

SWGDRUG Meeting Minutes

San Diego, California

January 26-28, 2010

Core Committee Members (present):

Nelson A. Santos, Drug Enforcement Administration, Chair

Scott R. Oulton, Drug Enforcement Administration, Secretariat

Susan Ballou, National Institute of Standards and Technology (NIST)

Suzanne Bell, West Virginia University

Michael Bovens, European Network of Forensic Science Institutes (ENFSI)

Sylvia Burns, Forensic Science Service, England

Garth Glassburg, American Society of Crime Laboratory Directors (ASCLD)

Linda Jackson, Mid-Atlantic Association of Forensic Scientists

Richard Laing, Health Canada

Jack Mario, Northeastern Association of Forensic Scientists and American Society for Testing Materials (ASTM)

Jerry Massetti, Northwestern Association of Forensic Scientists and California Association of Criminalists (CAC)

Christian Matchett, Southern Association of Forensic Scientists

Osama Ohtsuru, National Research Institute of Police Science, Japan

Richard Paulas, Midwestern Association of Forensic Scientists

Sandra E. Rodriguez-Cruz, Drug Enforcement Administration

Scott Vajdos, Southwestern Association of Forensic Scientists

Eileen Waninger, Federal Bureau of Investigation

Udo Zerell, Bundeskriminalamt, Germany

Core Committee Members (not present):

Iphigenia Naidis, United Nations Office on Drugs and Crime (UNODC)

Robert Powers, Connecticut Department of Public Safety

Catherine Quinn, Victoria Forensic Science Centre, Australia

Invited Guests:

Mark Ruefenacht, Heusser Neueigh

Bradley Venner, Environmental Protection Agency, Denver, CO

January 26, 2010 (Tuesday):

8:30 am SWGDRUG chair Nelson A. Santos opened the meeting by thanking core members for their attendance, and introducing meeting guests Bradley Venner (Statistician from EPA) and Mark Ruefenacht (Metrologist from Heusser Neweigh).

Mr. Santos also thanked and acknowledged current support of SWGDRUG by the Office of Forensic Sciences of the Drug Enforcement Administration (DEA).

Mr. Santos also briefly discussed the recent scientific working groups (SWGs) meeting at the FBI. He commented on future proposals and changes to other SWGs and how SWGDRUG is regarded as an example of how SWGs should operate.

SWGDRUG secretariat Scott R. Oulton provided guidelines to core committee members regarding travel vouchers. Mr. Oulton also introduced guest Sandra E. Rodriguez-Cruz, invited to assist during the meeting as notetaker.

8:45 am Suzanne Bell presented an update of the Supplemental Uncertainty Document. She discussed comments and revisions received from scientists at NIST and summarized significant changes to the current version of the document. Among other subjects, a discussion ensued regarding buoyancy effects and the consideration of correlated events during the weighing of multiple units.

9:10 am Mr. Mark Ruefenacht delivered a presentation on Metrology and Uncertainty. His presentation included a general introduction to the subjects as well as discussions regarding upcoming ASCLD recommendations, traceability, GUM requirements, static vs. dynamic weighing, and measurement assurance procedures that he believes should be considered when estimating uncertainty of weights in the forensic chemistry laboratory. Mr. Ruefenacht emphasized the need to evaluate the significance of all sources of uncertainty. He recommended that crime laboratories attempt eliminating or decreasing large sources of uncertainty (beach vs. ping-pong balls analogy).

Mr. Ruefenacht presented to the committee examples of measurement assurance procedures and discussed their appropriateness for estimating the uncertainty of net weight measurements in the forensic chemistry laboratory. Comparisons between the weighing of traceable standard weights and bags of powder were presented. Mr. Ruefenacht emphasized that laboratories should attempt to simulate routine weighing procedures while estimating uncertainty. Mr. Ruefenacht also discussed weighing verification and validation procedures, and recommended the establishment of a strong proficiency testing program in forensic laboratories, emphasizing not only measurements but also traceability in the process.

10:15 BREAK

10:30 am Invited guest Dr. Bradley Venner delivered a presentation on Uncertainty. He discussed the philosophical nature of uncertainty and its dependence on random and systematic effects. Dr. Venner echoed the recommendations by Mr. Ruefenacht in regards to validation and proficiency testing studies and how they could be of great use to forensic chemistry laboratories attempting to estimate the uncertainty of their measurements. Dr. Venner also discussed the use of control charts in the laboratory. It was his opinion that control charts are not as valuable for providing uncertainty estimates as they are for providing a check or verification of uncertainty estimates established through other means.

Dr. Venner also provided comments resulting from his review of the supplemental uncertainty document. He emphasized on the subjects of readability, repeatability, linearity, and temperature sensitivity. A discussion ensued regarding the inclusion of the temperature sensitivity factor as part of the uncertainty budget for net weights.

