



Christopher Plourd
OSAC Legal Resource Committee

Jose Almirall
OSAC Chemistry/Instrumental Analysis Chair

August 16, 2018

Subject: Final Determination of the Ad hoc Independent Review Panel

The Ad hoc Independent Review Panel has completed its evaluation of comments, adjudication response, and appeal received for the document listed below in accordance with RA-1800 Appeals.

- ASTM E3085-17 Standard Guide for Fourier Transform Infrared Spectroscopy in Forensic Tape Examinations – Comment adjudication completed on January 3, 2018.

A summary of the appeal, comments from the Ad hoc Panel, and final determination are as follows:

1. Summary of Appeal:

During the appeal period ending June 29, 2018, an appeal was submitted and received from the Legal Resource Committee (LRC). The appeal is attached for reference; however, can be summarized as follows: The LRC asserted the subcommittee did not adjudicate the LRC's comment that the guidelines on ascertaining "meaningful differences" are missing.

a. Comments from the Ad hoc Panel:

The Ad hoc Panel participated in a conference call on August 3, 2018 where this appeal was discussed. The appeal contained opinions on the specificity and relevance of the factors used to assess "meaningful differences" between spectra as written; such opinions were outside the scope of the appeals process. The panel unanimously determined that the subcommittee appropriately addressed the LRC's comments during the registry approval process by providing a response citing the definition for "meaningful differences" given in the beginning of the document. Additionally, the response cited Sections 8.5.1 – 8.8 as including lists of parameters and how to evaluate them (e.g., presence/absence of absorption bands, etc.). The comments provided addressed the concerns that the document lacked guidance on evaluating "meaningful differences". The panel concluded that the adjudication procedure was followed and that the subcommittee's response was appropriate. This documentation is attached for reference.

b. Final Determination:

This appeal is denied.

In regard to the appeal itself, the Ad hoc Panel recommends – No Action.



The Ad hoc Panel does suggest for future revisions of this standard the subcommittee recommend to the Standard Development Organization (SDO) that the clarifications and explanations provided as part of this comment adjudication process be included within the standard. While the definition and parameters are there, they could be put into better context by further clarification. For example, the subcommittee should consider including a clearer reasoning of why $\pm 5\text{cm}^{-1}$ is the acceptable range and how that is used; an expanded explanation how this standard fits into an overall analytical scheme of tape comparisons; and including some references in the text that cover the evaluation and interpretation of FTIR spectra.

Another suggestion for improvement the subcommittee should provide to the SDO is to add a checklist of explicit parameters, some or all of which could be used by examiners, to measure and evaluate when determining the range of (intra-sample) variation exhibited by the comparison (known) sample. Such parameters should include both physical and chemical attributes and whether the variations observed can only be characterized by subjective observation and/or can actually be measured in SI units. It would also be helpful to include additional guidance on establishing intra-sample variation of a known sample through replicate sampling and how this intra-sample variation is utilized in evaluating what is a meaningful difference during comparisons to evidentiary samples. This guidance should include examples of features or attributes which should be evaluated during intra-sample comparisons, how the results of those comparisons should be used to determine whether further replicate samples are needed and to determine whether meaningful differences exist or not.

Sincerely,

A handwritten signature in blue ink that reads "Arlene Hall".

Arlene Hall
Ad hoc Independent Review Panel Chair

cc: Diana Wright, OSAC Materials (Trace) Subcommittee Chair
Karen Reczek, OSAC Quality Infrastructure Committee Chair

Panel Members:

Erin Henry, QIC representative
Devin Stasicha, Tape representative
Christiana Drake, Statistician representative
Mark Stolorow, FSSB/OSAC Affairs representative