10th DMCC MEETING
January 17, 2002; Orlando, FL

10th MEETING OF THE DOE METEOROLOGICAL COORDINATING COUNCIL (DMCC)

JANUARY 2002 MEETING

Orange County Convention Center
Orlando, FL
January 17, 2002

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0.0 EXECUTIVE SUMMARY

The Department of Energy (DOE) Meteorological Coordinating Council (DMCC), the Council, convened a Meeting at the Orange County Convention Center, Orlando, FL on January 17, 2002. This meeting was held in conjunction with the Annual Meeting of the American Meteorological Society (AMS). This was the tenth meeting of the Council since its inception in December 1994. A total of 19 individuals, from the public and private sectors, attended and participated in the meeting.

The overarching purpose of the meeting was to provide a forum for DMCC members and DMCC associates to review its accomplishments, products, and projects, and to discuss its mission and implementation. There were several other objectives that were accomplished during the meeting:

- DOE site meteorological program managers were provided an opportunity to discuss their programs and obtain feedback from the DMCC membership;
- Several technical presentations on relevant topics were provided to the DMCC membership to enhance their program execution;
- The future of the ANSI/ANS-3.11 Working Group was discussed and a path forward was established relative to the reaffirmation or revision of ANSI/ANS-3.11 (2000) prior to its suspense date of February 18, 2005;
- DOE Headquarter (HQ) elements associated with the atmospheric sciences provided updates on their programs to the DMCC membership; and,
- A DMCC Roundtable was convened to discuss where DMCC should be focusing its energies from FY02 through FY07.

There were also discussions on the FY01 accomplishments and FY02 planning of both the DMCC and the DOE Meteorological Topical Committee (MTC). The latter group is associated with DOE/EH-53, the DOE office that administers the Technical Standards Program (TSP). The MTC is closely associated with the DMCC and is chartered with the Technical Standards Program Office (TSPO).

The Office of Science (OS) also provided a briefing on the activities of the Office of the Federal Coordinator for Meteorological Programs and Supporting Research (OFCM).

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At the end of the meeting, a brief roundtable discussion for DOE meteorological program managers and supporters was convened that identified issues and sought appropriate remedies.

The early planning for the 11th DMCC Meeting was briefly discussed. This meeting may be held in Long Beach, CA in conjunction with the Annual Meeting of the AMS in February 2003, or it may be held in Las Vegas, NV, nearby DOE/NV. The ANSI/ANS-3.11 Working Group will also reconvene at this meeting. It will be its first meeting since the publication of ANSI/ANS-3.11 on February 16, 2000.

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1.0 OVERVIEW

The DOE Meteorological Coordinating Council (DMCC) convened at the Orange County Convention Center in Orlando, FL on January 17, 2002. This was the tenth meeting that the DMCC has sponsored since its inception in December 1994. The meeting was called to order by the DMCC Chairman, Dr. Darryl Randerson, who is also the Director, National Oceanic and Atmospheric Administration (NOAA) Air Resources Laboratory (ARL)/Special Operations & Research Division (SORD). This meeting was held to present new DMCC initiatives to its membership and associates, to share the many FY01 DMCC accomplishments, and to provide discussions on recent advancements in the atmospheric sciences to the DMCC membership.

There were several other objectives that were accomplished during the meeting:

- DOE site meteorological program managers were provided an opportunity to discuss their programs and obtain feedback from the DMCC membership;
- Several technical presentations on relevant topics were provided to the DMCC membership to enhance their program execution;
- The future of the ANSI/ANS-3.11 Working Group was discussed and a path forward was established relative to the reaffirmation or revision of ANSI/ANS-3.11 (2000) prior to its suspense date of February 18, 2005;
- DOE Headquarter elements associated with the atmospheric sciences provided updates on their programs to the DMCC membership; and,
- A DMCC Roundtable was convened to discuss where DMCC should be focusing its energies from FY02 through FY07.

The agenda of this meeting is documented in Appendix A. The 19 individuals that attended the meeting and their respective affiliations are listed on the following page.