12:00 pm LUNCH BREAK

1:15 pm The core committee reviewed the current version of the Supplemental Uncertainty Document. Guests Ruefenacht, Venner, and Rodriguez-Cruz also participated during discussions. Revisions included changes to the 'Introduction' section, as well as changes and corrections to the uncertainty budgets presented in 'Example 1' and 'Example 2' of the document.

3:10 pm BREAK

3:30 pm Review of Supplemental Uncertainty Document continued.

January 27, 2010 (Wednesday):

8:30 am Review of Supplemental Uncertainty Document continued.

Mark Ruefenacht discussed comments received from Val Miller and William Guthrie from NIST. They recommend use of the 'hybrid' equation for estimation of net weight uncertainty. The 'hybrid' model treats individual weighing events as correlated quantities (linear addition), while assuming independence (uncorrelated; RSS model) between factors like balance calibration, repeatability, linearity, etc., to be considered within the uncertainty budget.

Dr. Venner presented results from calculations he performed the previous night. He discussed that the 'hybrid' and the 'completely-correlated' models converge at high number of measurements, with the dominant difference being the use of a factor of 30 versus $\sqrt{30}$, as being considered for 'Example 3' of the document.

The committee discussed advantages, disadvantages and implications of using the different models. The committee decided to recommend the 'hybrid' approach for the examples illustrated in the document.

Suzanne Bell will make changes/revisions to the current document, pending further review by uncertainty Sub-committee and final approval by core committee.

10:00 am BREAK

10:30 am Linda Jackson - Editorial/Communications Subcommittee Update

Ms. Jackson presented comments received from general forensic community regarding current SWGDRUG 'Recommendations'.

Mr. Jack Mario communicated concerns regarding the use of the terms 'statistically-based' or 'probabilistic-based' and the use of the terms 'frequentist' vs 'Bayesian' approaches.

Ms. Jackson proceeded to present revisions to "Recommendations" based on comments received. The following sections were revised:

- Introduction – minor administrative revisions
- Education and Training:
 - Clarification regarding classes vs. laboratory requirements
 - Use of ‘degree program’ revised to read ‘coursework’
 - Recommendation for 20 hours of training – revised language regarding training pertaining to ancillary duties.
- Sampling:
 - Editorial revisions (numbering, lettering, etc.)
- Methods:
 - Revised to clarify classification of Categories A through C techniques based on discriminating power.
- Quality Assurance:
 - Revision to clarify that ‘Recommendations’ address both qualitative and quantitative analysis
 - Minor editorial revisions regarding documentation for reagent preparation, competency, and proficiency testing.
- Quality Assurance / Uncertainty:
 - Application of uncertainty – text revised to read “Standards Developing Organizations (SDO)”
 - Qualitative Measurements: text revised to include “see examples in section 5.2)” so that qualitative examples are not missed.
 - Minor editorial revisions in accordance to recent changes to Supplemental Uncertainty Document.
 - Definitions: text revised for definition of false negative.
 - Bibliography: revised to include latest versions of GUM and VIM.
- Reporting: Committee discussed possible future directions as result of 2009 NAS Report.

12:30 pm LUNCH BREAK

1:30 pm Mr. Ruefenacht presented to the committee that NIST offered to review the current version of the Supplemental Uncertainty Document. Committee members discussed the offer and agreed to review by NIST. Mr. Ruefenacht volunteered to forward the latest version of document to NIST.

The core committee discussed the future direction and final approval (voting) of the Supplemental Uncertainty Document.

Review of the Supplemental Uncertainty Document continued.

2:10 pm Christian Matchett – Presented a status update on current CLIC/SWGDRUG cooperation (Recommendations on the Analysis of Clandestine Drug Laboratories).

The CLIC committee forwarded the draft document to the CLIC membership for review. Comments are expected by end of February 2010. After revisions, the CLIC committee should be on schedule to forward the document to SWGDRUG for discussion during July 2010 meeting.

2:20 pm Richard Laing – Presented status update on Education and Training Sub-committee.

Mr. Laing presented the current training outline and example template illustrating future contents, links, pictures, resources, etc.

Mr. Laing commented on the project difficulties encountered in the last six months. A discussion ensued regarding the use of the DEA's current training program as a template or starting point for the SWGDRUG training program.

Mr. Santos and Ms. Rodriguez-Cruz presented an overview of the DEA Training Program.

A copy of DEA's Training Program was provided to Mr. Laing.

3:00 pm BREAK

3:20 pm Mr. Ruefenacht discussed his review of SWGDRUG's main document (Recommendations) and presented his comments.

3:40 pm Mr. Jack Mario presented and discussed comments received from ASTM members' review of SWGDRUG Recommendations.

Mr. Mario also provided copies of recently published ASTM standards.

