

Materials Testing Advisory Committee (MTAC)/ Automotive Assessor Breakout Meeting Minutes

Sunday, March 13, 2005, 8:00 A.M.

Gary Cornell - Committee Chairman
Fred Fetterolf: - Committee Vice-Chairman
Robert Miller - A2LA Recording Secretary

Sheraton Columbia Hotel
10207 Wincopin Circle
Columbia, MD
800 638 2817

Attendees: Please reference attendance list (see database generated MTAC list) located on the web.

8:05 a.m. Gary Cornell made opening comments concerning the MTAC.

1.) Introduction: *Gary Cornell*

- a) This meeting will follow *Robert's Rules of Order*.
- b) New assessors and staff members were introduced.
- c) Fred Fetterolf will assume the position of Chairman next year, this change will be brought to the Board of Directors for approval in accordance with the MTAC Bylaws.

2.) Review/Approval of Agenda:

**Motion #1 made by Gene Zerlaut: Agenda to be accepted as submitted.
Seconded by Fred Fetterolf.
All in favor by voice vote.**

3.) Last Year's Minutes:

**Motion #2 made by Ray Schiltz: To approve the meeting minutes from 2004.
Seconded by Steve Steiro
All in favor by voice vote**

4.) Topics Of Discussion:

- a) New business:

1. Ray Schlitz pointed out that the E18-05 version now states that a standard carbide ball is to be used, but a steel one can be used.
2. New members to be considered for acceptance into the MTAC.

**Motion #3 made by Gene Zerlaut: To add the following individuals to the MTAC: John Bailey, Justin Cheng, Charles Daniels, Philip Engler, Dean Flinchbaugh, Fred Klock, Robert Lambert, Frank Lutze, Chris McCown and Jeffery Smith.
Seconded by Bob Foncannon
All in favor by voice vote**

Action Item #1: Have new members added to the MTAC mailing list. To be completed by Rob Miller by March 31, 2005.

3. Fred Fetterolf had a question concerning ASTM E18.

Laboratories performing E18 are not following daily checks, and they (laboratories) interpret the ASTM standard as recommended rather than as a requirement. Should this be a requirement or a recommendation? Sam Tyson indicated that he will be attending an ASTM meeting in May and will look into the wording of “recommended” in E18 during his sub-committee meeting.

b) Elections 2005 Vice-Chairman:

The nominations for the position of Vice-Chairman were Mike Deen and Ray Schiltz. Ballots were passed out to the MTAC members to be completed and forwarded to the recording secretary. An announcement of the winner of the election would be made later in the meeting.

c) Decision tree for determining MU classification - Nancy Foncannon:

A process should be determined to classify the categories of measurement uncertainty to lessen inconsistencies by assessors. N. Foncannon presented a decision tree to help assessors and laboratories identify the category of measurement uncertainty.

The decision tree from the annex in the CMAC was referenced, and a general comment made that it was too generic for the materials testing field; the MTAC document should include categories I, II, III, and IV, but not category V. See decision tree presentation (Attachment 1).

Steve Steiro stated all in-house methods require validation. All agreed.

Marlin Bussey had difficulties with some of the category III tests mentioned; he made the comment that they should be based on good science, rather than rules.

**Motion #4 made by John Pio: Continue classifying instrumental chemistries as category III.
Seconded by Fred Fetterolf.**

During discussion of the motion, Dean Flinchbaugh stated that some chemistry tests should be categorized as type II. Where sources of variations are not defined and where MU is defined, these should be type II.

Motion withdrawn by John Pio.

Motion #5 made by Fred Fetterolf: Have Dean Flinchbaugh develop a list of common ASTM methods and categorize them as type I thru type III. After a majority vote, the list should be incorporated into the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories*.

Seconded by Sam Tyson.

All in favor by voice vote.

Action Item #2: Develop a list of common ASTM methods and categorize them as type I thru type III. To be completed by Dean Flinchbaugh by March 31, 2005.

Action Item #3: Distribute the list developed by Dean Flinchbaugh to the MTAC members for vote and ballot Criteria Council if a majority prevails. To be completed by Rob Miller by May 31, 2005.

Motion #6 made by Nancy Foncannon: Add this decision tree to the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories*.

Seconded by Mike Deen.

All in favor by voice vote.

Action Item #4: Incorporate the decision tree into a draft version of the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories* and ballot the Criteria Council to have it finalized. To be completed by Rob Miller by April 30, 2005.

d) Vote on Category IV list created by Marlin Bussey (action item from 2004 Conclave):

Motion #7 made by John Pio: Add the 2004 category IV list created by Marlin Bussey and thirty additional tests to the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories* as category IV tests.

Seconded by Gene Zerlaut.

All in favor by voice vote.

