

SCAPA PROGRAM TELECONFERENCE 06-03

TUESDAY, MARCH 28, 2006; 10:30 AM-11:30 AM

Participants:

- Tom Bellinger, Illinois Emergency Management Agency (IEMA)
- Dorothy Cohen, ORISE
- Bob Cornish, OST
- Doug Craig, ATL International
- Pat Frankovich, ANL
- Cliff Glantz, PNNL
- Courtney Haggard, WSMS Mid-America
- John Harris, OROO
- Earl Hughes, DOE/EH-21
- Chuck Hunter, SRNL
- Jim Jamison, SAIC
- Po-Yung Lu, ORNL
- Lori Manis, ORNL
- April Martin, WSMS Mid-America
- Joan Martin, WSMS Mid-America
- Pete Matonis, INL
- Carl Mazzola, Shaw Environmental
- Rocky Petrocchi, WGI
- Tony Pierpoint, ATL International
- Brad Salmonson, INL
- Richard Thomas, Intercet
- Tom Tuccinardi, ATL International
- Gustavo Vazquez, EH-41

Teleconference Highlights

I. Roll Call

Carl Mazzola conducted a roll call and acknowledged that 23 individuals involved in the SCAPA program were present. The teleconference was called to order and Carl thanked Dorothy Cohen for setting up the teleconference call.

During the previous SCAPA conference call, 26 individuals participated in the SCAPA teleconference.

II. Administrative Matters

Carl Mazzola led the discussion on various SCAPA administrative matters.

Previous Teleconference Highlights: Carl Mazzola stated that the final highlights from the 2/22/06 SCAPA Program Teleconference 06-02 has been issued and Dorothy Cohen will be posting it on the EMI SIG/SCAPA website.

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SCAPA Action Item Status: Carl Mazzola briefly discussed the latest updated SCAPA Program Action Item (AI) listing, dated March 8, 2006. Progress on closure continues since the last teleconference and SCAPA meeting. At the time of this teleconference, 14 action items still remain open. Carl mentioned that at last Wednesday's Hazards Assessment Subcommittee conference call that Jim Powers, NA-41 requested that SCAPA look into bioagent source terms. A new action item (i.e., AI 06-06) will be opened to track this. A second request from Jim Fairbent asked that the SCAPA Chemical Mixture Work Group consider the appropriate use of the Chemical Mixture Method in emergency planning. A new 06-07 action item will be opened to track this.

AI 06-04: Carl Mazzola stated that planning for the EMI SIG, SCAPA, and DMCC Meetings is completed. The following outlines the upcoming meetings in Las Vegas, NV:

- **Monday, May 1, 2006:** Hazards Assessment Subcommittee Meeting; DOE Meteorological Coordinating Council (DMCC) Meeting; NARAC Users Group Meeting; Operational Emergencies Workshop; and, Screening Methodology Workshop;
- **Tuesday May 2, 2006:** Chemical Exposures and Chemical Mixtures Working Group Meeting; and, Consequence Assessment Working Group Meeting;
- **Wednesday May 3, 2006:**; Biosafety Working Group Meeting; EMI SIG Session 3A on Software Quality Assurance (SQA); EMI SIG Session 2A on Biosafety; Source Term Working Group Meeting; TEEL Advisory Group (TAG) Meeting; and SCAPA dinner; and,
- **Thursday, May 4, 2006:** SCAPA Meeting.

This action item can be closed.

III. SCAPA Working Group Activities

Chemical Exposures Working Group (Doug Craig, Chairman)

Doug Craig and Tony Pierpoint led the discussion and provided an update on the following four Chemical Exposure Working Group action items and activities.

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AI 04-53: There was no additional discussion on the upcoming session a future EMI SIG meeting regarding the effect of SQA guidance on TEEL and Chemical Mixture Methodology (CMM) software. The details of the session will emerge after the TEEL SQA effort and the updated TEEL methodology documentation has been essentially completed. Although this may not be completed in time to have a session at this year's EMI SIG meeting, the material may be covered within the purview of the SCAPA meeting. **ACTIVITY PROCEEDING.**

AI 05-03: Work on developing TEEL derivation documentation and traceability as part of SQA continues. During the summer of 2005, Eduardo Donoso (a PNNL intern) performed code documentation work on the macros used to calculate TEEL values and line-by-line checks of the macros to ensure that they are consistent with the published TEEL methodology. Doug Craig and Ray Lux are conducting final reviews and modifications of the draft Donoso report and Mark Worr, ATL International, is using the draft Donoso report in ATL International's follow-on work related to TEEL SQA and documentation. **ACTIVITY PROCEEDING.**

