



Highlights
DMCC Teleconference 12-01
Tuesday, January 31, 2012, 12:30–1:30 p.m. EST

Participants

Tom Bellinger, Y-12
Kevin Birdwell, ORNL
John Ciolek, AlphaTrac
Kirk Clawson, ARL FRD
Dorothy Cohen, ORISE
Dave Freshwater, NA-41
Cliff Glantz, PNNL
Eric Kabela, SRNL

Carl Mazzola, Shaw Environmental
Margaret McCalla, OFCM
Jon Nelson, SNL
Walt Schalk, ARLSORD/NNSS
Gus Vazquez, HS-22
Steve Vigeant, Shaw Environmental
Tony Wegrecki, LLNL

Roll Call

Carl Mazzola conducted a roll call and acknowledged that 15 individuals involved in the EMI SIG DMCC program were present, and the first DMCC teleconference of 2012 was called to order by Walt Schalk.

DMCC Pre-Call Update

Carl and Walt prepared a pre-call update that was sent out on January 26, 2012, which is shown in Attachment I. The pre-call update covered the topics of: (1) Assist Visit activities; (2) Voluntary Consensus Standards activities; (3) DMCC web page update; and (4) Forecast models and GPUs. This is part of the new teleconference structure to save time on repetitive items for discussion of other matters of interest to DMCC members. Carl received a few minor comments on the pre-call update that have been incorporated into Attachment I.

DMCC Projects

DOE EH-0173 Revision Support (Activity proceeding)

At the last teleconference, Gus Vazquez provided a status on the update of DOE EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance." DOE EH-0173T is currently being revised into a DOE Standard to align with and support DOE O 458.1, *Radiation Protection of the Public and the Environment* (issued in February 2011).

Training through a webinar on DOE O 458.1 is being planned. Gus indicated that there is no new activity to report, but there is expected activity in February 2012 when the table of



contents will be reviewed. Gus will be asking the DMCC to review the draft document soon afterwards.

New Business

EMI SIG Training Product Review

Walt discussed Amparo Atencio's January 4, 2012 e-mail, "Help Wanted: EMI SIG Training Subcommittee Product Review." The EMI SIG Training Subcommittee published, "Lessons Learned/Best Practices into Emergency Management Training" in 2009 and is seeking volunteers from a cross-section of the EMI SIG subcommittees and working groups to support the update of this training product. Walt requested that the DMCC members review the document and provide comments to him. Walt will collect the comments and submit them to the EMI Training Subcommittee.

Issues with Wind Speed Data and MACCS2 X/Q

Walt was contacted by Chip Lagdon, DOE/HSS, to coordinate a response to a technical issue found by a MACCS2 user. The issue involves the resolution of the wind speed data used in MACCS2 and the appropriate determination of 95% X/Q values. In particular, it was noted that when using wind speed data with a 0.5 m/s resolution, the resulting "percentage X/Q curve" produced by MACCS2 for a given location had a vaguely stepwise appearance. In contrast, when using 0.1 m/s resolution data, the X/Q curve was much smoother. Cliff Glantz discussed this issue with Subir Sen's DOE/HSS Software SQA Working Group when it was first raised in this working group's last meeting. Cliff has seen type of result using other models that to calculate percentage X/Q values, and the cause is the coarseness of the resolution of the wind speed data and not a flaw in the model's X/Q algorithm. That would make this a user training issue and not a software QA issue. Walt would like to have DMCC develop a draft White Paper on this issue by early April 2012 and finalize it at its May 2012 meeting. Walt and Cliff will develop the first draft. Carl and Jeremy Rishel will coordinate this with the SCAPA CAMWG.

DMCC Annual Meeting Planning

Walt stated that the next EMI SIG Annual Meeting, in which the DMCC meeting will take place, has been established. The 20th DMCC Meeting will be held from 7:30 a.m.–10:30 a.m. on Monday, May 14, 2012. Walt developed a draft agenda which was approved.

