

# WAQTC QAC COMMITTEE MEETING MINUTES

**LEADER:** Garth Newman, ITD  
**FACILITATOR:**  
**RECORDER:** Christi Juchmes

**DATE:** February 2-6, 2009  
**TIME:** 7:30 am – 4:30 pm  
**LOCATION:** Vancouver, WA

**MEMBERS PRESENT:**

Garth Newman, ITD  
Sean Parker, ODOT  
Jon Ogden, UDOT  
Linda Hughes, WSDOT  
Bruce Wasill, FHWA  
Greg Christensen, AKDOT & PF  
Brian Legan, NMDOT  
Alan Hotchkiss, CDOT

**MEMBERS ABSENT:**

Joanne Nakamura, HDOT  
Misty Miner, MDOT

**MEETING OBJECTIVES:**

1. Concrete test methods
2. Aggregate test methods
3. Asphalt test methods
4. Soils test methods
5. Exams
6. Committee business / wrap-up

ISSUE	DISCUSSION / DECISION	ACTION REQUIRED BY:
<p><b>1. Concrete test methods</b></p>	<p><b>T 22:</b> Language regarding load rate appears to contradict C1231. 22 requires continuous application of load; 1231 allows for a pause. Review: C1231 &amp; C39 cross-reference each other; C39 specifies a continuous load. C1231 refers to C39 to complete the procedure after leaving a load rate exception for neoprene caps. <i>Agreement: add phrase 'except as permitted by C 1231' to load rate specifications</i></p> <p><b>T 22:</b> Table #2 is inconsistent in use of plus/minus symbols and can adversely affect sample depending on time it is broken. Table does not reflect altered cure times for chemically-enhanced concrete, which may not even begin curing for 4 or 5 days. States are evenly split between plus and plus/minus interpretations of table. <i>Question to be put to AASHTO asking for clarification on the discrepancy in cylinder break tolerances</i></p> <p><b>M 201:</b> As currently written, this specification only incorporates Celsius and metric units. <i>Agreement: Incorporating dual units is a necessity of for clarity and ease of use. Needs to be discussed with AASHTO</i></p> <p><b>T 309:</b> discussion of changing language for thermometer requirement; WSDOT requests removal of liquid-in-glass requirement <i>Edits made in AASHTO test method</i> <i>WAQTC FOPs need to be updated / edited in July</i></p> <p><b>T 23:</b> Procedures section: rodding cylinders and cylinders vibration both need Note 1 <i>Add note to existing WAQTC FOP prior to July meeting</i></p> <p><b>TM 12:</b> WSDOT is not using for grout cubes method and in fact was unaware that it existed; is the method up for review by AASHTO? Errors in TM 12 and AASHTO T 106 Table 1, Permissible Variations of Specimen Molds – incorrect use of plus/minus symbol. <i>Corrected to appropriately define variation</i></p>	<p>Garth</p> <p>Garth</p> <p>Garth</p>

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<b>1. Concrete test methods</b>	<p><i>Table 1 in TM 12 (submitted as AASHTO T XXX-XX) must be fixed and resubmitted to WAQTC champion</i></p> <p><i>Table 1 edits also need to be made in AASHTO T 106 Fix auto-numbering in TM 12, Section 6 – Procedure</i></p> <p><i>Discuss utilization with Tom Baker</i></p> <p><i>Find out who’s championing TM 11 &amp; 12</i></p>	<p>Garth</p> <p>Linda Garth</p>
<b>2. Aggregate test methods</b>	<p><b>TP 61:</b> Balloted as an official test method <i>Include on review list in July</i></p> <p><b>T 84 / 85:</b> Methods were sent back to committee; primary issue was the disparity between fine aggregate and concrete. Suggestion made: create separate sections to differentiate the procedures for concrete sands and other aggregates (e.g., breaking down T84 6.2 into 6.2.1 and 6.2.2) <i>Inserted language to clarify procedure for concrete and other aggregates into method. T 85 Section 10 (Reporting) modified language to reference M80 coarse aggregate</i> <i>Clarified specific gravity reporting standards for M6 aggregate to the .01 in T 84</i> <i>Reformat and forward updated T84 to Garth, Sean &amp; Cole after meeting</i> <i>Review T 84 and decide whether or not the method is appropriate to push at AASHTO</i></p> <p><b>T 11; T 27; T 176:</b> Nothing on these methods in ballot; likely were not pushed forward</p> <p><b>Discussion:</b> QAC needs to emphasize how important these materials are to the exec committee or content revisions may be lost or manipulated to adverse effect. Example: AASHTO tech committee approved WAQTC-recommended changes but added major revisions and deletions of their own to T 176 without notifying WAQTC. QAC needs to fully utilize exec committee to lobby for proposed revisions in tech committees.</p> <p><b>T 248:</b> Potential issue with allowable differences in size of mechanical splitter; how was the 5% differential determination made to be begin with? Does this affect results in a statistically significant way? <i>AK to conduct study to evaluate if significant impact exists; if it does, will present evidence to AASHTO to support its inclusion in the FOP</i> <i>Report back to QAC in July</i> <i>Investigate source of initial determination</i></p>	<p>Christi</p> <p>Christi Garth, Sean &amp; Cole</p> <p>AKDOT &amp; PF Greg Garth</p>