AI 05-09: Tony Pierpoint reported on the TEEL documentation and database project. Jim Weeks, ATL International, has incorporated the latest round of comments from the TEELs Advisory Group (TAG) and the document will go to Jim Fairbent on March 31, 2006 for wider SCAPA review. The target to have the document completed in time for presentation at the EMI SIG meeting is still achievable. **ACTIVITY PROCEEDING.**

AI 05-10: The Revision 22 TEEL effort for almost 358 new chemicals is progressing with 114 of them being completed. These include 19 new chemicals submitted by Greg Lee, LLNL, of which 14 of these have been completed. Doug indicated that TEELs for these new 358 chemicals would be ready by October 2006. Tony Pierpoint mentioned that it would take ATL International about a week to update the searchable TEELs data base after receiving the Revision 22 TEELs information from Doug. **ACTIVITY PROCEEDING.**

Chemical Mixtures Working Group (Doug Craig, Chairman)

Rocky Petrocchi led the discussion and provided an update on the following two Chemical Mixtures Working Group action items and activities.

AI 04-23: Rocky indicated that he is still 25% complete on the development of HCNs for the approximately 300 TEEL Revision 20 new chemicals, with a goal of finishing this work in the May 2006 time frame. Rocky made a presentation on TEELs for simple asphyxiants, to the Emergency Response Planning (ERP) Committee last week, which slowed down his work on the Revision 20 HCNs. Work on the TEELs Revision 21 chemicals will commence after the Revision 20 work is completed. **ACTIVITY PROCEEDING.**

AI 04-44: Rocky continues his work on the HCN methodology paper. A draft should be ready for peer review by SCAPA members within 1-2 weeks. The paper will be submitted to the *Journal of*

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Applied Toxicology for publication once SCAPA has finished its review and Rocky has incorporated comments. Much of its text will come from the HCN Development procedure.

ACTIVITY PROCEEDING.

AI 06-07: After the conference call, NA-41 requested SCAPA look into the following mixture methodology issue: The mixture methodology is being applied to source terms involving the release of dissimilar materials from separate and multiple containers. The basic assumption, in order to apply the mixture methodology, is that the materials are released simultaneously, and a plume is formed that represents a mixture of the materials. This is a very conservative assumption, but may be the only one that will yield consequence estimates. It is very important that the limits on the application of this methodology be addressed; assuming, of course, that any exist. Also, in a practical sense, how should the results of the mixture methodology best be used in emergency planning? This new action item will be discussed at the Chemical Exposures and Chemical Mixtures Working Group Meeting at the EMI SIG Meeting. **ACTIVITY PROCEEDING.**

Consequence Assessment Modeling Working Group (Cliff Glantz, Chairman)

Cliff Glantz led the discussion and provided an update on the following seven Consequence Assessment Modeling (CAM) Working Group action items and activities.

AI 03-08: John Nasstrom is still working to create technical documentation for the NARAC system. No additional discussion at this teleconference. **ACTIVITY PROCEEDING.**

AI 04-39: At earlier teleconferences, there was discussion on the need to identify other issues that the CAM Working Group should address beyond the toolbox and the NARAC User's Advisory Group. The toolbox interface is a significant effort which is still dominating the work of the CAM Working Group. No additional discussion at this teleconference. This will be an agenda item at the Consequence Assessment Working Group Meeting during the EMI SIG Meeting. **ACTIVITY PROCEEDING.**

AI 05-05: At an earlier teleconference, there was significant discussion on NARAC ingestion of the ARCON96 model. John Nasstrom plans to use this information and combine it with other work associated with a Department of Homeland Security (DHS) urban diffusion program that he is working with Jerry Allwine, PNNL. The modeling will consider initial plume spreading when intersecting the near-field buildings, with additional spreading as it encounters far-field buildings in an urban complex environment. No additional discussion at this teleconference. **ACTIVITY PROCEEDING.**

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AI 05-07: At previous teleconferences, Wayne Davis discussed the need to determine an appropriate dose conversion factor (DCF) to use in EPHAs and consequence assessment models was discussed. Many sites use the ICRP-30 DCFs, while some use the ICRP-68/72 DCFs, while others are considering using the upcoming ICRP-90 DCFs. Wayne just had a conference call with Ed Tupin, EPA, who will soon be issuing the draft revision to EPA-400. According to Tupin, EPA appears to be sticking with ICRP-30. SRS is considering adopting ICRP-68/72 for several applications which would reduce consequences. Wayne shared that any change from ICRP-30 DCFs will require the concurrence of Joel Rabofsky, DOE/EH-52, Office of Worker Protection Policies and Programs. Concurrences would be on a case-by-case basis. No additional discussion at this teleconference. **ACTIVITY PROCEEDING.**

AI 06-01: At earlier teleconferences, Cliff Glantz indicated that the Central Registry has rolled out their new software quality assurance (SQA) order (DOE O 414.1C) and an associated guidance document (DOE G 414.1-4). Carl Mazzola reported on the March 16, 2006 conference call involving SCAPA, Debra Sparkman (DOE/EH-Software Quality Assurance), and NARAC representatives. The planned focus of the call was to explore what would be required for NARAC to become a code in the DOE/EH Central Registry Toolbox. The conversation began with a review of the status of the first six models selected for inclusion in the DOE/EH's Central Registry and continued with a review of the SQA requirements outlined in DOE O 414.1C and DOE G 414.1-4. A separate set of minutes was developed to document the information exchange; these minutes will be posted on the SCAPA web page.