Walt will be working with Erik Kabela to implement the new format for the annual DMCC meeting. They plan to reconfigure the meeting focus so that it will spend much less time on commonly discussed DMCC business matters and more time on technical presentations; especially from professionals who are located near the meeting venue. Since the next DMCC meeting is in Seattle, WA, NOAA Hazmat will be invited. Mark Miller (NOAA, Seattle) who manages the Areal Locations of Hazardous Atmospheres (ALOHA) chemical consequence code, has already been contacted and has agreed to participate.



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Other suggested participants include representatives from the University of Washington Atmospheric Sciences program to talk on mesoscale ensembles and a representative from PNNL's Global Change group to talk on global science research. Kirk Clawson volunteered to discuss recent work on HYSPLIT and the work on a grant to use GPUs. Jon Ciolek would like to speak about the ORNL CAPARS model domain expansion. Erik will work with Walt and Carl in developing the DMCC agenda for the May 2012 meeting.

The full-day HOTSPOT 2.07.2 Workshop and Computer Practicum will be offered again on Thursday, May 17, 2012.

Round Robin

The following updates were shared:

DOE Site	Presenter	Discussion
Hanford	Cliff Glantz	Hanford had a 7-8" snowstorm in January 2012 followed by two days of freezing drizzle. PNNL was shut down two and one-half days due to dangerous driving conditions.
INL	Kirk Clawson	Nothing new to report.
LLNL	Tony Wegrecki	LLNL is installing Uninterruptible Power Supplies at the meteorological towers at LLNL and Site 300.
NNSS	Walt Schalk	<ul style="list-style-type: none"> The Scintech SODAR was received in December 2011, and a computer to drive it is being obtained. Training will be in late-February 2012. Climbing towers have been removed from the mesonet system to remove the need for certified climbers.
ORNL	Kevin Birdwell Erik Kabela	Erik Kabela has joined the Global Nuclear Security Technology (GNST) group at ORNL and will be working part-time with Kevin on integrating the GNST program elements with the ORNL operational meteorological program.
SNL	Jon Nelson	Nothing new to report.
Y-12	Tom Bellinger	NOAA Atmospheric Transport and Diffusion Division (ATDD) is facing significant budget shortfalls and will be cutting back its array of 18 meteorological towers to four. This will hurt the meteorological data needs for both Y-12 and ORNL.

Next DMCC Teleconference

The next DMCC teleconference is scheduled for **Tuesday, March 20, 2012, at 12:30 p.m. EDT.** All 2012 DMCC conference calls are scheduled to be conducted on the third Tuesday of every odd month, with the exception of May, unless circumstances dictate otherwise.



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Adjournment

The meeting adjourned at **1:29 p.m. EST**. Carl and Walt thanked everyone for their time and contributions.

Respectfully Submitted,

Carl Mazzola



ATTACHMENT I

Assist Visit Program

Brookhaven National Laboratory (BNL): Joe Terranova is addressing the 17 observations and recommendations from the July 30-31, 2009 AV. BNL management has funded a 0.75-FTE position and budgeted \$240,000 in FY11 for instrumentation upgrades.

Hanford: Paul Fransioli used the 28 observations and recommendations from the September 25-26, 2008 AV in planning the transition of the meteorological program from PNNL to Hanford's Mission Support Alliance (MSA). **Ken Burk was sent an e-mail to see if there was an interest in a follow-up AV. No response as of yet.**

Idaho National Laboratory (INL): Kirk Clawson is addressing the 9 new observations and recommendations from the follow-up AV that was conducted on April 20-21, 2010.

Lawrence Livermore National Laboratory (LLNL): A consultation was performed on September 14, 2011 and is under review. **Tony Wegrecki will be broadening the scope with a self-assessment of some other program areas that were not covered.**

Los Alamos National Laboratory (LANL): Scot Johnson postponed his request to have a follow-up AV in the summer 2010 by 2 years until summer 2012, which will be 6 years since the initial AV in August 2006. **Scot has taken a 1-year sabbatical for CY12, postponing any AV considerations under 2013.**

Nevada National Security Site (NNSS): The last AV was conducted in September 2007. **Walt Schalk to decide whether a follow-up AV is needed.**

Oak Ridge National Laboratory (ORNL): Kevin Birdwell continues to address the 23 observations and recommendations from the March 24-25, 2009 AV. **A possible AV update in the late-Spring 2012, coupled with a Y-12 AV update was discussed and verbal agreement reached.**

Pantex: The last AV was conducted in 1997. **No point of contact to discuss a follow-up AV.**

Sandia National Laboratory (SNL): The last AV was in 2003. DMCC will attempt to combine SNL with LANL in 2012 if SNL agrees to a follow-up AV. **Gina Deola was sent an e-mail to see if there was an interest in a follow-up AV. No response as of yet.**

Savannah River National Laboratory (SRNL): Chuck Hunter continues to address the 11 observations and recommendations from the June 2009 AV, which were well-received by both DOE and SRNL stakeholders.



