

WAQTC QAC COMMITTEE MEETING MINUTES

LEADER: GARTH NEWMAN, ITD
FACILITATOR: DESNA BERGOLD
RECORDER: DESNA BERGOLD

DATE: AUGUST 2012
TIME: 1:00 TO 5:00 PM 8/20, 8:00 AM TO 5:00 PM 8/21 THROUGH 8/23, 8:00 AM TO 12:00 NOON 8/24
LOCATION: PORTLAND OREGON

MEMBERS:
 Garth Newman, ITD Misty Miner, MDOT
 Sean Parker, ODOT Alan Hotchkiss, CDOT
 Wendy Tripp, UDOT Desna Bergold, DB
 Linda Hughes, WSDOT Consulting
 Greg Christensen,
 AKDOT & PF

ABSENT:
 Brian Legan, NMDOT
 Ryan Hixson, FHWA

MEETING ITEMS:

1. General: would it be a good idea to have a ‘reporting’ section on the sampling FOPs? – Desna
2. Training materials revisions that are complete
3. Concrete
 - a. T 22 – descriptions with the break diagrams
 - b. T 152 – ~~calibration~~ standardize frequency – Wendy
 - c. TM 2 – run-on sentences etc. – Linda
4. Embankment and IPD
 - a. Replacing graph in T 272 FOP and PowerPoint, use exam graph as Embankment PowerPoint concerns – Alan Hotchkiss email
 - b. IPD #2 question 19 and EB #1 q. 14 – Garth – see .pdf’s
 - c. IPD Q 22 we need to have the formula for converting G_{mm} to lbs/ft^3 or convert it. These questions are for TM 8 not T 209.
 - d. TM 8 core correlation section: using wet density from the gauge when it is actually the average of the wet densities (see example) – dab
 - e. TM 8 – Cole Mullis asked for a more statistically sound method to determine outliers
 - f. Sean TM 8 / TP XX revisions
 - g. TM 11 – why not in the training materials? – Desna
 - h. TM 11 – revise to include reference to TP 68 – Garth (see email)
 - i. FOP for T 224 and Humphreys, recommend removing the ‘Table’ format, it doesn’t add value as there are no pictures – Desna
5. Asphalt
 - a. T 30 and T 27 – check sum formula? Equation for the brackets? – Garth from email
 - b. T 209 repeatability – email
 - c. T 209; determining the mass of the flask filled with water – Misty
 - d. T 166 does not have example calculations, should it? – Desna

6. Exams
 - a. New exam questions around what is an acceptable check sum for T 27/T 11 and T 30. Garth and Sean (email)
 - b. T 30 exam and mass loss calculation – Sean (email)
7. FOP for T 312
8. Volumetric module
 - a. How often is G_{se} calculated in the field? Is it for Quality Control? – Misty
9. The formulas in WAQTC training materials are not mathematically correct – Garth
10. How far should values be carried in calculations? ITD requires all internal calculations to be carried to 5 places minimum – Garth
11. UDOT 2011 review issues – UDOT document
12. Should there be a difference between initial qualification and re-qualification? Should the competency be measured differently? – tabled discussion from July 2011 meeting New PowerPoint
13. Eliminating Student manual and use only Short Form – from July 2011
14. Discussion from AASHTO SOM - Garth
 - a. English units
 - b. T 309; Temperature of Fresh Concrete is discontinued. This was a "C" method that was to be converted to an "A" method but the TS determined that ASTM would work.
 - c. Sampling and reduction methods being converted from T method to R methods example T 141 (R 60)
 - d. T 166 blotting time (5 seconds) vs. 15 sec for complete operation
15. Travel
 - a. January meeting
 - b. July meeting