Cliff reported that the teleconference with DOE/EH raised more questions about SQA requirements than it answered. There is still considerable uncertainty about the appropriate SQA Levels (as defined in the DOE O 414.1C and DOE G 414.1-4) that should be assigned to different types of consequence assessment models. Currently, DOE/EH is making no distinction between the amount of SQA required for Central Registry Toolbox models and those models that are not in the toolbox. This is a concern because of the huge effort required to bring even simple models into compliance with the SQA requirements for the Central Registry Toolbox (i.e., the gap analyses DOE/EH commissioned indicated that each of the simple models initially selected for the toolbox would require an average of over \$300K in additional SQA work). Cliff proposes that models used for EPHA safety planning activities should require substantially more SQA than those models whose use could not appreciably impact human health and safety (e.g., Emergency Operation Center models used to deploy field teams toward promising monitoring locations or to identify offsite areas that are impacted at levels where short-term exposures pose no threat to human health and safety). Cliff speculated that some consequence assessment codes used in Emergency Operations Center may only require Level C SQA or may not even be governed by DOE O 414.1C because they do not meet the definition for safety software.

One of the solid outcomes from the teleconference with DOE/EH is that SCAPA is encouraging the inclusion into the Central Registry Toolbox of codes that are widely used for Emergency Preparedness Hazards Assessments (EPHA) (i.e., HOTSPOT)

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More work will be conducted by the SCAPA SQA Working Group in the next few weeks and this will include more interaction with DOE/EH Central Registry. This work will continue on at the EMI SIG meeting when the SQA working group will be able to meet face-to-face with Deb Sparkman (DOE/EH).

Cliff also indicated that the SCAPA web page has been updated to include an SQA web page that discusses recent events, provides convenient links to the DOE SQA order and guide and other useful SQA web pages, explains the drivers and focus for SQA, and will provide additional links to the SQA work being performed at Hanford on the APGEMS code. When the SQA documentation for the APGEMS effort is finalized, it will provide a blueprint for other DOE/NNSA sites to pursue their SQA activities.

Cliff also briefly discussed the planned 90-minute session on SQA at the EMI SIG meeting.

ACTIVITY PROCEEDING.

AI 06/02: At an earlier teleconference, it was noted that as part of the UF₆ effort, Michele Baker noted that NARAC does not use a straight-line Gaussian model for F-stability classes at very low wind speeds. Brenda Pobanz and Michelle Baker are separately running simulations with NARAC to determine the differences between NARAC and other codes at stable low wind speed conditions. No further discussion at this meeting. **ACTIVITY PROCEEDING.**

Biosafety Working Group (Cliff Glantz, Acting Chairman)

Cliff Glantz led the discussion and provided an update on the following Biosafety activities.

Cliff indicated that he was pleased to announce that Dina Sassone, Biosafety Officer at LANL, has agreed to be the SCAPA Biosafety Working Group chairperson. This working group is planning to have another teleconference prior to the EMI SIG Meeting.

Cliff also mentioned that Frank Roberto, Biosafety Officer at INL is involved in preparing an emergency preparedness exercise at INL that will involve a biosafety scenario. Cliff is also working to incorporate a biosafety source term in the Hanford Site's upcoming June exercise.

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The deadline for the Biosafety Working Group to submit their review comments for the latest draft of Emergency Management Guide (EMG) for Biosafety Facilities has passed. The Working Group is pleased about the level of involvement NA-41 allowed the Biosafety Officers to have in reviewing the draft EMG and submitting comments. A revised draft of the EMG will now move on to RevCom for DOE-wide review.

AI 06-06: A new action item is being opened per request of NA-41 to address the transport and dispersion of biological agents/toxins released from DOE/NNSA biosafety facilities, which was left as an open subject in the Biosafety EMG. There is a need to determine what models are available and appropriate for predictions, especially for lab size source terms and not production quantities. In addition, it needs to be ascertained as to what are the limitations of the Gaussian models, and what other modeling tools are available or being developed. Lastly, because a level of severity will likely not be available for defining a Protective Action Criterion (PAC), there is a need to determine how the modeling results will be best used? This will be discussed at the next Biosafety Working Group teleconference. **ACTIVITY PROCEEDING.**

Source Term Working Group (Cliff Glantz, Acting Chairman)

AI 06-05: Carl Mazzola stated that the Source Term working group will be meeting during the EMI SIG Meeting and would look into different aspects of source term inclusive of quantifying source terms for a full spectrum of releases, the five-factor formula (ANSI/ANS-5.10), particle size distribution work being performed at Sandia National Laboratory (SNL), chemical phenomenology for pressurized liquid, non-pressurized liquid and pressurized gas releases, choked flow, etc. At a previous teleconference, the following individuals expressed interest in populating this working group: (1) Larry Campbell; (2) Robert Gee; and, (3) Wayne Davis.

