



**Emergency Management Issues (EMI)
Subcommittee on Consequence Assessment
and Protective Actions (SCAPA)**

**SCAPA PROGRAM TELECONFERENCE 07-03
THURSDAY, JULY 12, 2007; 2:00 PM-3:00 PM EDT**

Teleconference 07-03 Participants

Fernando Aluzzi, NARAC	Jim Jamison, SAIC	Rocky Petrocchi, WGI
Tom Bellinger, Y-12	Mike Lazaro, ANL	Bill Possidente, NTS
Lew Blumstein, NTS	Vickie Locklear, DOE/N-43	Frank Roberto, INL
Jeng Cheng, NA-41	Po-Yung Lu, ORNL	Brad Salmonson, INL
Dorothy Cohen, ORISE	Dan Marsick, DOE/HSS-11	Richard Thomas, Intercet
Doug Craig, ATL International	April Martin, WSMS	Gustavo Vazquez, DOE/HS-21
Gerry Gibeault, INL	Dina Matz, LANL	Kerry Ward, INL
Cliff Glantz, PNNL	Carl Mazzola, Shaw Environ.	Gary Winner, ANL
John Harris, ORO	Vern McDougall, ATL	Michele Wolfgram, WSMS

Teleconference Highlights

I. Roll Call

Carl Mazzola conducted a roll call and acknowledged that 27 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, 31 individuals participated.

II. Administrative Matters

Carl Mazzola and Cliff Glantz led the discussion on three SCAPA administrative matters.

Previous Teleconference Highlights: Carl Mazzola stated that the final highlights from the 3/22/07 SCAPA Program Teleconference 07-02 has been issued and Dorothy Cohen has posted them on the EMI SIG/SCAPA website.

SCAPA Action Item Status: Carl Mazzola briefly discussed the latest updated SCAPA Program Action Item (AI) listing. Progress on closure continues since the last teleconference. At the time of this teleconference, 19 action items still remain open. The progress on many of these AIs will be discussed during today's teleconference.

After Action: Subsequent to the teleconference, several AIs were closed based on discussions with NA-41. These closures will be reflected in this teleconference highlights.



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American Nuclear Society (ANS) Topical Meetings on Emergency Preparedness & Response (EP & R)

Carl Mazzola mentioned that the 10th EP & R meeting will take place at the Hotel Albuquerque in Old Town Albuquerque, NM, on March 9-12, 2008. A Call for Papers has been posted and will be forwarded to the SCAPA and DMCC list serves. Authors should submit a 500-word abstract via the ANS Community of Science (COS) electronic submission system by August 1, 2007. Abstracts will be reviewed by the technical program committee between August 2, 2007 and September 15, 2007. Authors will be notified of the acceptance or rejection of their abstracts by September 30, 2007. Full-length paper submissions are due by November 11, 2007.

The following topics are available for SCAPA members: (1) Guides, standards, and regulations; (2) Late breaking research/issues; (3) Hazardous materials and consequence analysis; (4) Consequence modeling at DOE/NNSA facilities; (5) International consequence assessment modeling; (6) Urban search and rescue applications; (7) Severe weather support at nuclear facilities; (8) Planning for continued operation / safe shutdown and surveillance of a hazardous material facility during a pandemic; (9) Software quality assurance requirements for EP&R; (10) Security issues and analysis; (11) Infrastructure and transportation; (12) Public and media relations; (13) Actual events and exercises - lessons learned; (14) Emergency response systems and equipment; (15) Human factors; (16) New and emerging technologies for EP&R.

Carl encouraged all teleconference participants to get their abstracts in quickly as the August 1, 2007 deadline was rapidly approaching,

III. SCAPA Working Group Activities

A. Chemical Exposures Working Group (CEWG) (Doug Craig, Chairman)

Doug Craig led the discussion and provided an update on the following five CEWG action items and activities.

AI 05-03: The TEEL derivation documentation and traceability development SQA effort continues. 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 was conducted in 2005. The development of a draft SQA Plan continues.

ACTIVITY PROCEEDING.