ISSUE	DISCUSSION / <i>DECISION</i>	ACTION REQUIRED BY:
Reporting in sampling FOP's	<p>The sampling Field Operating Procedures (FOPs) do not have a reporting section although reporting sampling date, time, and location are critical. It was noted that the AASHTO procedures do not have a reporting section either. The group felt that this is a good idea and will add this section to the FOPs. AASHTO will be asked if their procedures should include this information too.</p> <p><i>All sampling FOP's will include: date, time, location, and quantity represented. Desna will include in sampling FOPs. Garth Newman will discuss this with Greta Smith, AASHTO SOM.</i></p> <p>Other reporting sections were looked at and it was decided that all the reporting sections should be in bulleted format. The group revised the reporting section of T 30 and this should be used as a template.</p> <p><i>All sections will have a bulleted reporting section modeled after the revised FOP for T 30.</i></p>	Desna Bergold Garth Newman
Training materials revisions that are complete	<p>Desna reported on the revisions that have been completed. These include:</p> <ol style="list-style-type: none"> 1. Publishing date 2. AASHTO revision date after test method in Scope 3. Revision date for FOP 4. Formatted to single space – not tracked 5. Removed outline from pictures – not tracked 6. Ensured all graphics have captions 7. Removed &, replaced with 'and' 8. Replaced 'and/or' with 'or' and 'or both' to be consistent with the adopted AASHTO style manual 9. Un-capitalized 'Portland' in portland cement for consistency 10. Replaced the symbol for foot (‘) with ft in Random section 11. Took 'or' out of superscript in 'Background' page 10 12. Begun putting new pictures from new PowerPoint and updating slide numbers in student form (not tracked) 	
Concrete		
T 22 descriptions with the break diagrams	<p>This is a January agenda item.</p> <p><i>Desna will add to January agenda.</i></p>	
T 121 AASHTO revisions	<p>Reviewed 2012 AASHTO revisions.</p> <p><i>No impact to the FOP.</i></p>	
T 152 Standardization frequency	<p>The 2012 AASHTO T 152 now references R 18 for standardization. The FOP states 'Standardization shall be performed at the frequency required by the agency.'</p> <p><i>The reference to the agency in the FOP will remain.</i></p>	

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T 152 AASHTO changes	<p>2012 AASHTO changed ‘calibrated’ to ‘standardized’ throughout and added: Note 1—Standardization is a critical step to ensure accurate test results when using this apparatus. Failure to perform the standardization procedures as described herein will produce inaccurate or unreliable test results. The group reviewed the other AASHTO changes.</p> <p><i>Change ‘calibrated’ to ‘standardized’ throughout the FOP. Added Note 1 language to first paragraph of Standardization section.</i></p>	
TM 2 run-on sentences etc.	<p>Linda Hughes noted that there are some run on sentences in the FOP and two places where negative statements could be a positive.</p> <p><i>Two sentences were cleaned up in the Scope and in two places where it said ‘Do not sample until after . . .’ it now says ‘Sample after . . .’</i></p>	
Performance Exams	<p>Garth brought the ACI performance exams to illustrate that these exams treat each lift placement individually. He feels it is more useful to the examiner to be able to verify each lift as it is performed. The group agreed.</p> <p>The group also discussed that perhaps the performance exam for casting cylinders (T 23) should be two separate exams, one for 6 x 12 inch cylinders and one for 4 x 8 inch.</p> <p><i>Desna will use ACI checklist as a template and separate the steps in the Performance exam checklists. Match language in FOP for filling measure / mold. T 119, T 141, T 121, T 23 T 23 broken into 4 x 8 and 6 X 12 Garth will review these changes</i></p>	<p>Desna Bergold</p> <p>Garth Newman</p>
Other		
Significance and Scope section revisit	<p>Discussed the value of the Significance section being included in the Short Form. In some instances there is a lot of training information that may not need to be in the short form.</p> <p>Perhaps the ‘Significance’ section should be renamed to avoid confusion with the AASHTO section.</p> <p>Perhaps the ‘Significance’ should be titled ‘Background’ and included in the student manual only.</p> <p>Any necessary information that is included in the Significance and Scope should be included in an ‘Overview’ section in both (this includes the sections now labeled ‘Background’).</p> <p>After much discussion the group decided to leave the Significance section as it is in the Student manual and not include it in the Short Form. Where the Short Forms have the Significance already it will be</p>	

