



Highlights
DMCC Program Teleconference 10-02
Tuesday, March 16, 2010, 12:30 – 1:30 p.m. EDT

Participants

Tom Bellinger, Y-12
Kevin Birdwell, ORNL
Howard Burgess, SRS
John Ciolek, AlphaTRAC
Kirk Clawson, INL
Dorothy Cohen, ORISE
Dave Freshwater, NA-41

John Harris, DOE/OR
Erik Kabelá, SRNL
Carl Mazzola, Shaw Environmental
John Merrick, DOE/SR (Retired)
Gustavo Vazquez, DOE-HS-21
Steve Vigeant, Shaw Environmental

I. Roll Call

Carl Mazzola conducted a roll call and acknowledged that 13 individuals involved in the DMCC program were present and the teleconference was called to order.

II. Administrative Matters

A. Previous Teleconference Highlights and Action Items

Carl stated that highlights of the previous teleconference have been developed and has been posted by ORISE on the DMCC portion of the EMI SIG web page.

B. DMCC Action Item Status

Carl indicated that nine DMCC Program action items were open, and the progress on these AIs will be discussed in today's conference call. The status of the active and upcoming assist visits (AVs) will also be discussed during the teleconference.

The existing DMCC AI list and assist visit status table will be updated on the basis of information exchange during this teleconference and from developments of other relevant events.

C. DMCC Meeting

Carl briefly discussed the EMI-SIG Conference, May 3-5, 2010, in Las Vegas, NV, where the DMCC Meeting will be held. The DMCC meeting will begin at 8:00 am on Monday, May 3 and will again be facilitated by John Merrick. The agenda will be sent to the DMCC listserv by the end of the week.

III. Assist Visit Status

Carl discussed the status of the ongoing DMCC Assist Visit (AV) program. Four AVs are in the planning stages, the final report of one AV is about to be issued, and progress on four AVs over the past two years is provided.

Y-12

Tom Bellinger continues to address the 24 observations and recommendations from the May 24-25, 2008 AV.

Hanford

Will Shaw continues to address the 28 observations and recommendations from the September 25-26, 2008 AV. Program changes are slow to occur due to uncertainty about whether the Meteorological Program will be transferred to a different DOE contractor. Once this issue is settled, it is hoped that more substantive changes to the program will be implemented.

Oak Ridge National Laboratory (ORNL)

Kevin Birdwell continues to address the 23 observations and recommendations from the March 24-25, 2009 AV. ORNL has hired a summer intern to assist Kevin in day-to-day duties.

Savannah River National Laboratory (SRNL)

Erik Kabela indicated that SRNL continues to address the 11 observations and recommendations, which were well-received by both DOE and SRNL stakeholders. SRNL has acquired a research Sound Direction and Ranging (SODAR) remote instrument which may become an operational SODAR in the future.

Brookhaven National Laboratory (BNL)

Joe Terranova provided comments to the draft report and indicated that BNL is addressing the 17 observations and recommendations and has funded a 0.75-FTE position and budgeted \$240,000 for instrumentation upgrades. The final report should be issued in late-March 2010.

Lawrence Livermore National Laboratory (LLNL)

The spring 2008 LLNL downsizing resulted in the loss of its two operational meteorologists. In addition, LLNL is the only major DOE/NNSA site that has not had an AV. Contact has been made with LLNL's Nicholas Bertoldo to provide information about the DMCC and discuss the possibility of a future AV. A site visit by Walt may be set-up next year.

Idaho National Laboratory (INL)

Kirk Clawson issued a formal response to the 2004 AV, and planning for a follow-up assist visit for April 20-21, 2010 has been completed.

Los Alamos National Laboratory (LANL)

Scot Johnson indicated that he would like to have a follow-up AV in the summer 2010, which will be four years since the initial AV. Carl has contacted Gina Deola, SNL, to try to arrange an assist visit there that same week.

IV. DMCC Projects

AI 07-02: DOE EH-0173 Update and Draft DOE O 458.1: Gus Vazquez provided a status on the DOE EH-0173T update which will become a companion to the upcoming revision of DOE O 5400.5, *Radiation Protection of the Public and the Environment* (DOE O 458.1). Draft DOE O 458.1 will also be consistent with 10 CFR 835 and DOE O 450.1A, closely aligned with Integrated Safety Management System (ISMS) requirements and containing requisite meteorological requirements. Hundreds of comments from the PSOs and field elements were received during the 2009 RevCom review and they are still in the process of resolution. About 50% have been resolved and there have been several stakeholder conference calls. This order is expected to be issued in late-spring 2010. Earlier, DMCC reviewed the meteorological section of the draft and did not have any comments.