Assist Visit Program (continued)

Waste Isolation Pilot Plant (WIPP): The last AV was in August 2005. Dan Watterson was sent an e-mail to see if there was an interest in a follow-up AV. No response as of yet.

Y-12: Tom Bellinger continues to address the 24 observations and recommendations from the May 24-25, 2008 AV. A possible AV update, coupled with an ORNL AV update was discussed and verbal agreement reached. Week of June 4, 2012 has been targeted.

ANS/ANSI Voluntary Consensus Standards

ANSI/ANS-2.3 (Mazzola): Issued on April 22, 2011; supporting the Natural Phenomena Hazard (NPH) DOE standard (i.e., DOE-STD-1020-2011). **ACTIVITY COMPLETED**

ANS-2.15 (Ciolek): ANS-24 concurrence review provided valuable comments which have been incorporated into latest draft. It is presently undergoing a 60-day NFSC consensus review and ballot. **ACTIVITY PROCEEDING**

ANS-2.16 (Ciolek/Rishel): WG kickoff meeting concurrent with June 2011 NUMUG meeting. Needs assessment for both DOE and NRC was completed. First draft of outline is being prepared. James O'Brien, HS-30 has joined the WG. **ACTIVITY PROCEEDING**

ANS-2.21 (Vigeant): ANSI/ANS-2.21 NFSC consensus review comments have been resolved and it is at ballot. Publication is expected by early-2012. **ACTIVITY PROCEEDING**

ANS-2.31 (Mazzola/Schalk): WG has been formed and Walt Schalk and Carl Mazzola are members. WG populated with both meteorologists and hydrologists. Kick-off meeting was held in Cleveland, OH, on October 24, 2011 and writing assignments given out by WG Chairman John Stevenson. Carl Mazzola has completed Sections 2-3. First draft is expected by February 2012. **ACTIVITY PROCEEDING**

ANS-3.8.10 (Ciolek/Rishel): The ANS-2.15 working group will begin ANS-3.8.10 for emergency response consequence assessment after it sends ANS-2.16 for consensus review. John Merrick volunteered to be on the working group. **ACTIVITY PROCEEDING**

ANSI/ANS-3.11 (Parker): ANSI/ANS-3.11 has been reaffirmed and will not reach its 5-year sunset until the end of 2015. Matt Parker held a meeting of this WG to begin the revision process at the NUMUG meeting and the WG is looking at developing additional criteria to be applied to meteorological networks. Gus Vazquez has interest in participating in the WG. **ACTIVITY PROCEEDING**

ANS-58.25 (Mazzola): The standard associated with Level III probabilistic risk assessments that address both meteorological data (Section 4.7) and atmospheric transport and diffusion models (Section 4.8) for



risk-informed safety evaluations received 520 comments in the RISC consensus review; 69 associated with Sections 4.7 and 4.8. Some members of the WG met in Chicago, IL in late-October, 2011 and three others in early-November, while at the Winter ANS meeting in Washington DC, to resolve the comments. A full WG meeting was held on January 24-26, 2012 in Atlanta, GA to resolve the comments.

ACTIVITY PROCEEDING

Forecast Models and GPUs

No new information from Kirk Clawson, Field Research Division (NOAA/ARL) at the Idaho National Laboratory.

John Ciolek, AlphaTrac, reports:

- We have determined that Nvidia drivers and Linux computers don't go together very well. You need the drivers from Nvidia to access the graphics cards.
- However, when your Linux OS gets a kernel update, you need to re-compile the Nvidia driver or else the system won't boot.
- We are in the process of a few optimization cycles that include other optimization tricks. No news to report just yet.