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	<p>removed with any necessary information included in the Scope.</p> <p><i>Sections to remain the way they are for the time being. Significance will be removed from the Short Forms where they exist.</i></p>	
New PowerPoint	<p>Examples of the new PowerPoint presentations were shown. All thought they looked good. Everyone felt it was unnecessary to have the metric examples in the PowerPoints. Wendy Tripp volunteered to help.</p> <p><i>Metric examples will be removed from sample calculations in PowerPoints.</i></p>	
Embankment and In-place Density		
T 255/T 265	No changes	
T 99/T 180	<p>Garth updated the QAC on the Executive Committee decisions and the AASHTO SOM task force.</p> <p>There was also discussion on the Performance Exam checklist, as with concrete it would be better to separate each lift.</p> <p><i>Misty Miner will break out the lifts in the performance exam (this was completed at the meeting).</i></p>	Misty Miner
T 272	<p>The graph in the exam for this FOP is a much better graph than the one in the FOP or PowerPoint. The point was made that the metric graph is not necessary, all agreed.</p> <p><i>Replace the graph in FOP and PowerPoint with the graph from the exam and fix the examples.</i></p> <p><i>The steps from T 99 / T 180 performance exam will also be incorporated into this performance exam.</i></p>	Desna Bergold
T 310	<p>The term 'native fines' has led to some confusion for some technicians, it would be better to indicate that the fines of the material being tested should be used.</p> <p><i>Changed 'native fines' to 'fines of the material being tested'.</i></p>	
TM 8 – core correlation item	<p>The FOP refers to using the wet density from the gauge when it is actually the average of the wet densities.</p> <p><i>Changed to the 'average wet density.'</i></p>	
TM 8 More statistically sound method to determine outliers	<p>The method now used and how it was derived was discussed. The group decided to leave it alone as there is limited increased value in changing a familiar process.</p> <p><i>No change</i></p>	

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Sean's concerns with TP XX (TM 8)	<p>Tabled until the AASHTO revision meeting in Jan.</p> <p><i>Tabled</i></p>	
FOP for T 224 and Humphrey's	<p>The need for the table format was discussed. It was decided that it is better that all the FOPs in the training materials look the same.</p> <p><i>No change</i></p>	
TM 11	<p>Desna asked why there is no training on TM 11. It is a fairly recent addition and so far there has been no decision made to train on it.</p> <p><i>Tabled</i></p> <p>The procedure should include a reference to TP 68. Also language from the ODOT and WSDOT that was included in TP XX was introduced in TM 11.</p> <p><i>Revised to included TP 68 and more language addressing the coring machine and retrieval device.</i></p>	
Alan's PowerPoint concerns	<p>Alan Hotchkiss' concerns on email dated Sept. 26 were addressed.</p> <p>T 85:</p> <p>Slide 10 "Dry sieve to the minimum mass in Table 1" This step is included in the procedure and shouldn't be left out in the power point. Between the 2nd and 3rd bullet 3rd bullet now reads 'Reject minus material on appropriate sieve by dry sieving' and 4th reads 'Wash and re-sieve the dried sample'</p> <p>T 99_180: Slides 40 & 41 Add in the 2nd way to calculate Dry $o_{pd} = (o_w / (w + 100)) \times 100$ this conforms to the way the calculations are presented in the procedure.</p> <p>T 224: Slides 6,7& 8: For each of these slides, add in symbol definitions similar to slide 10 in this procedure: o MD, MM, MC, Pf, etc.</p> <p>Slide 7: At the "or"s on the equation, use the full symbol, i.e., " MDF or MDC " and " Pf or Pc"</p> <p>T 272: Slide 5, 2nd bullet: 'If one-point falls between two existing curves in the family of curves, draw a new curve between those two.'</p>	