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LIST OF ATTENDEES

Individual	Affiliation
Rob Addis	Westinghouse Savannah River Company (WSRC) - SRS
Mitch Baer	DOE/PI-24
Chris Biltoft	Dugway Proving Grounds (DPG)
Tim Crawford	NOAA ARL/FRD
Kirk Clawson	NOAA ARL/FRD
Gerald Dittberner	NOAA/NESDIS
Jim Ellis	Lawrence Livermore National Laboratory (LLNL)
Paul Fransioli	Science Applications International Corporation (SAIC)
Alan Hinckley	Campbell Scientific
David Katz	Climatronics
Stan Marsh	Southern California Edison (SCE)
Carl Mazzola	Stone & Webster Incorporated (SW)
Rickey Petty	DOE/Office of Science (OS)
Doyle Pittman	Tennessee Valley Authority (TVA)
Darryl Randerson	NOAA ARL/SORD
Barbara Sauter	Army Research Laboratory (ARL)
Joe Schaefer	NWS Storm Prediction Service
Walter Schalk	NOAA ARL/SORD
Ken Wastrack	Tennessee Valley Authority (TVA)

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2.0 OPENING EVENTS AND DISCUSSIONS

Dr. Darryl Randerson, Chairman of the DMCC, welcomed the DMCC members and associates to Orlando, Florida, and convened the tenth DMCC Meeting. Darryl briefly described the mission and the objectives of the DMCC, and presented a brief history of the many accomplishments of the Council over its seven-year history.

Each of the attendees introduced themselves and identified their affiliation and their function within the DMCC.

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3.0 DMCC FIELD OFFICE REPORTS/INFORMATION EXCHANGE

3.1 Savannah River Site (Rob Addis)

Rob Addis reported on several projects that he and his staff were undertaking at the Savannah River Site (SRS). The most significant project is a capital project to place meteorological instrumentation on a new tower to replace the old TV tower, which was equipped with meteorological monitoring equipment. The new tower will be 1,000-feet in height and will me instrumented at 3 levels inclusive of the new 3-dimensional sonic anemometer technology. The uppermost instrumentation height will be at 330-meters. Radio communication will be used to telemeter the information back to the Weather Center at SRS.

The SRS Emergency Response Organization (ERO) will be conducting a special emergency response exercise in March 2002. It will be coupled with the Federal Radiological Monitoring Assessment Center (FRMAC) response for a major radiological emergency. The National Atmospheric Release Advisory Capability (NARAC) will also be activated.

SRS, as other DOE sites, has undergone a large upgrade to its security response since the events of September 11, 2002. Computer security is very tight which affects the operations of the meteorological monitoring program.

The RAMS model at SRS is being upgraded from Version 3.4 to Version 4.3. RAMS is a quasi- Lagrangian-Eulerian code. Parallel runs are being made to compare output.

Lastly, Rob shared that SRS is replacing its manual rain gauges with radio communicator rain gauges.

3.2 Idaho National Environmental Engineering Laboratory (Kirk Clawson)

Kirk Clawson reported on the projects that the Field Research Division (FRD) of the Air Resources Laboratory (ARL) is undertaking. ARL/FRD is a captive Department of Commerce (DOC) contractor that provides for the meteorological program needs at INEEL.

Kirk indicated that there have been several staff changes at ARL/FRD, as several individuals that had been there for many decades have retired. Presently, there are five meteorologists and a total of 17 federal, contract, and post-doctoral employees that make up the ARL/FRD staff.

Kirk reviewed the FRD mission, which is to support INEEL and two other organizations. The INEEL meteorological program was briefly discussed. It is made up of a 33-station mesonet to address the complex flows that are present at INEEL. ARL/FRD recently installed a new repeater on big southern butte which is 2500-feet above the valley floor.

Kirk also discussed the effect of upgraded computer security on the INEEL meteorological program, especially regarding the new firewalls on the web sites, www.noall.inel.gov/windvector and www.oversight.inel.gov.

A new temperature kiosk has been installed by the Snake River greenbelt in Idaho Falls, ID, for the locals. This instrument is also equipped with a calculator to provide the residents that use it with the wind chill temperature.