DMCC Web Page

A good portion of this was announced during the last call in November, but there were several things updated since then. I am including Cliff Glantz' write up on the bulk of the changes after the most recent updates. Thanks Dorothy and Louise!

A couple of changes were made as a result of discussion during our last call, where Dave Freshwater suggested providing URL links on our DOE Order and Guide webpage rather than the document itself. This removes some of the burden on us to maintain the latest version. So, the following was updated:

- Instead of hosting the PDF file of DOE O 458.1, let's have users download it from the DOE directives webpage at: <https://www.directives.doe.gov/directives/archive-directives/458.1-BOrder/view>. In implementing this change, we will need to assign this new URL to the [DOE O 458.1, "Radiation Protection of the Public and the Environment"](#) link that is presented in the text.
- Instead of hosting the PDF file to DOE O 5400.5, let's have users download it from the DOE directives webpage at: https://www.directives.doe.gov/directives/archive-directives/5400.05-BOrder-c2/view?searchterm=5400.5*. In implementing this change, we will need to assign this new URL to the [DOE O 5400.5, "Radiation Protection of the Public and the Environment"](#) link that is presented in the text.



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A couple of minor fixes were also completed:

1. Can we please change the way links are activated on our DMCC **Technical Links** webpage (<http://orise.orau.gov/emi/dmcc/technical.htm>), so that when a link is clicked it is opened in a **new** browser window (rather than replacing our connection to the DMCC website?). The opening of a new browser window to display external-to-EMISIG webpages is standard practice on all of the other DMCC and SCAPA webpages.
2. On the **DMCC Publications** webpage (<http://orise.orau.gov/emi/dmcc/publications.htm>), the first link is broken: [Draft NRC Regulatory Guide 1247, Design-Basis Hurricane and Hurricane Missiles for Nuclear Power Plants](#). The new, valid URL for this document is pbadupws.nrc.gov/docs/ML1004/ML100480890.PDF.

Three PDF links were added:

1. [Evaluating the Wind Data from the Automated Surface Observing System in Oak Ridge, TN - Is KOQT the Calmest Site in the U.S.?](#) by Thomas Bellinger, Y-12, Oak Ridge, TN
2. [DOE O 458.1, "Radiation Protection of the Public and the Environment,"](#) issued Feb 2011.
3. [Crosswalk Report: DOE O 5400.5 and DOE O 458.1](#) published in Nov 2011.

The Hanford write-up and URL link on the DOE Site Weather Links webpage were updated:

The [Hanford Meteorological Monitoring Program](#) provides meteorological monitoring and weather forecasts for the Hanford Site. The website features links to real-time meteorological and climatological data (the program's publicly accessible website weather does not report Hanford weather forecasts). In 2011, the meteorological program transitioned from Pacific Northwest National Laboratory (PNNL) to Hanford's Mission Support Alliance. PNNL's [Atmospheric Science & Global Change Division](#) continues to perform a wide range of basic and applied research in the atmospheric sciences. The new link to the Hanford met program is: <http://www.hanford.gov/page.cfm/HMS>

Modifications to the DMCC Web Pages – Nov. 11 2011

Navigation button changes:

- Insert a new navigation button into the "Resources and Products" section of the DMCC site's navigation menu. This will take the user to a new "**DOE Orders and Guides**" webpage.
- Also in this menu, change the title of an existing navigation button. Change the "DOE-NNSA Links" button to read "**DOE Site Weather Links**". This purpose of this change is to make it more apparent that clicking this button will take you to information on the met monitoring programs at DOE sites (and just some generic DOE-NNSA information).



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DMCC

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 - Action Items

Publications

Publications referenced or available on this DMCC site:

Draft NRC Regulatory Guide 1247, Design-Basis Hurricane and Hurricane Missiles for Nuclear Power Plants

Specifically, this regulatory guide provides new guidance that the NRC staff considers acceptable for use in selecting the design-basis hurricane windspeed and hurricane-generated missiles that a new nuclear power plant should be designed to withstand to prevent undue risk to the health and safety of the public.