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	<p>Now it reads: ‘If one-point falls between two existing curves in the family of curves, draw a new curve parallel to the nearest existing curve and use the new curve’s . . . ‘</p> <p>T 310: Slides 31 & 32: Add in the 2nd ρ_d calculation for dry density as in slides 40 & 41 of T 99_180. This is as per the procedure and won’t confuse people on how to calculate dry density.</p> <p>Slide 32: Add “X 100” to the end of the equation.</p> <p><i>Revisions made.</i></p>	
IPD exams	<p>Exam issues were discussed and revised where appropriate.</p> <p><i>The group made revisions.</i></p>	
Aggregate		
T 27 / T 11	<p>Garth pointed out that although the check sum language was in the procedure there was not a formula in the appropriate section for it and the example should be in equation form.</p> <p><i>Check sum formulas and equation example were added throughout.</i></p>	
Asphalt		
T 30	<p>Garth pointed out that although the check sum language was in the procedure there was not a formula in the appropriate section for it and the example should be in equation form.</p> <p><i>Check sum formulas and equation example were added.</i></p>	
T 308	<p>It was determined that the training in the PowerPoint for ‘obtaining material for and fabricating correction samples’ is not necessary as most correction samples are prepared in the mix design process and delivered to the field. The slides regarding this were revised.</p> <p><i>Slides removed from PowerPoint that covered obtaining material for and fabricating correction samples, replaced with slide covering correction samples.</i></p> <p>The short form for this procedure included a significance section. This was removed and the information that was important to have in the short form was included in the ‘Overview’ section.</p> <p><i>Removed Significance section, renamed ‘Background’ to ‘Overview’ in the Short form.</i></p>	

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T 209	<p>Garth will send report number and link to AMRL study on vibrating tables.</p> <p>Garth pointed out that in the FOP the allowable variation for repeated increments is 0.011. At one point this coincided with the single operator repeatability in AASHTO. Now that the criteria in AASHTO have changed so has the single operator repeatability. He indicated that although these are different uses perhaps using the current AASHTO repeatability would be more defensible. Everyone agreed that this would work.</p> <p><i>The allowable variation for repeated increments will be changed to 0.014.</i></p> <p>Misty had asked how everyone dealt with standardizing the flask. Although the specific steps vary everyone does some form of standardization. Reference was made to AASHTO T 209 section 8.2 ‘When standardized at $25 \pm 0.5^{\circ}\text{C}$ ($77 \pm 0.9^{\circ}\text{F}$), designate this mass as <i>D</i>. Accurate filling may be ensured by the use of a glass cover plate.’ AASHTO does not address frequency of checks nor repeating the process.</p> <p><i>No action</i></p> <p>The group reviewed the other AASHTO changes. These were changes requested by WAQTC QAC.</p> <p><i>Added definition of Nominal Maximum Size under table 1.</i></p> <p>AASHTO revision proposal: Standardization of the flask 8.2 $77 \pm 0.9^{\circ}$ should be changed to $77 \pm 1^{\circ}$</p> <p><i>Add proposed revision to January agenda.</i></p>	Garth Newman
T 166	<p>Garth told the group about the discussion at AASHTO SOM about changing the procedure to allow 15 seconds to remove specimen from the water bath, blot it, and determine the mass. Currently the procedure does allow 5 seconds for the blotting. The QAC does not believe there is value in this change and would like to recommend to the Executive Committee that they should support this change. QAC would like to develop a revision proposal of this section of the AASHTO procedure in January.</p> <p>AASHTO revisions were reviewed.</p> <p><i>Put on agenda for January meeting</i></p>	