ACTIVITY PROCEEDING.

IV. SCAPA Web Page Report

Cliff Glantz mentioned that additional hyperlinks have been added to the SCAPA web page. In addition to the new SQA webpage which will be appearing soon, a future biosafety web page is under development. In addition, information on the upcoming DMCC, EMI SIG and SCAPA meetings have been posted.

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V. EPA AEGLs/EPA PAGs/DHS PALs Status

Po-Yung Lu reported on EPA/AEGL and DHS/PAL activities:

- **AEGLs**: The 150 chemicals under National Academy of Sciences (NAS) preparation will now be moving forward as the human toxicology issue has been resolved. There will be a National Advisory Committee (NAC) meeting in early June to consider future AEGLs. After the interim AEGLs are established they will be published in the Federal Register and will undergo a 30-60 day comment period. Usually 20 interim AEGLs are established each year, and the goal is to have a 4-5 month turnaround time for each set of AEGLs. Should there be new interim AEGLs prior to the publication of the Revision 22 TEELs, they will be provided to Doug Craig to ensure their integration.

AFTER ACTION: On April 10, 2006, Po-Yung received an update from the NAS. The number of chemicals under NAS preparation is 57, not 150.

- **PALs**: The Department of Homeland Security (DHS) effort on Provisional Advisory Levels (PALs) for evacuation and re-entry has also begun to move forward. A peer review committee has been established to review the draft report in the April-June 2006 timeframe. PALs are being developed for chemical weapon agents (e.g., VX, Sarin, mustard agents).

Gustavo Vazquez reported on the two initiatives regarding PAGs.:

- **IND and RDD PAGs**: The PAGs for Improvised Nuclear Devices (INDs) and Radiological Dispersal Devices (RDDs) were issued by DHS in a Federal Register notice on January 3, 2006 (FR 71 No. 1), as draft guidance for interim use. The comment period has been extended to April 14, 2006. Andy Wallo and Steve Domotor of DOE/EH-41 are on the working group.
- **EPA PAGs**: EPA PAGs have been drafted, and may be released by the summer 2006, now that the DHS IND/RDD PAGs have been issued.

VI. AIHA ERPGs Status

Richard Thomas reported on the ERPG Committee activities.

The 2006 Handbook of ERPG Values is on sale from AIHA (www.aiha.org). It contains a list of 125 final published ERPGs with 17 new ERPGs developed this past year and approximately 40 substances that are under consideration for developing new ERPGs this year.

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The ERP Committee met on March 21-22, 2006 in Park City, UT and reviewed toxicology information on eight new substances. The ERP Committee intends to issue ERPG values for 46 new substances over the next 18 months, with prioritization by the frequency of transport of these substances.

The next ERPG meeting will be June 22-23, 2006 in Washington, DC. The subsequent meeting is tentatively scheduled for September 21-22, 2006 in Amsterdam, Netherlands in conjunction with the AEGL and AETL committee meetings. They will be looking at European Acute Exposure Threshold Limit (AETL) values which are one-hour exposure toxic endpoints. They have been developed as a collaborative effort between Australia, Belgium, France, Germany and the United Kingdom. The ERP Committee will be considering ways to coordinate ERPG development with both AEGL and AETL development activities.

VII. New Business

No new business items were raised.

VIII. Next SCAPA Conference Call

Carl Mazzola tentatively scheduled the next SCAPA Conference call for **June 15, 2006 at 10:30 a.m.** This was changed from the stated June 13, 2006 to resolve time conflicts of some of the SCAPA participants.

IX. Adjournment

The teleconference was adjourned at **11:32 a.m.** Carl thanked everyone for their time and their contributions.

X. SCAPA Program Action Item (AI) Status

Based on the information exchange from this teleconference, one AI was closed, and two new AIs were opened.

The color-coding system used in the teleconference highlights are as follows:

- Existing AIs that are not closed are colored green;
- New AIs are colored yellow; and,
- AIs to be closed are colored blue.

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Carl Mazzola will update the action item list based on the information exchange from this conference call. The number of open action items is increased to 15 due to the closure of one AI (AI 06-04) and the opening of two new AIs (AI 06-06; and AI 06-07).

Respectfully Submitted,

Carl Mazzola

Carl Mazzola