- **NUREG/CR-7004:** Technical Basis for Regulatory Guidance on Design-Basis Hurricane-Borne Missile Speeds for Nuclear Power Plants, Draft, Dec 2009.
- **NUREG/CR-7005:** Technical Basis for Regulatory Guidance on Design-Basis Hurricane Wind Speeds for Nuclear Power

insert

replace

DOE Site Weather Links

DOE Orders and Guides

Insert one new item into the DMCC **Publications** webpage (<http://orise.orau.gov/emi/dmcc/publications.htm>), un-bold author information on one entry, and move one existing item to the new **DOE Orders & Guide** Webpage

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- NUREG/CR-7004: Technical Basis for Regulatory Guidance on Design-Basis Hurricane-Borne Missile Speeds for Nuclear Power Plants, Draft, Dec 2009.
- NUREG/CR-7005: Technical Basis for Regulatory Guidance on Design-Basis Hurricane Wind Speeds for Nuclear Power Plants, Draft, Dec 2009.

Wet Bulb Globe Temperature Measurement at the Y-12 National Security Complex by Thomas E. Bellinger, CCM, Y-12 National Security Complex, Oak Ridge, TN

This paper documents the Y-12 National Security Complex (Y-12 NSC) wet bulb globe temperature (WBGT) project, components used, installation, costs, suppliers, as well as the data obtained during the summer of 2009 and how it is used at the Y-12 NSC. The overall goal is to improve heat stress awareness of the Y-12 NSC plant population, provide Fire Services and Industrial Hygiene with needed heat stress information, and provide a historical archive of measurable WBGT.

Investigation of Range - Applicable Lightning Detection Systems

This publication is an investigation of current operating lightning activity/potential monitoring systems. The primary purpose of the study was to compare systems used to determine the static electrical field at the sites. The study was across 10 Federal facilities using up to four systems to determine the static electrical field. One research grade system being evaluated, the LDAR/LMA might increase the lightning detection envelope by 5 to 10 minutes.

Lightning Detection at the Savannah River Site

Worker safety at the Department of Energy's Savannah River Site (SRS) is the top priority of site management. Due to the size of the site, 310 square miles, getting timely hazardous weather warnings to remote workers is critical for optimal safety. Lightning presents one of the largest weather related hazards to remote workers and can strike with little or no warning, making detection crucial for safety. The Savannah River National Laboratory (SRNL) monitors changes to the electric field of the atmosphere atop a building near the northern edge of the SRS. Data from the electric field sensor were correlated with actual lightning strikes over the 2006 and 2007 lightning seasons. In most cases, the data indicate that ample warning time can be provided before lightning strikes occur.

**DOE/NNSA Order NSO O 440.X2
NEVEDA SITE OFFICE
Site-Wide Lightning Detection and Protection**

Objective: This Order establishes the requirements for site-wide lightning detection and protection at the National Nuclear Security Administration (NNSA) Nevada Site Office (NNSA/NSO) Nevada Test Site (NTS) to protect property and guard the safety of NTS personnel.

Applicability:

- The provisions of this Order apply to all NNSA/NSO organizational elements including contractors, National Laboratories, other federal agencies, and other user organizations performing work under the purview of NNSA/NSO.
- Contractor requirements are contained in the Contractor Requirements Document (CRD), Attachment 1. Compliance with the CRD is required to the extent set forth in an NNSA contract.

Un-bold the authors name and address

Insert new publication (see below for text)

Move to new "DOE Orders & Guides" webpage.



The following is the new entry to be inserted in the DMCC's "Publications" webpage (see above for instructions on where to insert this new entry).

EVALUATING THE WIND DATA FROM THE AUTOMATED SURFACE OBSERVING SYSTEM IN OAK RIDGE, TN - IS KOQT THE CALMEST SITE IN THE US? by

Thomas Bellinger, Y-12, Oak Ridge, TN.

The winds from the Automated Surface Observing System at Oak Ridge, TN (KOQT) are often shown as calm. Calms pose problems for dispersion modelers and emergency response decision makers when they are trying to determine which way a plume is headed, who should take shelter or evacuate, and where to locate the incident command center. The goal of this study is understand the high frequency of calm or variable winds at KOQT and the implications this has for dispersion modeling on the Oak Ridge Reservation. The study was published in 2011.

A copy of this new PDF file will be sent to you.