Action Item #5: Incorporate the new tests into a draft version of the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories* and ballot the Criteria Council to have it finalized. To be completed by Rob Miller by April 30, 2005.

Steve Steiro stated that it would be easier to find relevant tests on the annex if they were listed alpha-numerically.

Action Item #6: Categorize the *Annex to the A2LA Policy on Measurement Uncertainty for Automotive and Material Testing Laboratories* alpha-numerically (ie. ASTM, Chrysler, Ford, GM. To be completed by Rob Miller by April 30, 2005.

e) Assessment of dimensional testing labs vs. calibration labs - Doug Lentz, Henrick Nielson, and John Wehrmeyer:

John Wehrmeyer introduced Doug Lentz and Henrick Nielson as part of a three-person panel to lead the discussion. J. Wehrmeyer reviewed a memo distributed by Roxanne Robinson in August 2004 concerning mechanical laboratories performing dimensional testing. The memo stated that, when the dimensional measurement laboratory is measuring what is commonly referred to as "hard tooling or fixed gauges", there are times when that measured tool is going to be used by the laboratory's customer as the reference standard to measure its own parts. In those cases, the dimensional measurement laboratory is serving as a link in the traceability chain and must be treated by A2LA and our assessors as a calibration laboratory. In these situations, the *Calibration Program Requirements* must be applied in order to accredit the dimensional measurement laboratory for this service.

Henrick Nielson's discussion centered around problems that arise when assessing a dimensional testing lab vs. a calibration lab. It was pointed out that one assessor may cite minimal deficiencies, while the next assessor to visit the lab will cite numerous technical deficiencies. Problems with consistency therefore arise. H. Nielsen offered a presentation on possible sources of inconsistencies between assessments (Attachment 2).

- 1) We must ensure that labs can account for the majority of the uncertainties in the accredited measurements – tractability, interim testing, as found errors, poorly conditioned measurements.
- 2) CMMs – Must determine how bad the dimensions are.
 - a. Parametric errors- y-axis position, straightness, roll, yaw and pitch, squareness;
 - b. Point uncertainty contributors - scale error, geometrical, probehead, and probe change errors (ref EA 10/05);
 - c. Contributors can be assessed using standardized tests: ISO 10360 series, VDI/VDE 2617 series;
 - d. The issue could be how the results come out of the CMM;

- e. The *A2LA Assessor Guide*, Section 2 was covered;
- f. An example of proficiency testing results of a CMM was given. The claimed uncertainties should contain the claimed values quoted;
- g. Anything that is not a here-to-there (one dimensional measurement) qualification poses the biggest problems (i.e. CMM optical comparator).

3) Accepting assignments according to the *A2LA Assessor Guide* - Assessors must ask themselves if they are truly competent to perform assessments for laboratories performing measurements with CMM, optical comparators, surface finish, etc.

Doug Lentz's discussion centered on what can be done by assessors to make assessments of CMM testing/dimensional testing labs more uniform.

James Salisbury discussed a problem with a laboratory where it was assessed very differently within four years and it was quite upset with the outcome of the second assessment. The problem with the laboratory was not getting the proper items calibrated, due to not incorporating the correct uncertainty budgets. The laboratory needs to know what needs to be calibrated.

Nancy Foncannon asked if there are any accredited calibration labs for CMMs, and it was confirmed that there are several.

It was pointed out that the standard indicates that each laboratory's calibration program must outline what needs to be calibrated. And the question was raised regarding how much responsibility is put on the calibration lab to ensure that the correct things are being done. Since most testing labs interact with salespeople at the calibration labs, they are not obtaining technical, expert guidance from the calibration lab. It was then suggested that the calibration provider should be the one to identify for the testing lab what needs to be calibrated. It was pointed out that CMM manuals show how to operate the equipment, but not how to make good measurements. A final comment was made in agreement with the notion that technical experts in the area of CMMs should perform these types of assessments.

Action Item #7: Steve Medellin to investigate assessor training on CMMs or follow up with a document that assessors may use during assessment of this type of equipment. To be completed by Steve Medellin by June 30, 2005.

f) pH and conductivity meters - Tom Smith

It was pointed out that traceability can be obtained by testing laboratories that are calibrating their own pH and conductivity meters; a COFRAC (French equivalent to NIST) accredited supplier has reference standards to be used for pH and conductivity. Control Co. has traceable reference standards for conductivity and pH.

A2LA staff confirmed that they are attempting to bring the testing and calibration assessments closer to establish what is ok and what is not, for determining acceptability of the calibration of a particular piece of equipment.

