

SCAPA SOURCE TERM WORKING GROUP TELECONFERENCE 06-01

WEDNESDAY, NOVEMBER 20, 2006; 3:00 PM-4:00 PM EST

Teleconference 06-01 Participants

Ron Baskett, LLNL-NARAC
Bob Cornish, OST
Mike Dillon, LLNL-NARAC
Patricia Frankovitch, ANL
Dave Freshwater, SAIC
Jerry Gibeault, INL
Cliff Glantz, PNNL
Courtney Haggard, WSMS Mid-America
Jim Hardy, Department of Emergency Management and Homeland Security
John Harris, ORO
Eva Hickey, PNNL
Reed Hodgins, AlphaTRAC
Jim Jamison, SAIC
Darrell Lake, INL
Vickie Locklear, DOE/NA-43
Po-Yung Lu, ORNL
April Martin, WSMS Mid-America
Greg Martin, SAIC
Lori Martin, WSMS Mid-America
Pete Matonis, INL
Carl Mazzola, Shaw Environmental
Mike O’Keeffe, NTS
Rocky Petrocchi, WGI
Bill Possidente, NTS
Jim Powers, DOE/NA-41
Frank Roberto, INL
Teresa Rolfe, SNL-NM
Brad Salmonson, INL
Richard Thomas, Intercet
Tom Tuccinardi, ATL International
Bob Utesh, ANL
Susan Vosburg, SNL-NM
Kerry Ward, INL
Susan Weekly, SNL-CA
Lorena Williams, WSMS Mid-America
Gary Winner, ANL
Michele Wolfgram, WSMS Mid-America
Wycliffe, LLNL-NARAC

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Teleconference Highlights

I. Roll Call

Carl Mazzola and Cliff Glantz conducted a roll call and acknowledged that 38 individuals involved in the SCAPA Source Term Working Group (STWG) were present.

II. Source Term Information Web Page on SCAPA Website

Cliff Glantz led the discussion on what information and technical links should be posted on the Source Term Information Web Page.

Frank Roberto initiated a discussion with the SCAPA Biosafety Working Group (BWG) stating that the BWG is seeking a consistent approach to dealing with biological agent releases because very little information is available on the subject. Information associated with bioterrorism through the Federal Bureau of Investigation (FBI) and the Environmental Protection Agency (EPA) relative to work in secure buildings exists; but nothing on the loss of secondary containment for biological agents. The FBI and EPA research is also affiliated with the modeling of Heating Ventilation and Air Conditioning (HVAC) systems. Experimental work is needed to establish de minimus values, as required in the Biosafety Emergency Management Guide (EMG), because loss of secondary containment of bioagents is an operational emergency.

Rocky Petrocchi was asked about source terms relative to chemical releases. Rocky indicated that gases have the Respirable Fraction (RF) =1. Chemical releases usually do not involve particulates. Carl Mazzola added that there is a lot of research that has been performed by the Center for Chemical Processing Safety (CCPS) and other organizations that seek to establish the quantification of aerosolization for pressurized gas releases (i.e., two-phase flow) and for the spilling of liquids that aerosolize due to mechanical breakup when hitting the ground.

Cliff Glantz mentioned that he was aware of source term experimental work being performed in an enclosed explosion facility in Germany, and will seek to make this information available to the Source Term Working Group (STWG).

Ron Baskett was also aware of some source term-related work being performed in Israel and will forward this and other information to Cliff or Carl.

Susan Vosburg briefly discussed the explosive source term work at Sandia National Laboratory-New Mexico (SNL-NM) by Fred Harper and his group. However, most of the work is Unclassified Controlled Nuclear Information (UCNI) or Official Use Only (OUO) and would not be easy to post on the web site. Susan will check with Fred to see what is available for posting (i.e., unclassified reports developed at Sandia [SAND reports]).

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Reed Hodgkin, who is doing the Emergency Preparedness Hazards Assessment (EPHAs) for SNL-NM, indicated that he mainly uses Department of Energy-Handbook -3010 (DOE-HDBK-3010), which references the five-factor formula.

Carl Mazzola indicated that the five-factor formula can be found in a voluntary consensus standard, ANSI/ANS-5.10 (1998), whose working group was led by Jofu Mishima, the creator of the five-factor formula. Carl mentioned that this standard was just reaffirmed and is available for purchase at www.ans.org for about \$75. It contains many useful appendices including a list of about 30 useful source term-related references. He recommended that purchasing this standard would be money well-spent.

John Harris discussed a useful website from the Federal Chemical Safety Board (FCSB).

III. Source Term Issues

Mike O’Keeffe indicated that when using the five-factor formula in DOE-HDBK-3010, there is sufficient information for establishing RF and ARF, but LPF and DR have limited information.

Carl Mazzola discussed that a LPF of .01 has been established for HEPA filters. However, there is some disagreement in Nuclear Regulatory Commission (NRC) circles about whether two HEPA filters in series have a LPF of 10^{-4} . In general, the leak path design configuration needs to be known before an accurate LPF can be calculated.

Ron Baskett mentioned that NARAC works with a conservative LPF =1, since there is little information available about this factor.

Gerry Gibeault stated Department of Energy Guide 151.1 (DOE G 151.1) suggested that the EPA has good guidance in its 1999 technical guide, EPA-55-B-99-099, “Risk Management Program Guidance for Offsite Consequence Analysis, Appendix D”. In “Section D.2.4” the guide addresses releases from inside buildings.

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IV. Interactions with Other Organizations and Working Groups

Cliff Glantz led a discussion on with what organizations and other technical groups the STWG should interface. The following were suggested:

- Center for Chemical Processing Safety;
- Areal Locations of Hazardous Atmospheres (NOAA-Hazmat; Seattle, WA); and,
- Energy Facilities Contractor Group (EFCOG) Safety Analysis Working Group (SAWG) –

Carl Mazzola notified the STWG that EFCOG SAWG will be holding its annual meeting at Idaho Falls, ID, May 20-24, 2007.

V. Virtual Meeting Periodicity

Cliff said there should be a teleconference of the STWG approximately every two months.

VI. Next SCAPA STWG Conference Call

Cliff Glantz indicated that the next STWG teleconference is targeted for January 2007.

X. Adjournment

The teleconference was adjourned at **3:48 p.m. EDT**.

Cliff and Carl thanked everyone for their time and their contributions.

Respectfully Submitted,

Carl Mazzola

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