Populate the new **DOE Orders and Guides** webpage with the information presented below. In this write-up, which I created on my office workstation, I could not make the active links appear red (the color of all existing EMISIG website) but you know to turn these links that color when you post this material on our DMCC website.

In the material below, some links will direct the user to new PDF files that you will need to post on the EMISIG web server. I will send these new PDF files to you. Links to these PDF files are highlighted in yellow in the material below – this will allow you to easily see where new links are needed. Simply remove the yellow highlighting and add the appropriate URL link when you post this information.

DOE Orders and Guides Relevant to Meteorology Programs

DOE has issued a number of orders and guides that are relevant to the collection, processing, and use of meteorological data. The following are summarizes of, and links to, some of these key documents.

[DOE Order 151.1C, "Comprehensive Emergency Management System"](#) describes DOE's emergency management system. DOE O 151.1C establishes policy; assigns roles and responsibilities; and provides the framework for the developing, coordinating, controlling, and directing the Department's emergency management system. Requirements for the use of meteorological data are incorporated into the Order. Additional information on DOE O 151.1C can be found on the **[EMISIG DOE O 151.1C webpage](#)**.



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[The Emergency Management Guides \(DOE G 151.1\)](#) provides an acceptable approach for implementing the requirements and expectations of DOE O 151.1C. The Guides discuss a variety of emergency management program elements that comprise a comprehensive system of emergency management:

- Hazards Survey and Hazards Assessment
- Emergency Response Organization
- Offsite Response Interfaces
- Categorization and Classification
- Notifications and Communications
- Consequence Assessment
- Protective Actions and Reentry
- Emergency Medical Support
- Emergency Public Information
- Emergency Facilities and Equipment
- Termination and Recovery
- Program Administration
- Training and Drills
- Exercises
- Readiness Assurance

DOE G 151.1 is divided into five volumes that discuss each of the above elements in detail. Information and links to each volume of DOE G 151.1 can be found on the [EMISIG DOE G 151.1 webpage](#).

[DOE O 458.1, "Radiation Protection of the Public and the Environment"](#), was issued in February 2011.

The purpose of DOE O 458.1 is "to establish requirements to protect the public and the environment against undue risk from radiation associated with radiological activities conducted under the control of the DOE." This Order includes two specific provisions that pertain to meteorological monitoring:

Environmental monitoring must be conducted to characterize routine and non-routine releases of radioactive material from radiological activities, estimate the dispersal pattern in the environs, characterize the pathway(s) of exposure to members of the public and estimate the doses to individuals and populations in the vicinity of the site or operation commensurate with the nature of the DOE radiological activities and the risk to the public and the environment. Environmental monitoring must include meteorological monitoring. Meteorological monitoring must be commensurate with the level of site radiological activities, the site topographical characteristics, and the distance to critical receptors. The scope must be sufficient to characterize atmospheric dispersion and model the dose to members of the public over



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distances commensurate with the magnitude of potential source terms and possible pathways to the atmosphere.

Records to be collected and stored include those covering effluent monitoring and environmental surveillance information and data, including meteorological data used in assessing dose.

DOE O 458.1 requires quality-assured meteorological data to support DOE Sites in ensuring that radiological dose limits are not exceeded. The Order replaces and modernizes [DOE O 5400.5, "Radiation Protection of the Public and the Environment"](#), which did not explicitly mention meteorological monitoring. The only elements of DOE O 5400.5 that remain in effect are Chapter III, *Derived Concentration Guides for Air and Water* and Figure IV-1, *Surface Contamination Guidelines*.

DOE O 5400.5 was issued in February 1990 to address the requirement that radiological dose limits to the public and environment are not exceeded due to normal operations at DOE Sites. Although DOE O 5400.5 was silent on meteorological monitoring requirements, DOE sites had to comply with Environmental Protection Agency (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP) codified under 40 CFR 61 Subpart H. Because radionuclides are classified as hazardous air pollutants by EPA, a demonstration of DOE's compliance with NESHAP required DOE sites to have a quality-assured, five year meteorological data base (including wind speed, wind direction, and an indicator of atmospheric stability) as input for EPA-approved air quality modeling.