4:00 pm Michael Bovens – Provided a status update on cooperation with ENFSI regarding training recommendations.

Mr. Bovens presented a final list of projects being submitted to ENFSI from countries within the European Union. Projects include a 'European Forensic Education & Training Network' through which training will be performed.

Mr. Bovens also briefly discussed a current ENFSI project involving estimation of uncertainty arising from sampling for quantitative analysis of drugs.

4:30 pm SWGDRUG chair Nelson Santos provided direction for tomorrow's working schedule. The Sub-committee members will meet separately at 8:30 am and the core committee will meet back in conference room at 10:00 am.

January 28, 2010 (Thursday):

8:30 am Sub-committee meetings (Education and Training, Uncertainty, etc.)

10:15 am Core committee members meet back in conference room.

Review of latest version of Supplemental Uncertainty Document.

11:30 pm Final discussion and review of Supplemental Uncertainty Document.

Linda Jackson presented a motion to accept the current Supplemental Uncertainty Document, pending editorial review.

Motion was seconded by Mr. Garth Glassburg.

Vote: All present SWGDRUG members unanimously approved the current version of the document, pending editorial review.

It is to be noted that the editorial review will include review of the document by subject-matter experts. The Editorial Sub-committee will evaluate results from the editorial review and will make a final decision regarding incorporation of any suggested changes.

11:45 am LUNCH BREAK

1:15 pm Jack Mario – Presented update and revisions to SWGDRUG glossary.

Revisions to the glossary are needed in order to incorporate the most recent revisions to the GUM, VIM, ISO GUIDE 30:2008, ISO 3534-1:1993, ISO 3534-2:2006, and other internationally accepted documents.

The following definitions were revised: accuracy, bias, calibration, chain of custody, population (new definition), precision, reference material, repeatability, reproducibility, sample, sampling, selectivity, trueness, and validation.

The committee decided to keep using the current definitions for sampling plan, procedure and scheme, as the core committee believed them to be more appropriate for their intended use.

Some glossary definitions remained the same and only the source reference was updated.

1:50 pm Mr. Laing presented a motion to accept current revisions to the SWGDRUG Recommendations to include changes in the glossary.

Mr. Paulas seconded the motion.

All present members unanimously approved the motion to accept current revisions.

2:00 pm Mr. Laing presented an update from Education and Training Sub-committee. The Sub-committee has agreed to use DEA's Training Program as the basis for SWGDRUG's Training Recommendations. Committee members will work on multiple developing phases, to include: providing open access to literature references to be included in the program; development of web-based design; developing, collecting and providing access to spectral databases, etc.

Sub-committee members will evaluate current references included in DEA's Training Program to determine which ones are to be incorporated in SWGDRUG's program. The Sub-committee will also prepare a list of references that need to be purchased.

2:15 pm Nelson Santos suggested formation of a Sub-committee to be responsible for evaluation and review of the upcoming SWGDRUG/CLIC collaboration document.

2:30 pm Mr. Santos suggested new directions for the Uncertainty Sub-committee. He suggested the committee to initiate work on a supplemental document on measurement uncertainty for quantitative techniques.

Ms. Sue Ballou suggested a future project to include recommendations to the drug analysis community regarding laboratory reports.

Scott R. Oulton discussed on-going efforts (from ASLCLD/LAB) for providing guidelines to laboratories regarding the generation of standardized reports.

It was suggested to the members of the Editorial Sub-committee to start exploring the issue of reporting.

3:00 pm BREAK

3:15 pm Scott R. Oulton provided update on SWGDRUG website. Recent revisions include addition of uncertainty references provided by Mr. Ruefenacht earlier in the week.

Michael Bovens commented on recent cases of anthrax-contaminated heroin in Europe. Causes for the contamination have not been determined yet.

3:30 pm Nelson Santos commented on possible replacements for Dr. Tindall (retired) and requested suggestions from committee members for possible replacements. The members will send proposed names to the SWGDRUG chair.

Mr. Santos will also continue efforts to invite SWGDRUG representative from Central and/or South America.

Mr. Santos requested suggestions for possible locations for next SWGDRUG meeting. The meeting is scheduled to be held during the week of July 5-9, 2010.

Mr. Santos officially welcomed Mr. Scott Vajdos as a member of the SWGDRUG core committee, representing the Southwestern Association of Forensic Scientists and Harris County Medical Examiner's Office.

Mr. Santos thanked guest Ms. Rodriguez-Cruz for her contributions during the three-day meeting and welcomed her as a new member of the SWGDRUG core committee.

4:00 pm Nelson Santos thanked the committee for their hard-work and dedication to achieving the goals of the meeting.

Meeting adjourned.

Minutes respectfully submitted by Sandra E. Rodriguez-Cruz on February 10, 2010.