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AI 05-09: ATL issued a final draft of the TEEL documentation and derivation report to Jim Fairbent on April 2, 2007. **ACTIVITY CAN BE CLOSED.**

AI 05-10: TEELs Revision 22, which addresses 3,310 chemicals, has been posted on the DOE/HS web page. Concurrent with the Revision 22 TEELs is an update of the PAC data base to reflect AEGL and ERPG changes to specific chemicals. Tom Tuccinardi has been working with Vern McDougall, ATL on having the changes incorporated into the searchable TEELs data base. TEELs Revision 22A, which contains minor revisions and removes the oxygen TEELs, has also been posted. **ACTIVITY CAN BE CLOSED.**

AI 07-02: The TEELs Revision 23 effort will be different from the past efforts since most of the unscreened chemicals now have temporary chemical health indicators developed for them. The TEELs Revision 23 effort will concentrate on applying more comprehensive quality assurance criteria to many of the chemicals that had TEELs developed in the early revisions to ensure their fidelity. Individuals that want to submit new chemicals for TEEL development or request corrections to existing TEELs need to download forms for TEEL changes from the SCAPA web site, and new chemicals will not be actively solicited from DOE/NNSA sites.

NA-41 intends to give specific direction to the TEELs Revision 23 effort at its September 11-12, 2007 TEELs Advisory Group (TAG) meeting. **ACTIVITY PROCEEDING.**

AI 07-03: Cliff Glantz is leading an effort to streamline the process of getting future Protective Action Criteria (PACs) on the SCAPA and DOE/HS web pages. New procedures are being developed to minimize inefficiencies. **ACTIVITY PROCEEDING.**

B. Chemical Mixtures Working Group (Doug Craig, Chairman)

Rocky Petrocchi led the discussion and provided an update on the following six CMWG action items and activities.

AI 04-23/06-15: At previous teleconferences, Rocky indicated that he is 50% complete on the development of HCNs for the approximately 300 TEEL Revision 20 new chemicals and Doug Craig has completed the QA work on the HCNs that have been completed. Work on the TEELs Revision 21 chemicals will commence after the Revision 20 work is completed. It was suggested that all completed TEEL Revision 20 chemical HCNs be posted on the website. At the CEWG/CEMG meeting in San Antonio, TX, it was determined that there is a backlog of 917 HCNs for the TEELs Revision 20-22 chemicals and that more resources would need to be

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applied to work off this backlog. Rocky reported that the backlog was down to 750 HCNs.
ACTIVITY PROCEEDING.

AI 06-07: At previous teleconferences, NA-41 requested SCAPA to address the Chemical Mixture Methodology (CMM) issue associated with the release of dissimilar materials from separate and multiple containers. The assumption that the materials are released simultaneously, and a plume is formed that represents a mixture of the materials is very conservative. A second part of the request is to define how the results of the CMM should best be used in emergency planning. Rocky Petrocchi developed a response to this. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

AI 06-09: At earlier teleconferences, Rocky discussed the work associated with the variability of the health hazard standards rating systems that are in use. NA-41 decided that it will not pursue the concept of a common hazard rating database and expects implementation of its DOE O 151.1C guidance on the subject. DOE/NNSA sites have the freedom to pursue other hazard rating systems, but would have the burden of proof to demonstrate their equivalency to the DOE order-mandated NFPA 704 health hazard standard rating system. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

AI 06-14: At earlier teleconferences, Rocky reported that the revision of the automated CMM Excel workbook to include the expanded list of acute HCNs was completed as part of the CMM revision. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

AI 07-04: Rocky indicated that the most recent revision of the CMM Workbook will soon be posted on the SCAPA web page. This effort is being coordinated with the TEELs Revision 22A effort. Rocky requested that individuals on this teleconference go to the workbook and test it. **ACTIVITY PROCEEDING.**

C. Consequence Assessment Modeling Working Group (Cliff Glantz, Chairman)

Cliff Glantz led the discussion and provided an update on the following ten CAMWG action items and activities.

AI 03-08: John Nasstrom offered a web page link to technical documentation for the NARAC system. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**



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AI 05-05: At earlier teleconferences, there was 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.**

AI 05-07: At earlier teleconferences, Wayne Davis discussed the progress on determining an appropriate Dose Conversion Factor to use in EPHAs and consequence assessment models. Wayne had indicated that changing from ICRP-30 DCFs at DOE/NNSA sites has received the concurrence of Joel Rabofsky, DOE/EH-52, Office of Worker Protection Policies and Programs. Accordingly, any DOE/NNSA site can change its protocol and use ICRP-68/72 DCFs, which Savannah River Site (SRS) has begun to do. Wayne has been in contact with representatives of the Federal Radiological Monitoring and Assessment Program (FRMAP), who indicated that they do not object to this decision. In parallel, FRMAP has recently petitioned EPA to use ICRP 60/70 methodology for long-term applications. Wayne is finishing up a White Paper and will provide a summary of the findings at the upcoming SCAPA Meeting. No additional discussion at this teleconference. **ACTIVITY PROCEEDING.**