INEEL also has a weather cam that on a clear day, can provide images out to 100 miles.

Rick Eckman from the Atmospheric Transport and Diffusion Division (ATDD) in Oak Ridge, TN, has joined FRD and has gotten MM-5 up and running. FRD operates MM-5 for a 24-hour forecast in 3 specific domains. It initializes using the ETA statistics and is nudged by the mesonet. 119 specific research experiments are being conducted sponsored by NOAA, other federal agencies, the State of Idaho, and the private sector. Of special note, are the results of a recent SF_6 tracer experiment that has been conducted by FRD scientists. FRD is also constructing an extreme turbulence probe that will be used to measure turbulence inside of hurricanes.

Kirk's discussion is presented in Appendix B.

3.3 Nevada Test Site (Darryl Randerson)

Darryl Randerson discussed the meteorological monitoring program at the Nevada Test Site (NTS), which is also run by a DOC captive contractor, ARL Special Operations and Research Division (SORD). ARL/SORD is also fighting new computer security and firewall issues at DOE/NV and the NTS. Some of its products are outside of the firewall, which others are inside the firewall.

ARL/SORD has constructed a new weather forecast bay at its headquarters in North Las Vegas, NV. Flat screens are being purchased to replace the older TV monitors.

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DOE/NV is responding to a request from DOE/SO-41 and DOE/OS to consolidate DOE field weather data on the DMCC homepage.

DOE/NV has upgraded its emergency response program and ARL/SORD is playing an integral part in the consequence assessment response element. RAMS is now running out to 33-hours with graphics 2-km resolution for Las Vegas, NV and for the NTS.

Recently, 2-dimensional Handar sonic anemometers have been installed at several locations at the NTS.

Darryl discussed the NTS lightning detection network, which consists of five sensors in the field, and a lightning alert and warning system. He shared the lightning characterization studies that have been conducted at the NTS over the last several years, inclusive of thunderstorm histograms. Cloud-ground lightning discharge plots for the entire NTS area have been developed for the 1993-2000 period. These studies have operational application to shipments of Special Nuclear Materials (SNM) at BEEF and U1a at the NTS. The following summaries the results of this study:

1. Cloud to Ground (CG) lightning occurs on 13.5% of the warm season days. Of these days, 115 were associated with both measurable precipitation and CG lightning and 2.5% with CG lightning and no precipitation (i.e., dry thunderstorms);

2. For the eight warm seasons, a total of 9,596 CG lightning flashes were detected on the NTS. For the 3,500 sq km NTS, this total yields an average, NTS, warm-season, flash density of 0.35 fl/km^2;

3. There is great inter-annual variability in total flash counts, ranging from 409 flashes in 1995 to 2,532 flashes in 1999. Of the total CG flashes on the NTS, 2.6% deposited positive charge to the ground;

4. The most active parts of the NTS are over the high terrain, oriented in a north-south direction, through the center of the NTS; over Pahute and Rainier Mesas (Areas 12, 19, and 20), and Area 22;

5. The maximum in Area 22 appears to be related to thunderstorm activity that develops over the northern end of the Spring Mountains and moves northeastward onto the NTS;

6. Climatologically, NTS CG lightning activity begins to develop rapidly after 1100 PDT, reaching a peak between 1400 and 1459 PDT over the mesas and between 1500 and 1559 PDT over the southern half of the NTS;

7. Although CG lightning has occurred during every hour of the day, minimum CG lightning occurs between 0600 and 1100 PDT, with 0800 to 0859 PDT representing the hour of least CG activity;

8. Positive CG lightning has been detected during every hour except for 0200 to 0259 PDT. Most positive flashes occur between 1300 and 2300 PDT with 2100 to 2159 PDT being the most active hour;

9. Maximum daily warm-season flash densities ranged from 3.0 to 7.0 fl/km^2. The most active thunderstorms generated CG flash rates of 50 to 75 fl/hr. Total flash counts on the NTS ranged from less than 1.0 fl/km^2 (in Area 25) to 13 fl/km^2 in Area 22. These counts can be converted to average seasonal flash densities by dividing by eight; and,

10. The average spacing between successive CG flashes was 3.4 mi, and 77% of these flashes were >5.0 mi apart. Maximum separation detected was 11.9 mi.