The issuance of DOE O 458.1 did not change the operating situation for DOE meteorological programs, as the implied requirements in DOE O 5400.5 were already being met by Site meteorological monitoring programs that provided data for other applications (e.g., emergency management, nuclear safety, operations, environmental safety & health).

A [Crosswalk Report: DOE O 5400.5 and DOE O 458.1](#) was published in November 2011 to highlight the requirement changes that were made in transitioning from DOE O 5400.5 to DOE O 458.1. In its 144 pages, the crosswalk report presents 165 requirements that have changed. The two requirements that have a component that is relevant to meteorological monitoring programs are:

REQUIREMENT NUMBER RPPE-0085 – (see page 77 in the Crosswalk Report)

DECISION: Modify

BASIS FOR DECISION: Update demonstration of compliance with current Orders, guidance and field scenarios.

BEGINNING CITATION: II.6

ENDING CITATION: 4.e (1)-(10)

REQUIREMENT DESCRIPTION: DEMONSTRATION OF COMPLIANCE WITH THE DOSE LIMITS. Compliance with the dose limits of this Order shall be demonstrated by documentation of an appropriate



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combination of measurements and calculations to evaluate potential doses and the results of the evaluations.

PORTION OF THE REVISED REQUIREMENT RELEVANT TO METEOROLOGY PROGRAMS:

4.e Demonstrating Compliance with the Public Dose Limit.

(9) Environmental monitoring must be conducted to characterize routine and non-routine releases of radioactive material from radiological activities, estimate the dispersal pattern in the environs, characterize the pathway(s) of exposure to members of the public and estimate the doses to individuals and populations in the vicinity of the site or operation commensurate with the nature of the DOE radiological activities and the risk to the public and the environment... Environmental monitoring must include, but is not limited to:

(c) Meteorological Monitoring. Meteorological monitoring must be commensurate with the level of site radiological activities, the site topographical characteristics, and the distance to critical receptors. The scope must be sufficient to characterize atmospheric dispersion and model the dose to members of the public over distances commensurate with the magnitude of potential source terms and possible pathways to the atmosphere.

REQUIREMENT NUMBER RPPE-0101 – (see page 93 in the Crosswalk Report)

DECISION: Modify

BASIS FOR DECISION: Need to recognize the importance of records. Text of this DOE 5400.5 requirement generally retained with minor editing in DOE O 458.1. Deleted reference to paragraph II.6 of DOE 5400.5.

BEGINNING CITATION: II.8.a

ENDING CITATION: 4.I (1)-(4)

REQUIREMENT DESCRIPTION: RECORDS. Content. Records developed shall include information and data necessary to identify and characterize releases of radioactive material to the environment, their fate in the environment, and their probable impact on radiation doses to the public. Basic information used assess compliance with the requirements of this Order pursuant to paragraph II.6, and the results of such assessments, shall be incorporated as part of the record.

PORTION OF THE REVISED REQUIREMENT RELEVANT TO METEOROLOGY PROGRAMS:

4.I Records, Retention and Reporting Requirements.

(2) Required records include the following:



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(h) Effluent monitoring and environmental surveillance information and data, including:

4. Meteorological data used in assessing dose.

DOE/EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance" was issued in January 1991. This guide was developed to assist DOE site contractors in its implementation of DOE O 5400.5, and contained some limited guidance on meteorological monitoring program requirements. A revised **Meteorological Monitoring section (DOE/EH-0173T Chapter 4)** was issued by DOE in 2005 to provide more comprehensive meteorological requirements that are consistent with [ANSI/ANS-3.11 \(2005\)](#).

Site-Wide Lightning Detection and Protection: DOE/NNSA Order NSO O 440.X2 NEVEDA SITE OFFICE. The objective of this Order is to establish the requirements for site-wide lightning detection and protection at the National Nuclear Security Administration (NNSA) Nevada Site Office (NNSA/NSO) Nevada Test Site (NTS) to protect property and guard the safety of NTS personnel. The provisions of this Order apply to all NNSA/NSO organizational elements including contractors, National Laboratories, other federal agencies, and other user organizations performing work under the purview of NNSA/NSO. Contractor requirements are contained in the Contractor Requirements Document that is an attachment to the Order.