The question was raised whether this is referred to as a verification or a calibration.

g) ASTM double column format and its impact on laboratory document control - Steve Steiro

Steve Steiro discussed having difficulty reading the ASTM double column format. He asked the MTAC if anyone else was having this same problem, but the committee was comfortable with the current double column format. Based on the consensus of the committee, the current format will remain in use.

h) Concern over parameter based calibration Scopes – Steve Steiro

Steve Steiro discussed his concern over having parameter based calibration Scopes and how they effect the testing laboratories. He cited an example of a calibration laboratory which performed calibrations for Rockwell hardness with a stipulation that the calibration was not done to E18. Since the majority of laboratories require the calibration to E18, this makes this calibration worthless.

It was reiterated that laboratories must ensure they are obtaining the calibration that they require from their vendor. It was also pointed out that if, during an assessment, an incorrect calibration certificate is discovered, it should be provided to A2LA for action. A question was raised regarding the depth to which A2LA investigates these types of issues, as several assessors indicated they did not receive formal feedback. A2LA staff confirmed that such cal certs. are forwarded to the appropriate Laboratory Services Officer for that particular calibration laboratory for action.

Motion #8 made by John Pio: For any issue with an A2LA accredited calibration certificate sent to A2LA by an assessor, the assessor and the laboratory should receive formal feedback from A2LA.

Seconded by Robert Foncannon.

All in favor.

Action Item #8: Take motion to Teresa Barnett for resolution.

To be completed by Teresa Barnett by June 30, 2005.

A2LA staff reiterated that when these types of cal certs. are submitted to A2LA, the assessor should also include the testing lab's original purchase order to indicate that it did request appropriate deliverables from the calibration laboratory but did not receive them. Although staff does trust that assessors are confirming this on-site, it is important that staff have this evidence in hand if they are to approach the calibration laboratory for corrective action. .

i) ASTM E23 & alternate source for SRM's - *Dan Vigliotti, Chavez Calibrations International (CCI) *Representative of NIST available to answer questions*

Dan Vigliotti from Chavez Calibrations International (CCI) started his presentation by giving a brief overview of his past employment with NIST and his involvement with ASTM and the changes made to ASTM E23. Mr. Chavez discussed how his results (charpy reference materials) were comparable to NIST's results and how his process of verification was completed. He described the process NIST uses based on his previous employment, and there were no objections from the NIST representative who was in attendance. The issue Dan Vigliotti presented related to lack of A2LA acceptance of his traceability. In his attempt to prove traceability he explained that he took the same steel that NIST used (same lot) and the samples are heat-treated at the same time as NIST's material. Since he is using the same material and it is heat-treated the same, the values derived from the three machines at NIST in Boulder CO, must be the same. This is how CCI is proving its traceability.

Chris McCowan of NIST clarified that CCI is not heat-treating its samples with the NIST samples. While the 2 billets have most likely been mixed, it is possible that they were not mixed, and there would be no records to indicate either way. This would not be in accordance with a contract signed with a supplier. Concern was voiced over the practice of mixing heats and the resultant outcome.

Dan Vigliotti requested a position statement from A2LA regarding interpretation of the *Traceability Policy* related to this issue.

A2LA staff indicated that if an accredited laboratory were to use these charpy samples, a deficiency would be cited against T1 of the *A2LA Policy on Measurement Traceability*, as well as for not meeting the specific requirements outlined in E23-04 for using the three charpy impact machines at NIST in Boulder, CO.

Dan Vigliotti reviewed some routine charpy procedures and gave a brief instruction on things to be looking for on the charpy impact machine. He distributed several help and instructional documents to the committee members.

j) Calibration vs. verification - Steve Lerman / Gary Cornell

Steve Lerman discussed the differences between calibration and verification. There was no consensus reached on the difference between calibration and verification.

Motion #9 made by Steve Lerman: To review T1 to better meet the objectives of the A2LA Traceability Policy.
Motion withdrawn by Steve Lerman

k) T1 concerning reference materials and reference material providers - Steve Lerman

There are very few calibration laboratories available which meet the requirements of the A2LA *Traceability Requirements* of T1. The question was posed regarding whether or not A2LA should change T1 to state what is actually needed. It was pointed out that the Life Sciences Advisory Committee had also motioned to have the T1 policy reviewed. As such, no further motion was made within the MTAC.

l) Selection of Vice-Chairman for the MTAC

Gary Cornell announced that Mike Deen will assume the position of Vice-Chairman for the next two years and will then assume the position of Chairman for the subsequent two years.

m) Review current sub-disciplines and provide feedback/comments/updates - Rob Miller

Rob Miller gave a brief instruction to review the sub-disciplines identified in the current A2LA *Proficiency Testing Requirements for Accredited Testing Laboratories* and notify him of any changes that may help clarify the proficiency-testing document.

5.) Questions:

No questions were put forth. Congratulations and appreciation was expressed to Gary Cornell for his having served as Chairman of the MTAC.

The meeting was adjourned at 2:45 P.M.

Minutes were prepared by Mike Hart and Kimberly Miller, A2LA Laboratory Services Officers.