Darryl's detailed presentation is presented in Appendix C.

3.4 Lawrence Livermore National Laboratory (Jim Ellis)

Jim Ellis discussed the NARAC program at Lawrence Livermore National Laboratory (LLNL). Since the vents of September 11, 2001, there have been significant ARAC contingency calculations performed. The NARAC program has three servers, including the iClient system and several Geographical Information System (GIS) linkages. Jim emphasized that the NARAC program was aimed at establishing connectivity, not to assume responsibility for the consequence assessment function at DOE sites.

Jim indicated that DOE N 153.1 will be extended to provide DOE site guidance on the use of ARAC at DOE facilities. Due to firewall issues, this program is running about 6-9 months behind schedule.

At Pantex, the ECN connection for the Pantex intranet has been completed.

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The iClient Version 1.2 has the HOTSPOT code fully integrated in the software, as well as EPICODE, although the latter has a licensing issue to be resolved. EPICODE is moving towards completion of its windows version.

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LLNL-ARAC is working alongside the Defense Threat Reduction Agency (DTRA) to support the Salt Lake City, UT Winter Olympic security needs. One of the roles is to ensure conformity in forecast information. This team will be in place during the Winter Olympics.

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4.0 TECHNICAL PRESENTATIONS

4.1 NOAA's GOES Satellite Program (Gerry Dittberner)

Gerry Dittberner presented the status of NOAA's Geostationary Orbiting Earth Satellite (GOES) program. Presently, there are five GOES satellites (i.e., GOES-8 through GOES-12) in operation today. GOES satellites are normally stored in space after they run through their useful life since it is more economical to store it in space than the maintenance and other costs that would be needed back on earth.

Gerry elaborated on the attributes of the newest, GOES-12, satellite. On September 7, 2001, the first solar x-ray imager was achieved. Gerry discussed the various GOES products and the plans for future GOES launches from FY02 through FY04.

Of special interest to the DMCC are the discussions that NESDIS is having with the office of the Federal Coordinator of Meteorological Services and Supporting Research (OFCM). The OFCM is providing a conduit for information exchange between the DOE sites and NESDIS relative to the design of future GOES products that would assist DOE in its missions.

Gerry reminded everyone that the next GOES User's conference will be conducted in Boulder, CO in October 2002.

Gerry invited all DMCC attendees to attend a NOAA Satellite Systems Forum during the lunch hour. The NOAA Satellite Systems forum is presented in Appendix D.

4.2 Portable Boundary Layer Measurements System (Barbara Sauter)

Barbara Sauter discussed a new product that is being developed by the Army Research Laboratory (ARL) to monitoring boundary layer meteorology in real-time. This is called the Portable Boundary Layer Measurements System, which consists of a boundary layer profiler. The system combines both mesoscale and microscale models and includes wind profiling radar, lidar, or sodar with a single board computer. It also includes a temperature and moisture MW radiometer with a single board computer, a portable meteorological surface station with a Global Positioning System (GPS) receiver, a rawinsonde ground station, and a meteorological satellite ground station. The support equipment includes vehicles, a trailer, a profiling device, a radiometer, several processors, software, and an optional meteorological satellite, receiver, and antenna.

The software has its roots on the HOTMAC-RAPTAD three-dimensional atmospheric transport and dispersion model code that had previously been developed at Los Alamos National Laboratory (LANL). This code is a comprehensive treatment of the solution of the second-order turbulence diffusion equations. The model can be run with a local upper air sounding and/or with a boundary layer using the Navy's NOGAPS model. In conjunction with the University of Texas at El Paso (UTEP), a Graphical User Interface (GUI) has been designed and developed to display the information in a user-friendly format.