The revised eleven-chapter 1991-vintage DOE/EH-0173T guidance has been updated to align with the new order and is still being held at HS-20. Once DOE O 458.1 is issued, the revision of DOE/EH-0173T can be completed to ensure consistency between the two documents. DOE/EH-0173T is expected to be issued six to twelve months after DOE O 458.1. At that time, Gus will request a DMCC review of Chapter 5 of DOE/EH-0173T since it was prepared back in 2004. **ACTIVITY PROCEEDING**

AI 08-03: DOE/NNSA Meteorological Program Equipment Surveys: John Ciolek indicated that the work on the DOE/NNSA meteorological program equipment survey is being jointly conducted with Ken Wastrack, TVA, of the Nuclear Utility Meteorological data User Group (NUMUG). John reported that the fifth of seven surveys relating to maintenance and calibration of meteorological hardware has been completed. Previously, John was requested to provide the information on the first four surveys to Walt Schalk for dissemination to the DMCC. The last two (i.e., sixth and seventh) surveys have just been sent out. The sixth survey is associated with data processing and archiving, and the seventh survey addresses program administration and regulatory guidelines. John committed to compiling the results of all of the surveys and submitting them to NA-41 and the DMCC prior to the DMCC meeting. **ACTIVITY PROCEEDING**

AI 08-05: DMCC Consequence Assessment Self-Appraisal Guide: NA-41 comments to the draft DMCC Consequence Assessment Self-Appraisal Guide were provided on January 5, 2010. Steve Vigeant and Carl Mazzola developed responses to the comments. Once the final comments are addressed, the guide will be completed and subsequently issued to DMCC members for use in self-appraisals. It is a reasonable possibility that this guide will be available at the DMCC meeting. **ACTIVITY PROCEEDING**

V. DMCC Issues

AI 06-12: SCAPA is preparing Software Quality Assurance (SQA) guidance for consequence assessment software that is not covered by DOE's safety software designation. The SCAPA SQA Guidance for Safety-Related and Non-Safety Consequence Assessment models was submitted to NA-41 for review on February 22, 2010. The writing team is awaiting comments from NA-41. At NA-41's request, the document will not be submitted to DOE/HS (i.e., Subir Sen, Debbie Sparkman) for its review until the NA-41 review is completed.

Once the new SQA guidance is published, all DOE consequence assessment models will undergo a gap analyses against the guidance. For legacy software the gap analysis will focus on providing adequate documentation, problem reporting, configuration management, and testing files for users.

It is hoped that any identified SQA gaps can be closed by the end of FY10. The expectation is that the future development and modification of consequence assessment software (including legacy software) will follow the SCAPA SQA guidance. A SCAPA modeling toolbox will be established for consequence assessment software that adheres to SCAPA's SQA guidance. Once this activity is completed, attention will turn to developing SQA guidance for meteorological software. **ACTIVITY PROCEEDING**

VI. Status of Related Federal/Private Sector Programs

AI 04-11: Meteorological Monitoring and Meteorological Modeling Voluntary Consensus Standards (VCSs):

DMCC members are involved in the development and maintenance of eight (8) national voluntary consensus standards (VCSs) with the American Nuclear Society (ANS) as the Standards Development Organization (SDO). The following presents the status of each of these 8 standards development efforts:

- **ANSI/ANS-2.3:** Carl Mazzola reported that the ANSI/ANS-2.3 working group has developed a later draft of ANS-2.3, with comments due from the working group by March 31, 2010. Once the final comments are resolved, it will move on to consensus review. This standard, when issued in late-2010, will support Natural Phenomena Hazard (NPH) DOE G 420.1A and other NPH guidance. **ACTIVITY PROCEEDING**
- **ANSI/ANS-2.15, ANSI/ANS-2.16, and ANSI/ANS-3.8.10:** Previously, John Ciolek, Working Group Chairman, had discussed the status of ANSI/ANS-2.15, ANSI/ANS-2.16, and ANSI/ANS-3.8.10, indicating that after ANSI/ANS-2.15 moves into the consensus review process, ANSI/ANS-2.16 and ANSI/ANS-3.8.10 will be developed. The ANSI/ANS-2.15 working group held a teleconference meeting last month to resolve issues associated with its first draft. John continues to develop a schedule to determine when this standard will be ready for consensus review. The working group is also looking into the terrain recirculation factor and has developed a subcommittee which is conducting a literature search. **ACTIVITY PROCEEDING**
- **ANSI/ANS-2.21:** Steve Vigeant, Working Group Chairman, reported that ANSI/ANS-2.21 is in consensus review and publication is expected in summer 2010. **ACTIVITY PROCEEDING**
- **ANSI/ANS-2.31:** Carl Mazzola, who is on this working group noted that a Project Initiation and Notification System (PINS) have been prepared and a working group is being formed to develop a new standard on extreme precipitation events. **ACTIVITY PROCEEDING**
- **ANSI/ANS-3.11:** Matt Parker continues to develop an analysis to support a reaffirmation of ANSI/ANS-3.11 shortly since the standard reaches its 5-year sunset at the end of 2010. **ACTIVITY PROCEEDING**
- **ANSI/ANS-58.25:** Carl Mazzola reported on the standard associated with Level III probabilistic risk assessments that addresses both meteorological data (Section 4.7) and atmospheric transport and diffusion models (Section 4.8) for risk-informed safety evaluations. The working group met in Washington, DC from March 1-4, 2010 to resolve the remaining

comments before it is submitted for consensus review. The standard is expected to be issued in early-2011. **ACTIVITY PROCEEDING**