AI 06-01: Cliff Glantz stated that the HOTSPOT code is undergoing evaluation as the 8th model for inclusion in the DOE/EH Central registry Toolbox and several SCAPA members (i.e., Larry Campbell, Carl Mazzola, Wayne Davis, Cliff Glantz) have been working closely with Steve Homann, LLNL, the HOTSPOT developer. The team prepared a gap analysis report. The HOTSPOT author indicated that he will have completed the five critical actions by January 2008 when HOTSPOT Version 2.07 is issued. Once they are completed, HOTSPOT will become the 8th toolbox model.

Cliff also indicated that Reed Hodgins, Alpha-TRAC, is developing SQA requirement for SCAPA SQA models, which has more flexibility than provided in DOE O 414.1C. A draft is expected by September 30, 2007. **ACTIVITY PROCEEDING.**



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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. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

AI 06-11: At the 2006 CAMWG meeting, SCAPA was asked to assist SNL in benchmarking its Consequence Assessment Team (CAT) in response to a concern by the Sandia Site Office (SSO) about whether the CAT was correctly sized for the SNL emergency response program. A questionnaire, developed by SNL for the rest of the DOE/NNSA emergency management community, was sent out and 12 responses were received on a whole range of questions associated with team size, team roles and responsibilities, consequence models used, etc. Susan Vosburg presented the results of the benchmarking at the EMI SIG Meeting. The summary of the responses has been posted on the SCAPA website. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

AI 07-01: At the May 2007 CAMWG Meeting, Cliff Glantz mentioned that DOE Order 414.1D will soon be issued and that SCAPA should review it. This order has not yet been issued, and when it is, Cliff will coordinate the SCAPA review. **ACTIVITY PROCEEDING.**

AI 07-06: At the May 2007 CAMWG Meeting, Chuck Hunter indicated willingness to share information that SRNL has on its RAMS-LPDM model and its verification and validation with SRS field studies. No discussion during this teleconference. **ACTIVITY PROCEEDING.**

AI 07-07: At the May 2007 BWG Meeting, John Nasstrom indicated willingness to share documentation that has been prepared regarding NARAC biowarfare modules with working group. No discussion during this teleconference. **ACTIVITY PROCEEDING.**

AI 07-10: At the May 2007 SCAPA Meeting, EPA presented the progress on the EPA-400 PAG revision. SCAPA will interface until its targeted December 2007 publication. Gus Vazquez provided an update which is recorded later in this teleconference. **ACTIVITY PROCEEDING.**

D. Biosafety Working Group (Frank Roberto, Chairman)

Frank Roberto led the discussion and provided an update on the following three BWG action items and activities.



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AI 06-06: At an earlier teleconference, NA-41 requested BMG 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. NA-41 indicated that there is a need to determine what models are available and appropriate for predictions, especially for laboratory-size source terms. In addition, NA-41 stated a need 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 not likely be available for defining a PAC, there is a need to determine how the modeling results will be applied. Dina Matz volunteered to develop a one-page SCAPA project plan for submission to NA-41 to move forward with this project which may result in the development of infective dose values, or ranges, for various infectious agents.

At the SCAPA meeting there was discussion on several indoor air quality models, including the PNNL CONTAM indoor air quality model. LBNL also has a mature indoor modeling capability and a model named COMIS, which is highly dependent on building configuration and HVAC design. INL is looking at using the CONTAM code. There will be more discussion of this topic during the July 17, 2007 BWG teleconference. **ACTIVITY PROCEEDING.**

AI 06-17: At an earlier teleconference, it was determined that several SCAPA members are also involved in a new DOE initiative associated with nanotechnology and mentioned that several work areas of this new group would fit in well with the BWG since the body's immune system would treat the invasion of such materials as it would microorganisms. Dan Marsick is also involved with the new group and this effort is being focused through the EFCOG Chemical Safety Technical Committee (CSTC). Carl Mazzola presented on the DOE National Nanotechnology Initiative (NNI) at the EMI SIG meeting. Dan Marsick reported that NNI is receiving public comments on nanotechnology ES & H research needs. The move to develop a nanotechnology notice was not supported by the Office of Science. This may be resolved when the Inspector General report on nanotechnology health effects is released in September 2007. Until then, DOE is tabling all efforts associated with nanotechnology ES & H requirements. **ACTIVITY PROCEEDING.**

AI 07-08: Frank noted that the BWG comments to the Biosafety EMG were included and the EMG was issued on July 11, 2007. NA-41 requested that this action item be closed. **ACTIVITY CAN BE CLOSED.**

E. Source Term Working Group (Carl Mazzola, Acting Chairman)

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Carl Mazzola led the discussion and provided an update on the following two STWG action items and activities.