Planned upgrades for the next year include to upgrade the HRW model and expand into a surface layer model in three-dimensions. In addition, a non-hydrostatic mesoscale "partner" (e.g., MM-5) will be developed. Finally, there are plans to reduce the horizontal grid spacing in both the microscale and mesoscale models and to improve the data assimilation techniques.

Barbara's discussion is presented in Appendix E.

4.3 Tornado Hazard Estimates (Joe Schaefer)

Joe Schaefer, Director of the National Weather Service (NWS) Storm Prediction Center presented his thoughts on the techniques that are presently available for determining hazard estimates of tornadoes, which can be integrated into design bases. Joe quickly noted that there are significant differences between the tornado design criteria associated with Nuclear Regulatory Commission (NRC) regulatory guides, and DOE standards. Joe indicated that he is involved in the ANSI/ANS-2.6 working group that is presently revising the standard on tornado design basis. A consensus model that the group concurred on is being presented to DOE/HQ for consideration.

Joe explained the Fujita scale, which he indicated was based on the quantification on the amount of damage. In other words, the Fujita scale is a damage scale.

In his work on characterizing tornadoes, Joe discover that most of the tornadoes are F-1 type tornadoes and that tornadoes have been increasing by 15% per year, mainly due to better communications capabilities. He likened the F-1 tornadoes to ephemeral tornadoes, which have a different formation mechanism than the F-2 to F-5 tornadoes, which are each related to a different phenomenon. In all treatments, the ephemeral tornadoes represented one peak, while the F-2 through F-5 tornadoes represented a second peak. The studies also revealed that there was no length to strength relationship, but tornado width was directly related to F-scale intensity.

Joe indicated that a Monte Carlo simulation was the best way to simulate a tornado distribution. In his work with LLNL, he concluded that a Poisson distribution fit occurrence frequency very well.

Joe concluded his talk by showing risk exceedance diagrams, which were based on risk versus intensity or point probability occurrence per year. He noted a relative minimum near the Ozarks.

Joe's discussion is presented in Appendix F.

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5.0 ANSI/ANS-3.11 (2000) WORKING GROUP

5.1 ANSI/ANS-3.11 (2000) Recap

Stan Marsh presented the work that went into the development and publication of ANSI/ANS-3.11. This work began in June 1996 and concluded in February 2000.

Stan indicated that the nuclear power plant utility meteorologists have been reticent in implementing the new ANSI/ANS-3.11 due to the risks of committing their facilities to additional expenditures. Costs are being closely monitored by each utility and any increase in licensing commitment will not be looked on favorably. However, it was noted that most of the utilities were following the principles contained in the new standard.

Paul Fransioli, who runs the meteorological program at the Yucca Mountain Project Office (YMPO), mentioned that all utilities should beef up their formal quality assurance requirements in response to ANSI/ANS-3.11. The standard has also assisted YMPO with establishing the number of monitoring sites to characterize complex terrain. In addition, YMPO has included ANSI/ANS-3.11 in its S/RIDs.

Ken Wastrack and Doyle Pittman, who are responsible for the meteorological monitoring programs at the Watts Bar, Sequoyah, and Browns Ferry nuclear power plant sites, compared ANSI/ANS-3.11 with ANSI/ANS-2.5 (1984), and they determined that it had very little impact on their program. The biggest issue that arose was a management review of the should/shall requirements. Accordingly, Tennessee Valley Authority (TVA) has adopted ANSI/ANS-3.11 as a licensing basis. It is mentioned in the Watts Bar Offsite Dose Calculation Methodology (ODCM) document.

Doyle Pittman and Ken Wastrack have developed a comparison document relative to ANSI/ANS-3.11 and ANSI/ANS-2.5 (1984). They indicated that they would provide a copy to DMCC for dissemination to the DOE sites.

ACTION 02-01: Doyle Pittman and Ken Wastrack to provide ANSI/ANS-3.11 versus ANSI/ANS-2.5 comparison document to the DMCC.