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<p><b>3. Asphalt test methods</b></p>	<p><b>R 47:</b> Garth suggests deleting splitter illustrations from AASHTO version – should not show aggregate splitters from AASHTO T 248 <i>Replace photos in July using photos from WAQTC R 47 instructor form</i></p> <p>WA: Practical issue in Section 10.2, Procedure; the procedure as currently written was lifted from aggregate and is not tailored to accurately reflect segregation properties of HMA Edits to section 10.2 – changed language to include a modified quartering process Edits to section 12.4 – changing structure and eliminating redundancy in slicing directions <i>WSDOT will champion this method to exec committee and AASHTO</i></p> <p><b>Discussion:</b> Sampling technique and procedures by state; all states use different variations on this procedure</p> <p><b>Discussion:</b> It was noted that 22 of 41 of the AASHTO R's are listed as 'standard recommended practices', the others are simply standard practices.</p> <p>Group consensus was that the word 'recommended' leaves the use of the procedure open to operator discretion and that it should be removed from all 22 methods in which it currently exists; additionally, any modules converted from a T to an R should not contain the word 'recommended'.</p> <p>Bruce contacted AASHTO over inconsistent terminology and was informed that the word 'recommended' is part of the test method title nomenclature by design. <i>Issue needs to be discussed with Executive Committee</i></p> <p><b>T 308:</b> No current requirements to account for the material when mixing for correction points (Section A2.4, Correction Factor Procedure). Why is there no stand-alone procedure as written? OR and NM have existing procedures for preparing correction specimens. <i>Group consensus: OR and NM to collaborate and write separate, stand-alone method in AASHTO format; will present at next January's QAC meeting</i></p>	<p>Christi</p> <p>Tom Baker</p> <p>Garth</p> <p>Sean Brian</p>

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<p><b>4. Soils test methods</b></p>	<p><b>T 99 / 180:</b> Nothing on the ballot; changes may or not be incorporated into the method and the committee will not find out until June</p> <p><b>T 310:</b> ASTM has a new and virtually identical method (D 6938) for in-place density and water content of soils. D 6938 does contain unique information for calibrations using blocks that is not incorporated into 310 – language basically requiring outside calibration vendors to provide some kind of documentation proving that blocks have been tested and/or recalibrated every five years.</p> <p>Noted that certain types of blocks do not ever require recalibration; additionally, block composition should be defined.</p> <p>Noted that all states except ID perform their own calibrations. (AK hires an outside vendor to calibrate state-owned blocks)</p> <p>Group consensus: 310 and 6938 are not the same in that there is far more information on block calibration in ASTM, but apart from that the methods are virtually identical. Is 6938 just a copy of 310? <i>Discuss with executive committee, along with similar issue with 329. See Issue 6.</i></p> <p><b>CDOT Soils Inspection courses:</b> Was a decision made on incorporating CO’s procedures into test methods? Results based on intersection of curves, not interpretation; requires at least two points each on the wet or dry side connected to a minimum of 1 point on the opposite side. <i>Group to review materials separately and provide evaluation and opinions to CO</i></p> <p><b>Discussion:</b> Testing methods and equipment by state</p> <p><b>T 224:</b> Issues with some of the equations used to determine moisture content. WAQTC has modified this test method from the AASHTO version. Equation does not take anomalies into account.</p> <p>States evenly split in implementation of T 224 as written; half modify the FOP. CO and OR use 90% in determining content and suggest consideration of a change <i>Discuss proposed changes in July</i></p> <p>Noted: ASTM D 1557 discusses many of the problems with oversize material, as a reference to the issue at hand</p>	<p>Garth</p> <p>All committee members</p>

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<p><b>4. Soils test methods</b></p>	<p><b>T 224:</b> Note in AASHTO version’s appendix cross-references Note 3 in T 272 on maximum density calculation replacement methods – questions as to appropriate placement of the note in 272                      Group consensus: Note 3 shouldn’t be in there at all and needs to be modified in both 224 and 272  <i>Note 3 in T 272 has been modified to reference 224 for material retention</i>  <i>Reference to Note 3 removed from T 224 appendix and X1.2.1 modified for clarity</i></p> <p><b>T 99 / 180:</b> Must make edits in notes for consistency with changes in 224 and 272  <i>Note 9 has been modified note to specify retention of material as needed to perform 224</i></p> <p>Note: The existing AASHTO-submitted T 99 and T 180 have Note 9 deleted completely.  <i>Confirm the progress of this submission to verify if new submission, including new Note 9 and T 224, will be required</i></p> <p><b>Humphry Curves:</b> Discussion of usage by state and explanation of practical application.  <i>Develop SOP for Humphrys for review at the July meeting and eventual inclusion in WAQTC FOPs.</i></p>	<p>Garth</p> <p>Garth</p>
<p><b>5. Exams</b></p>	<p>Exec committee has tasked QAC with developing new exam questions each year to redevelop written exams; 3-5 new questions per module per year</p> <p><b>Discussion:</b> Process of writing and validating exam questions – proper credentials, vetting question’s content, clarity and rationality; examples of question types to avoid; actual likelihood and possible effects of legal contest; security issues involved in administering exams</p> <p>Review of WAQTC exam question breakdown (provided by Greg): number of questions by module, FOP, and area of expertise (procedure, equipment or calculation). Highest percentage of content is procedural questions, followed by equipment.</p>	