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	<p>It was noted that this FOP does not have calculation examples. It was explained that when this also contained T 275 the examples made the FOP unwieldy and were not included. As this is no longer the case the examples could be included now.</p> <p><i>Added examples to the FOP.</i></p>	
T 329	<p>Garth pointed out that in the example for constant mass the various weigh backs were not appropriately labeled. The 'mass of the container' should be the 'mass of the container and sample' and the 'mass of the dry sample' should be the 'mass of the possibly dry sample'. Also the denominator in the second equation example was incorrect.</p> <p><i>These corrections were made.</i></p>	
Asphalt Exams	<p>Sean pointed out that in the example on exam 1 for T 30 there is too much mass loss.</p> <p><i>Corrected the initial mass.</i></p>	
Other	<p>Discussion about revision dates in the FOP title. Sean explained that as all of his references include the entire title this will be a lot of work.</p> <p><i>Revision dates will be inserted into the header.</i></p>	
New T 312 FOP	<p>The new FOP for T 312 was reviewed and approved with a few changes.</p> <p>The exam and the performance exam were also reviewed and revised.</p> <p><i>This will be included in the new AsTT² module.</i></p>	
New Volumetric Module	<p>The draft proposed by Wendy and Desna was reviewed. There were some revisions to the draft that will be included in the final.</p> <p>There was much discussion on how the exam was going to be handled. Some felt that the calculations should be a written 'fill in the blank' exam others thought this was more appropriate to have as a performance.</p> <p>Misty proposed that there be multiple choice questions on the written exam much like the questions for T 85. The group then created enough questions for the written exam. They also created the Review Questions.</p> <p><i>The volumetrics section will be completed and included in the AsTT² module. There will be a written and a practical exam.</i></p> <p>Desna needs to complete the student manual and Linda and Desna will</p>	

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	<p>complete the PowerPoint for review.</p> <p><i>Desna will inform the group when these will be done and a teleconference will be scheduled.</i></p>	Desna Bergold Linda Hughes
	<p>For January agenda: T 269 calculates voids differently than R 35.</p> <p><i>Include on January agenda</i></p>	
Mathematically correct formulas	<p>Garth pointed out that the formulas in the WAQTC training materials are not mathematically correct: too many parentheses and the symbol '×' where it is not necessary. Others felt that it helped the technician understand what is required.</p> <p><i>It was decided to leave the formulas the way they are.</i></p>	
How far should values be carried in calculations?	<p>ITD requires all internal calculations to be carried to 5 places minimum.</p> <p>There was a discussion on what each state requires and why.</p> <p><i>No action</i></p>	
UDOT 2011 review issues	Covered in the individual module discussions.	
Different qualification requirements	This is no longer a concern and will be removed from future agendas.	
Eliminating Student manual and use only Short Form	<p>Minimal discussion, topic was considered resolved.</p> <p><i>Student manual and short form will remain.</i></p>	
Discussion from AASHTO SOM	<p>There are some AASHTO procedures that have only metric units and possibly should include English units.</p> <p>Cole Mullis, ODOT, and Bill Ahearn, VAoT, were assigned to evaluate this request. The QAC was asked to develop a list of procedures that need to be addressed.</p> <p><i>Desna will get a complete list of what needs to be discussed. The QAC will decide which procedures will need to be addressed.</i></p>	Desna Bergold
	<p>T 309; Temperature of Fresh Concrete is discontinued. This was a "C" method that was to be converted to an "A" method but the TS determined that ASTM would work.</p> <p><i>Garth will find the old WAQTC TM for the next meeting and this may be revived.</i></p>	Garth Newman
	Sampling and reduction methods being converted from T methods to R methods example T 141 (R 60) Various methods may be changed in	

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	<p>the future.</p> <p><i>No action</i></p>	
New exam questions	<p>Perhaps each member could develop new exam questions in the coming year for discussion at the spring quarterly meeting. Preferably not T/F.</p> <p><i>Desna will (randomly)assign FOP's to each member.</i></p>	Desna Bergold
	<p>Desna: send AASHTO tracking spreadsheet to the QAC when complete.</p> <p><i>Completed 8/24/12.</i></p>	Desna Bergold
	Also to be noted: Sean will get cylinder and beam pictures to Linda.	Sean Parker
Upcoming meetings	<p>Alan suggested the group may want to go to Denver. What about Seattle (Residence Inn on Lake Union)? Albuquerque is an option. Boise for summer, Coeur d'Alene. Vancouver.</p> <p>The group randomly selected the following:</p> <p>January meeting – January 28th through Feb. 1st - Denver - Pam Hotchkiss will help – Desna will put on the agenda for the October EC teleconference.</p> <p>July meeting – Vancouver - Homewood Suites</p> <p><i>Ask the Executive Committee for approval for January 2013 meeting to be held in Denver and the July 2012 meeting to be held in Vancouver.</i></p>	Garth Newman