Rob Addis added that at SRS, a similar conclusion was reached. That is, that adoption of ANSI/ANS-3.11 did not have a significant impact on the operation of the SRS meteorological program. The requirement for typing turbulence through the measurement of temperature difference was an increase in requirment for them. Accordingly, SRS has outfitted one of their towers with temperature instrumentation, while all of the other still type turbulence with σ_A and σ_E. In addition, the ice bath needs a stirrer for the completion of the calibration. SRS has also addressed a requirement to document its meteorological monitoring program.

Stan Marsh requested additional feedback from DOE and utilities. Doyle Pittman mentioned that the Nuclear Utility Meteorological data User Group (NUMUG) Steering Committee, during the May 2002 NUMUG Meeting, will discuss meeting with Mark Reinhart, NRC Licensing, relative to the adoption of ANSI/ANS-3.11 by the Commission.

ACTION 02-02: NUMUG Steering Committee, during the May 2002 NUMUG Meeting, will discuss meeting with Mark Reinhart, NRC Licensing, relative to the adoption of ANSI/ANS-3.11 by the Commission.

Appendix G documents Stan's presentation.

5.2 Future of ANSI/ANS-3.11 Working Group

Carl Mazzola led a discussion on the future of the ANSI/ANS-3.11 Working Group. It appeared that there was a consensus for continuing the Working Group to ensure that the standard would either be revised or reaffirmed before its projected February 16, 2005 sunset. It was agreed to combine the next meeting of the working group with the next DMCC meeting.

Many who were present that were already on the Working Group, agreed to serve in the same capacity.

Chris Biltoft agreed to join the ANSI/ANS-3.11 working group as a reviewer.

ACTION 02-03: Add Chris Biltoft to ANSI/ANS-3.11 Working Group as a reviewer.

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6.0 DOE AND DMCC METEOROLOGICAL PROGRAMS UPDATE

6.1 Recent and Future DMCC Program Initiatives

Darryl Randerson presented the status of the DMCC Program.

Darryl noted that DMCC was Chartered at DOE/NV Dec. 2, 1994 and although operating with little programmatic funding, DMCC has provided added value to the DOE meteorological community for the past 7 years and will continue to support DOE meteorological programs to the extent possible within funding constraints.

Darryl reviewed some of the DMCC programs, which include the sponsorship of technical forums and business meetings, the performance of Assist Visits, the maintenance of a DMCC web page, and the provision of technical advice and assistance. In FY01, the DMCC assisted the Waste Isolation Pilot Plant (WIPP) with an Assist Visit and advice on data certification, Pantex on lightning protection, Y-12 on Defense Nuclear Facility Safety Board (DNFSB) Technical Report 25, and Weldon Springs, associated with the availability of its excess meteorological tower.

DMCC also provided oversight to the Meteorology Topical Committee (MTC) and coordination to the ANSI/ANS-3.11 (2000) effort. It assisted the DOE Technical Standards Program Office (TSPO) with its annual DOE TSL-1/TSL-4 updates and with the adoption of ANS-3.11 as a Voluntary Consensus Standard (VCS). DMCC is also assisting ASTM with the review of a draft SODAR standard.

DMCC issued a report on its 10/00 Annual Meeting in Las Vegas, NV, and developed Appendix D: DOE Operational and Research Programs for the OFCM FY02 Federal Plan for Meteorological Services and Supporting Research.

Darryl reviewed the DMCC FY 02 activities which include this annual meeting, the reconvening of ANSI/ANS-3.11 Working Group, additional Assist Visits to WIPP in the Summer 2002 and SNL in the Fall 2002, the maintenance of DMCC Web Page, and the development of the OFCM FY03 Federal Plan for Meteorological Services and Supporting Research: Appendix D: DOE Operational and Research Programs.

Additionally, DOE/EH-421 has asked DMCC to update the meteorological element of EH-0173T (i.e., Chapter 4) for consistency with ANS/ANSI-3.11 and to Address natural phenomena hazards, and has a proposal into the Office of Science to revise the Atmospheric Science and Power Production technical document.

Appendix H documents Darryl's presentation.