VII. NNSA/DOE Site Initiatives

AI 09-01: Previously, John Ciolek reported that the National Center for Atmospheric Research (NCAR) continues to develop the WRF model on Graphical Processing Unit (GPU) hardware and that there is still a need to rewrite the code to the C language specific to GPUs. A new small-scale GPU card is in production and should be ready by spring 2010, which will likely change how code is parallelized. John mentioned that NOAA Global Sciences Division has recently done limited work on the WRF GPU model. However, a Portland group has developed a compiler to recode Fortran and is developing other conversion tools. **ACTIVITY PROCEEDING**

AI 09-02: Erik Kabelá mentioned that Chuck Hunter, SRNL, plans to work on a short White Paper on the evaluation of vector versus scalar wind speed usage this week. **ACTIVITY PROCEEDING**

AI 09-03: Previously, Erik Kabelá discussed some of the details about the carbon dioxide tracer experiment that SRNL is performing in conjunction with Brookhaven National Laboratory (BNL) and mentioned that one of the nights of sampling did pick up the low level jet and gravity waves that was one of the key objectives of the program. SRNL is analyzing the tall tower flux covariance data and is waiting for BNL to conclude its tracer gas (i.e., fluorinated hydrocarbons) analysis. Erik indicated that BNL has finished analyzing its portion of the data and results will be available shortly. Carbon dioxide and water vapor instrumentation will be installed on the new flux tower next month. **ACTIVITY PROCEEDING**

AI 09-08: NRC issued Regulatory Guide 5.71 on cybersecurity in January 2010. Now that the regulatory guide is issued, Cliff Glantz will begin work on a White Paper as to how new cybersecurity requirements for safety, security, and emergency preparedness systems may affect DOE/NNSA nuclear facilities and their meteorological programs. **ACTIVITY PROCEEDING**

VIII. DMCC Web Page and DMCC Forum Reports

DMCC Web Page: Cliff Glantz was unavailable to report on the DMCC web page improvements. The *Meeting Announcement* webpage is providing up-to-date information for the 2010 Las Vegas meeting. It also has links to the EMI SIG meeting information web pages. The detailed meeting agenda will be posted shortly. The *Action Items* and *Teleconference Highlights* web pages have been updated to include the most recent information.

DMCC Forum: John Ciolek reported that the Forum continues to be available for the membership to post useful information and share ideas.

IX. New Business: Round Robin

Carl led a brief round robin discussion on new business items:

AI 10-01: Kevin requested available guidance that is associated with erecting new meteorological towers and what pitfalls to avoid. Projected changes to the ORNL footprint are resulting in encroachments on existing meteorological tower sites. Erik Kabelo indicated Matt Parker, SRNL, can provide advice and Kirk Clawson, INL, also offered to assist. John Harris recommended that Kevin raise this at the next emergency preparedness council meeting. **ACTIVITY PROCEEDING**

AI 10-02: Kevin is studying the East Tennessee wind patterns and predictability at Oak Ridge as part of his Ph. D research. Kirk Clawson offered to discuss similar work Roger Carter did at INL on cluster analysis and wind patterns. **ACTIVITY PROCEEDING**

ORNL: John Harris reiterated his concern about the lack of transport and dispersion models in the DOE Central Registry toolbox; in particular, the CAPARS code that is used for ORNL emergency response. Carl stated that CAPARS definitely has the pedigree and has been validated at Rocky Flats in the early 1990s, but just needs to send in information to the Central Registry to show it meets the Software Quality Assurance (SQA) criteria of DOE G 414.1-4. John Ciolek mentioned that the SCAPA Toolbox (see AI 06-12) would provide a much less expensive platform to accomplish this and there was broad agreement. However, the Central Registry has not yet formally bought into the SCAPA toolbox and Carl and Cliff will work with Subir Sen, who is in charge of the Central Registry to bring that portion of this initiative to closure.

X. Next DMCC Conference Call

The next DMCC Conference call is scheduled for **July 20, 2010**. All future 2010 DMCC conference calls will be conducted the third Tuesday of every odd month.

XI. Adjournment

The teleconference was adjourned at **1:25 p.m. EDT**. Carl thanked everyone for their time and contributions.

XII. DMCC Program Action Item (AI) Status

Based on the information exchange from the DMCC Meeting and this teleconference, two new AIs were opened and no AIs were closed. This number of DMCC AIs is now 11.

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.



**DOE Meteorological Coordinating Council
(DMCC)**

Carl Mazzola will update the DMCC action item list based on the information exchange from this conference call.

Respectfully Submitted,

Carl Mazzola