Randy indicated that his conversation with Bob Briggs (Tom Baker) gave the indication that the T, M and R notations for AASHTO are the direction that AASHTO plans to head toward (editorial change). They plan to re-write the whole series of manuals to reflect the shuffle of letter designations. Garth stated that this could actually happen faster than we expect due to the digital technology that AASHTO has now caught up to. They have a greater capability to be able to make the switch.

The larger picture would be the changes to take place nationwide with all state agencies specifications needing to be changed to reflect the AASHTO changes.

T-308, Asphalt Content of HMA by the Ignition Oven Method

Discussed Asphalt and Aggregate correction factors
Adjustments were made to section "A2.8.2" for infrared ovens

T-328, Reducing Sample of HMA to Testing Size

Discussed CDOT reduction method – Allan provided a handout of the CDOT version.
No outcome.

Concrete Discussion:

We had extensive discussion about tying the four various concrete modules together so that all of the items that are similar have the same wording and requirements.

		<u>T-141</u>	<u>Rod & Vibe</u>	<u>Consolidate</u>
T-119	4.2	1-1/2"	All Rodding	None
T-121		Can't scalp	0-1, 1-3, >3	vibe, no tapping
T-152	7.1	1-1/2"	0-1, 1-3, >3	vibe, no tapping
T-23	6.1	2" (change to 1-1/2")	0-1, >1 (change to 0-1, 1-3, >3)	9.3.3.1 & 9.3.3.2 show change to reflect same "no tapping" language as T-121 and T-152

Change T-23, Making and Curing Concrete Test Specimens in the Field aggregate size from 2" to 1-1/2" to be uniform to other concrete procedures.

Randy Mawdsley will send Garth the T-23 method

Change T-23 back to the rod and vibe language used in T-121 and T-152. (T-121, 6.1)

T-272, Family of Curves – One Point Method

Sean Parker (Oregon) gave a presentation on the Family of Curves – One Point Method. He presented a PowerPoint that gave good detailed information to possibly add to the AASHTO procedure in the Appendix area to help the technician to build the curve. Good discussion followed the presentation. It has merit and we probably need to add some language to the Appendix at the end of T-272 to help the technician determine the “spine” of the actual curve connecting the maximum dry density plots on the graph. One suggestion was to increase the required number of proctors from three to five to develop the “family.” Allow the individual state to dictate the number of proctors required to complete the curve.

T-180, Moisture-Density Relations of Soils using a 10-lb. Rammer and 18” Drop

Changed 5.2.1 to reflect new calculation methods (same throughout for methods A, B, C and D) Also, make similar changes for **T-99**.

T-265, Laboratory Determination of Moisture of Soils

Discussed the wording of the table in 4.1 with the column heading of “Maximum Particle Size.” It’s an anomaly and no change is necessary.

Thursday (2-1-07)

Most of the agenda has been completed and the additional time will be used to look at some of the WAQTC test methods.

Miscellaneous discussion involved Warm Mix Asphalt. Bruce offered a website to learn more about WMA at www.warmmixasphalt.com or <http://intra.fhwa.dot.gov/pavement/sept2006workshop.htm>. Bruce gave some information and background of the process and the potential savings to the new process.

Reviewed **WAQTC TM-11, Sampling Bituminous Material After Compaction (Obtaining Cores)** for comments from different states. Various comments and discussion throughout the test procedure provided numerous changes. Garth maintained changes.

Reviewed **WAQTC TM-12, Field Sampling and Fabrication of 2 inch Cube Specimens using Grout**. Lengthy discussion centered on wording and interpretation. Greg will work on updating the diagram of the sample puddling (compacting). Discussion also regarding the mold

Friday (2-2-07)

T-312, Preparing and Determining the Density of HMA by the Superpave Gyrotory Compactor

Jeff Rayman (Wyoming) raised the issue of the gyrotory compaction process and the desire to add T-312 to the WAQTC program, either as part of the existing Asphalt Module or possibly creating a separate Superpave Module. Conversation continued with the possibility of establishing a stand-alone test method. The final outcome was to gather information from

existing Superpave programs that some of the states already have and look at the information at the July WAQTC meeting.

Discussion expanded to the various equipment and process for the gyratory compactors:

Wyoming	Pine Brovold machine	DAV2 internal angle	
Colorado	Troxler (4" mold)	Internal angle	CDOT method
Washington	Troxler at main lab Brovold in field labs Interlaken (1) Big old Pine (1)	DAV internal angle	
Utah	Troxler (statewide)		
New Mexico	Troxler (primarily) Brovold common among field labs		
Alaska	Compactors at central lab only – not sure of model used		
Oregon	Brovold	DAV internal angle	
WFL	Pine AFG1A (mid-size Pine)	RAM (rapid angle measurement)	
Idaho	Pine mid-size just district labs		

NOTE TO GARTH: Send out the e-mail list of all participants so Alan can send CDOT gyratory version so we can look at it.

Zero Air Voids Density

Alan Hotchkiss (Colorado) discussed the Zero Air Void process that CDOT uses. The Zero Air Void Density Tabulation Sheet was presented and explained. CDOT uses this process as a tool for the field technician when they have density gauge anomalies with compaction. There must be a specific gravity generated for the various moisture-density relationship curves (proctors) pounded.

T-272, Family of Curves – One-Point Method

Garth had continued discussion from what was talked about from Wednesday. Language will be added to improve the "Procedure" to note that the one-point will be pounded according to the T-99 and/or T-180 compaction process.

Correspondence after this meeting:

- Alan Hotchkiss will send link to CDOT Materials Manual along with Superpave information
- Garth Newman will send out group e-mail addresses
- Bryan Lee will send out Utah DOT gyratory process
- Brian Legan will e-mail these meeting minutes

Next Meeting

The next meeting of the WAQTC Technical Committee is tentatively scheduled for July 16-20, 2007. Colorado DOT has offered to host the meeting in Denver at their central laboratory and training facility. More information will be sent at a later date.

Meeting Closed – 11:30 a.m.