6.2 DOE SC-74 Update

Rickey Petty discussed the activities of the DOE Office of Science. He indicated that Dr. Raymond Orbach, University of California, Riverside, is very close to confirmation as the Assistant Secretary. His focus will be to oversee the DOE non-weapons laboratories, create educational programs in physics and engineering, and pursue new science ventures for DOE. Dr. Orbach will also be identifying and prioritizing where research monies should be appropriated. On December 3, 2001, Homeland Security Director Tom Ridge visited Secretary Spencer Abraham to view the Office of Science counter terrorism exhibit. Several DOE laboratories (i.e., Oak Ridge National Laboratory, Brookhaven National Laboratory, Pacific Northwest National Laboratory, and Argonne National Laboratory), under the auspices of the Office of Science, participated in the exhibit.

Ricky then discussed the BER mission and goal, and reviewed its FY02 atmospheric research programs. The Atmospheric Radiation Monitoring (ARM) program has been monitoring data sets aimed at improving various atmospheric budget models. Another aim of this program is to obtain sufficient information to improve models that provide warnings of impending severe storms. The ARM field programs have yielded interesting comparisons and new information for air pollution control strategies.

The first seven pages of Appendix I documents Ricky's BER presentation.

6.3 Office of the Federal Coordinator for Meteorology (OFCM)

Ricky Petty also presented an update of the OFCM activities. OFCM was created in 1964 under PL 87-843. Its mission is to ensure effective use of Federal meteorological resources by leading the systematic coordination of operational weather requirements and services. Its purpose is to coordinate the activities of 15 federal agencies that have some level of involvement in operational meteorology and the atmospheric sciences. Over the past 38 years, the bulk of the interagency activities have been through the OFCM. The OFCM also provides DOE with a platform to share higher-level issues with the DOE sites through the DMCC.

One project being undertaken by the OFCM is through its Joint Action Group (JAG) for Temperature Indices (TI). This group is revising the wind chill index using more appropriate variables (e.g., wind speed at 2-meters rather than at 10-meters). This JAG intends to develop a new wind chill chart after its work is done.

There is also a JAG associated with homeland security. Its overarching purpose is to coordinate and document the Federal capabilities to provide environmental support to the Office of Homeland Security. One of the tasks of this JAG is to provide access to real-time meteorological data. This access would provide environmental support

during crisis and consequence management. DOE has capabilities and expertise in aerosol and gaseous atmospheric chemistry, vertical transport and mixing, modeling, and analytical detection that are very applicable to addressing national security issues. DMCC is coordinating this activity with the DOE sites.

The third JAG that Ricky discussed is associated with lightning detection systems. The JAG is focused on determining the specific needs at federal installations for lightning protection equipment. This JAG is developing a lightning detection questionnaire to determine operational needs and requirements. When it is completed, DMCC will be requested to coordinate the responses of the DOE sites.

The remainder of Appendix I documents Ricky's OFCM presentation.

ACTION 02-04: DMCC to coordinate the lightning detection needs questionnaire.

6.4 DOE PI-24 Update

Mitch Baer introduced himself to the DMCC membership and explained his role in DOE, which is to address climate change issues evolving from the implementation of the Clean Air Act (CAA). These issues are associated with stratospheric ozone protection, and the role of greenhouse gases in modifying the earth's climate. Mitch's office reviews proposed and final regulations and will alert the DOE sites through the DMCC regarding any significant movement in the CAA regulations.

PI-24 also interfaces with the Office of Science, but has no interface points on nuclear-related issues.

Rob Addis mentioned that communication in large research projects (e.g., climate) between DOE sites is needed. Meteorology is essential for the operation of the DOE site, with its main focus on the protection of public and worker safety and health.

Mitch was surprised to learn that there isn't a single point of contact in DOE that is responsible for the atmospheric sciences and the DOE meteorological programs. He will bring that point to DOE Headquarters and report back on what he learned.

ACTION 02-05: Mitch Baer to inquire why a single point of contact for the atmospheric sciences is not present at DOE HQ.