AI 06-05: The STWG has been populated and a draft Charter has been developed. **ACTIVITY CAN BE CLOSED.**

AI 06-12: Cliff Glantz and Dorothy Cohen continue to populate the STWG web page. References to key source term documents have been posted, and a mechanism to ask STWG source term questions has been set up on the website.

Fred Harper's explosion experiments at SNL are a good source of input to the compendium and this experimental data needs to be reconfigured. **ACTIVITY PROCEEDING.**

IV. SCAPA Web Page and EMU Report

Cliff Glantz mentioned that additional nanotechnology links have been added to the SCAPA web page. In addition the CDC Office of Health and Safety 5th Edition BIMBL has been posted.

AI 07-09: At the May 2007 TAG Meeting, the first Emergency Management Update (EMU) newsletter was indicated to be well-received and a follow-up EMU will be prepared. No discussion at this teleconference. **ACTIVITY PROCEEDING.**

V. EPA AEGLs/EPA PAGs/DHS PALs Status

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

AEGLs

The National Advisory Committee (NAC) met in Rotterdam, the Netherlands, and reviewed 25 new closely-related chemicals. There are presently 32 final, 98 interim, 86 proposed and 13 on hold AEGLs. Po-Yung will coordinate AEGL activity with Doug relative to TEELs Revision 23.

PALs

At a previous teleconference it was indicated that ORNL is preparing for the next meeting which will be in Washington, DC from October 31, 2006 through November 3, 2006. After this meeting the PALs will be ready to be issued for external review once it is determined how to

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best release them. Due to the CR, there has been little progress since the last teleconference. No further discussion at this teleconference.

VI. AIHA ERPGs Status

Richard Thomas reported on the Emergency Response Planning (ERP) Committee activities.

The ERP Committee also met at Rotterdam, the Netherlands, and approved ERPGs on seven substances. It is expected that 12 new substances will have ERPGs by the end of 2007 that will be published in early 2008. Richard will coordinate ERPG activities with Doug relative to TEELs Revision 23.

VII. IND/RDD/PAG Status

Gustavo Vazquez reported on the two initiatives regarding PAGs. Listed below is the status of these initiatives.

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 and the comment period had been extended to April 14, 2006. Andy Wallo and Steve Domotor of DOE/HS-20 are on the working group. DHS is working to resolve the comments. No additional discussion during this teleconference.

EPA PAGs

The new EPA PAGs were released for interagency review. This review period ended November 1, 2006. As previously indicated, EPA has selected ICRP 68/72 as a basis for the new PAG values.

The EPA PAG Manual, which is being revised, will largely incorporate the DHS RDD/IND PAGs. The next version of the PAG Manual should be available for FRPCC review, estimated to take at least 4 weeks, in March, 2007. After that review, the manual will be issued for public comment in the Federal Register. The PAGs website, according to EPA, will be updated to include more information about the revision process in January 2007. In addition, a couple of workshops are being developed on the PAGs for the spring 2007 timeframe. The final PAGs are expected to be placed in the Federal Register in August 2007

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and will be subject to a 60-day public comment period. DOE Order 5400.5 will be updated once the PAGs become final.

VIII. Round Robin

Fernando Aluzzi reported on the upcoming NARAC User Group training and meeting. On August 15, 2007 there will be a Gaussian modeling overview provided and how it is different from Lagrangian modeling. On August 16, 2007, *iClient* 1.6/2.0 will be discussed with hands on exercises. On August 17, 2007, the NARAC User Group will meet.

Due to the length of the earlier discussions, there was no remaining time for additional round robin discussions.

IX. Next SCAPA Conference Call

Carl Mazzola tentatively scheduled the 1st SCAPA Conference call of 2007 for **Thursday, September 20, 2007 at 11:00 a.m. EDT.**

X. Adjournment

The teleconference was adjourned at **3:03 p.m. EDT.** Carl thanked everyone for their time and their contributions.

XI. SCAPA Program Action Item (AI) Status

Based on the information exchange from this teleconference and the SCAPA Meeting, ten AIs were closed, and eight new AIs were opened, since the previous teleconference, making a total of 17 AIs that remain.

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 SCAPA action item list based on the information exchange from this conference call.