Highlights
STWG Annual Meeting
May 4, 2010, 7:00 a.m. PST

Participants

Dennis Armstrong, WSMS
Jayne-Anne Bond, ATL
Dan Conners, PNNL
Wayne Davis, WSMS
Dave Freshwater, NA-41
Cliff Glantz, PNNL
Courtney Haggard, WSMS
Eva Hickey, PNNL
Jim Jamison, SAIC
Aprill Jivelekas, WSMS
Po-Yung Lu, ORNL
Greg Martin, SAIC
Carl Mazzola, Shaw Environmental
Mike O'Keefee, NSTec
Erica Ortega, SNL
Phil Pfeiffer, INL
Chuck Rives, Battelle-Pantex
Therese Rolfe, SNL
Melissa Thornton, WSMS
Tom Tuccinardi, ATL
Susan Vosburg, SNL
Michele Wolfgram, ORNL
Jamie Wright, Y-12
Ken Young, LLNL
Xiao-Ying Yu, PNNL

Roll Call

Michele Wolfgram conducted a roll call, acknowledged that 25 professionals were present, and the STWG annual meeting was called to order.

Administrative Matters

Annual EMI SIG Meeting: A number of presentations from the STWG were made during the HASubC and SCAPA meetings on Monday, May 3, 2010, which were briefly reviewed by Michele:

1. DOE TRU Standard (Courtney Haggard and Aprill Jivelekas); 10:40 – 11:00 a.m. (related to AI 08-01)
2. Spray Leak (Jim Jamison); 10:20 - 10:40 a.m. @ HASubC (related to AI 08-02)
3. Non-respirable source term (Wayne Davis); 1:25 - 1:45 p.m. @ SCAPA (related to AI 09-03)
4. Leak Path Factor (Chuck Rives); 1:05 - 1:25 p.m. @ SCAPA (related to AI 09-04)

STWG Web Page: Michele Wolfgram and Cliff Glantz discussed the newly formatted STWG web page and encouraged all attendees to contribute technical papers, other working papers, and analyses that may be useful to the working group.

Old Business

STWG AI 08-01: A draft paper on the DOE TRU Standard (DOE-STD-5506-2007) and its potential applications to Emergency Planning Hazards Assessments (EPHAs) was developed by STWG and is under review by Dr. Jim Powers, NA-41. The final disposition of this item will be made when NA-41 has completed its review and its comments appropriately addressed. **ACTIVITY CONTINUING**.

STWG AI 08-02: Jim Jamison presented a talk at the May 3, 2010, HASubC meeting on spray leaks and whether radiological or non-radiological health effects dominated. Jim indicated that the real issue is to answer the question as to whether it is necessary to analyze a spray leak in an EPHA, and he concluded that the analysis of spray leaks should be discouraged based on the weight of information. He has drafted a FAQ which will be reviewed by STWG. Wayne Davis asked whether we can discount the chemical hazard associated with spray releases involving high-level waste. Jim cautioned that, because of the safety basis, we need to be careful to not automatically ignore the chemical hazard. **ACTIVITY CONTINUING.**

STWG AI 09-01: Wayne Davis' White Paper on Criticality Source Terms has been approved for posting on the SCAPA website. **ACTION ITEM CAN BE CLOSED**.

STWG AI 09-02: The ball-milled Pu-238 reference paper has been approved for posting on the SCAPA website. **ACTION ITEM CAN BE CLOSED**.

STWG AI 09-03: Wayne Davis developed a recommendation paper and made a presentation at the SCAPA Meeting where he discussed the use of non-respirable source terms to ensure that non-respirable particle dose impacts (e.g., ground shine) are being considered. This paper's focus is that the analyst must ensure appropriate treatment of the respirable factor. Non-respirable gamma-emitting particulates, from releases that deposit on the ground, produce a ground shine component that may not be accounted for by the five-factor formula. Use of Pu-238 or Pu-239 "Dose Equivalent Curies" to represent the source term does not work if beta and gamma emitters are involved in the release. The relevant question is, "What amount of gamma-emitting radionuclides has to be deposited on the ground before ground shine should be considered in the dose assessment calculation?" Wayne will continue developing the recommendation paper. Denny Armstrong was selected to review the source term aspects, and Cliff Glantz and Carl Mazzola were selected to review the atmospheric dispersion and deposition aspects. **ACTIVITY CONTINUING**.

STWG AI 09-04: Chuck Rives has been searching for information sources on Leak Path Factors (LPFs) and finding very sparse information. The overall goal for this project is to compile all available information on LPFs into a living document that will be updated periodically. Chuck has found that there are structural aspects of buildings that may impact their LPFs. Chuck reviewed different types of buildings and their LPFs, such as Gravel Gertie cell facilities whose gravel roofs are designed to drop down as a result of an internal explosion and provide a HEPA filter equivalent reduction in the LPF.

Phil Pfeiffer (INL) discussed the work being done at the Idaho site to develop LPFs. They are using EPA documentation that provides airborne release factors. A challenge is that legacy safety-based documents do not do a credible job documenting LPFs. They are taking a bounding approach that assumes that 50 percent of airborne material settles out in a room (provided the building is not reduced to rubble), decrease that by an additional 50 percent as the airborne material drifts into other rooms (in-building deposition), decrease that by another 50 percent for deposition in the ventilation system even prior to contacting the ventilation system filters. An Idaho State University summer intern is using indoor transport dispersion models (e.g., MELCOR, CONTAM) to study this in-facility transport effect on LPFs.

Susan Vosburg (SNL) stressed that you should take credit for engineered mitigation controls from information provided by the facilities' organization with the proviso that these controls need to remain intact throughout the duration of the event. Ken Young (LLNL) added that this type of information can be found in Documented Safety Analyses (DSAs) but cautioned that such information is negotiated and does not always represent reality. **ACTIVITY CONTINUING**.

STWG AI 09-05: Dan Conners is leading an effort to develop an objective statement on the use of Dose Equivalent Curies "to support emergency planning and plume modeling during real events." Dan is looking at the dose coming off the package and the techniques used by safety basis analysts. Jim Jamison noted that this technique may not work for field survey teams if other gamma emitters are present. **ACTIVITY CONTINUING**.

New Business

There was no new business.

Next SCAPA STWG Meeting

Michele indicated that next SCAPA STWG teleconference is scheduled for July 8, 2010, at 2:00 p.m. EDT.

Adjournment

The meeting was adjourned at 8:00 a.m. PDT. Michele thanked everyone for their time and contributions.