PAGE 1		2012 AASHTO REVISIONS	
METHOD	SECTION	CHANGE SUMMARY	WAQTC FOP IMPACT
T 121	1.2	Includes disclaimer that test method is not to be used for nonplastic concrete.	May want to include in FOP Scope not necessary
T 121	2.1	Included references to: R 18, Establishing and Implementing a Quality Management System for Construction Materials Testing Laboratories R 60, Sampling Freshly Mixed Concrete R 61, Establishing Requirements for Equipment Calibrations, Standardizations, and Checks	None
T 121	2.2	Included reference to: C 138/C 138M, Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	None
T 121	3.2 through 3.5	Made Note 2 and 3 definitions. No language change.	None
T 121	4.4	'standardized for volume' replaced 'calibrated for volume'.	None: the term is not used in the FOP
T 121	Note 5	Added: Note 5—Standardization is a critical step to ensure accurate test results when using this apparatus. Failure to perform the standardization procedures as described herein will produce inaccurate or unreliable test results.	Discuss inclusion in FOP - included
T 121	5	Added Section for 'Calibration, Standardization, and Checks' References R 18 and R 61	Group should review
T 121	7.2	Added: During concrete placement, move the scoop around the perimeter of the measure opening to ensure an even distribution of the concrete with minimal segregation.	May want to include the language in FOP - incorporated
T 121	7.3	Added: Place the concrete in the measure in two layers of approximately equal volume using the scoop describe in Section 4.7. And During concrete placement, move the scoop around the perimeter of the measure opening to ensure an even distribution of the concrete with minimal segregation.	May want to include the second language in FOP
T 121	7.5	Removed: The strike-off is best accomplished by . . . And made it a directive.	Change is consistent with FOP
T 121	7.6	Added: . . .determine the net mass of the concrete in the measure with a balance that meets the requirements of Section 4.1.	Not inconsistent with FOP
T 152	2.1	Added same references as added in T 121	None
T 152	2.2	Added reference: C 231/C 231M, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method	None
T 152	4.1.1	Added: Note 1—Standardization is a critical step to ensure	Discuss inclusion in FOP First paragraph of

PAGE 2		2012 AASHTO REVISIONS	
METHOD	SECTION	CHANGE SUMMARY	WAQTC FOP IMPACT
		accurate test results when using this apparatus. Failure to perform the standardization procedures as described herein will produce inaccurate or unreliable test results.	standardization
T 152	4.1.1 and 4.1.2	Changed 'calibrated' to 'standardized'	Should change to current semantics
T 152	Many places throughout	Changed "calibrated", 'calibrating', and 'calibration' to 'standardized' etc.	Should change to current semantics
T 152	5	Added Section for 'Calibration, Standardization, and Checks' References R 18 and R 61	Group should review
T 166	Title	Added 'G _{mb} ' to title	Should include it in FOP title and references to the test method
T 166	2.1	Added reference: T 331, Bulk Specific Gravity (G _{mb}) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method	Should discuss including this in the FOP
T 166	1.2, 7.3, 10.3	Included T 331 as an option to T 275	Should discuss including this in the FOP
T 166	Note 1	Note 1 —The values for bulk specific gravity (<i>G_{mb}</i>) obtained from T 275 or T 331 may differ. Care should be exercised when comparing test results from T 275 and T 331.	Should discuss including this in the FOP
T 209	Title	Added 'G _{mm} ' to title	Should include it in FOP title and references to the test method
T 209	2.1	Added reference to R 47	Already included in FOP
T 209	7.1	Added: When necessary, reduce field samples or samples prepared or produced in a laboratory, in accordance with R 47.	Already included in FOP
T 265	8	Added Precision and Bias Statement	No impact to materials, group may want to review this section.
T 312	2.1	Added reference to R 47	Already included in proposed FOP
T 312	8.1 and 8.2	Added 'Laboratory Prepared' and then the 'Plant Produced' section as proposed by WAQTC.	Already included in proposed FOP