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5. Exams	<p><b>Discussion:</b> Probability of interest in online exams with per-person cost, should AK pursue the possibility with SumTotal (or equivalent vendor). Potential issues: problems securing technological and manpower resources; presents an added security component. <i>General consensus: mild interest but more information is needed</i></p> <p><b>Discussion:</b> Relationship between revamped exams and training delivery needs to be considered when designing new questions.</p> <p><b>Discussion:</b> Closed vs. open book exams. AK champions closed-book exams; OR favors open-book.</p> <p>Some states use the written exam as a weeding-out process to demonstrate readiness for the practical before investing the resources; some states are forced by capacity to test in shifts (one half taking the written while the other does the practical)</p> <p><b>Discussion:</b> Pass / fail rates; technician demographics and reading levels; test design with specific performance expectations but with language / testing issues taken into consideration</p> <p><b>Discussion:</b> Validation methods. Sean suggests adding one more question to each module (6 exam questions instead of 5), inform trainers that they'll still be assessed on 5 questions, and use that data on the sixth question for validation purposes in real time.</p> <p><b>Discussion:</b> Potential issue with randomized exams: some questions have been written in similar fashion and it would be difficult to ensure that a randomly generated exam would not place similar questions in proximity to each other (possible, but difficult). Something to consider in discussions with exec committee.</p> <p><b>Discussion:</b> Building a universal database to code, track and generate exams; housing and delivery; different available technology</p> <p>QAC needs to create a specific list of attributes desired in a database to present to the exec committee, since they will be making the decision as to the platform</p>	

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<p><b>5. Exams</b></p>	<p>Random exams are defined as: for each planned question, there are multiple possibilities (e.g., #25, which is a calculation question, would have 10 calculation possibilities to draw from)</p> <p><b>Discussion:</b> Desired features for exams:            Need a database that will randomize exams, provide data collection (e.g., pass/fail rate) and evaluation            Need to decide whether delivery should be electronic or hard copy            Could utilize a single LMS for WAQTC that can be managed individually or as a group            Building this could range from hiring an outside vendor like SumTotal or using a freelance database engineer, with a wide price range</p> <p>Review of both questions submitted by NM and UT:            Garth suggests breaking out UT's questions by category (procedure, equipment, and calculation) and sending them to U of Alaska for validation instead.  <i>No official consensus but general belief that, if properly tracked, the first option is a good low-cost way to monitor effectiveness of new questions</i></p> <p>Exams need to be built for the following qualification areas:</p> <ul style="list-style-type: none"> <li>- Aggregate</li> <li>- Asphalt</li> <li>- Concrete</li> <li>- Soils</li> </ul> <p>Group will split into pairs of two and tackle UT's questions in the four areas for categorization, content, clarity and applicability</p> <p>Aggregate: Greg &amp; Jon            Asphalt: Bruce &amp; Sean            Concrete: Garth &amp; Brian            Soils: Linda &amp; Alan  <i>Work generated will be submitted to subgroup of Greg, Sean, and Jon for further review and refinement</i></p>	<p>Greg</p>



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<p><b>5. Exams</b></p>	<p>Significant progress made in exam question review – all but 1 asphalt exam have been appropriately categorized and edited            310 needs to be reviewed for exam questions – UT uses a different module organization (SRD)  <i>Review 310 and committee edits prior to July meeting</i></p> <p>Review of existing UT exam questions: generally extremely ‘wordy’ – simple question, very complex answers; some extremely oblique questions.  <i>Group consensus: biggest issues are with syntax and attempt to translate practical exam questions into a written exam (too many procedural steps)</i>            NM’s questions: many should be validated for inclusion if existing questions are not too similar.</p>	<p>Committee</p>
<p><b>6. Committee Business</b></p>	<p><b>Discussion:</b> Resolution of copyright issues: possible unauthorized reproduction of WAQTC-generated materials (T 310 and T 329)            This issue is still being reviewed by the executive committee  <i>Continue discussion with exec committee</i></p> <p><b>Discussion:</b> Location for July’s QAC meeting. Possibilities: Vancouver, WA; Salem, OR            Possible time frame: Third week in July (either week of 13<sup>th</sup> or 20<sup>th</sup> but 13<sup>th</sup> preferred)  <i>Contact possible host states to finalize and coordinate in April</i></p>	<p>Garth</p> <p>Christi</p>