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6.5 Recent and Future MTC Program Initiatives

Carl Mazzola presented the activities of the MTC. The MTC on August 26, 1998 was chartered by DOE/EH TSP and has been overseen by DMCC. As with the DMCC, although operating with little programmatic funding since its inception, the MTC has provided added value to the DOE meteorological community for more than 3 years and will continue to support DOE meteorological programs within its resource constraints.

The three major projects that the MTC has undertaken include:

- ANSI/ANS-3.11 Implementation;
- American Society for Testing & Materials (ASTM) Standards Review; and,
- DOE/EH-0173T Revision

Carl reviewed several of the MTC objectives. Objective #1 included the development and implementation of meteorological standards for the DOE TSPO and to coordinate newly published standards for DOE entities. In meeting this objective, the MTC has worked towards the completion of ANSI/ANS-3.11, has identified the framework for recognition of this standard as a VCS for EH-53, and has developed "The Meteorology Topical Committee - Announcing a New Meteorology VCS", for 6/00 DOE TSP “The Standards Forum”.

During FY 01-02, the MTC plans to facilitate the process for the adoption and use of ANS-3.11 on a DOE-wide basis, facilitate the process for additional similar standards, and facilitate the ANS-3.11 Working Group to ensure that this standard is reaffirmed or revised before its 2/16/05 sunset.

With respect to MTC Objective #3, Carl indicated that the MTC had updated DOE-TSL-1-99, "Department of Energy Standards Index“ to include all DOE/non-DOE Meteorological Standards and updated DOE-TSL-4-99, "Individuals Involved in the DOE Technical Standards Program“. In addition, the MTC developed a meteorological data quality assurance training session for the WIPP Environmental Monitoring Department, and provided NPH (e.g., Tornado, Hurricane) Comments to DOE/EH on Sunset Review of DOE-STD 1020 (94). During FY 01-02, the MTC will develop additional guidance documents and training programs to assist DOE sites in implementing ANSI/ANS-3.11, will develop a revision to DOE/EH-0173T, and coordinate the DOE review of the draft ASTM Standard Guide for the Measurement of Atmospheric Wind and Turbulence Profiles by Acoustic Means.

Carl then discussed MTC Objective #4, which is to interface with non-DOE Standard Development Organizations (SDO's) and to develop technical positions on meteorology standards for adoption by non-DOE technical standards entities. The MTC has established a strong working relationship with ANS as an SDO during the 4-year process with ANSI/ANS-3.11, has drafted a White Paper on the impact of ANSI/ANS-3.11 on DOE meteorological programs, and has provided a response to ANS regarding data averaging inquiry on ANSI/ANS-2.5. During FY01-02, the MTC will complete the White Paper, and establish a Working Relationship with ASTM and other SDOs.

Appendix J documents Carl's presentation.

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7.0 DMCC ROUNDTABLE

Darryl Randerson led the DMCC Roundtable discussion. The following points were made during the roundtable discussion:

- Ricky Petty mentioned that the DMCC was playing an important role in DOE and at some point in the future it will be recognized;
- Rob Addis stressed that the DMCC should continue its work as it provides an important venue for the DOE sites to resolve its higher-level issues;
- Carl Mazzola indicated that the DMCC Memoranda mechanism was working effectively as a means of communicating with the DOE meteorological community; and,
- Carl Mazzola indicated that the DMCC could play an effective role at promoting the development of technical papers for the 8th Topical Meeting on Emergency Preparedness & Response.

8.0 2003 DMCC MEETING

Darryl Randerson presented his thoughts on the early planning for the next DMCC meeting that is to be held in conjunction with the Annual Meeting of the AMS in Long Beach, CA. This will be a one-day meeting tentatively scheduled for February 18, 2003. The meeting may also take place nearby DOE/NV in Las Vegas, NV. It will be coordinated with a meeting of the ANSI/ANS-3.11 Working Group that will examine the early changes needed to the new national standard on meteorological data.

9.0 ACRONYMS

A

AMS	American Meteorological Society
ANS	American Nuclear Society
ANSI	American National Standards Institute
ARL	Air Resources Laboratory
ARL	Army Research Laboratory
ARM	Atmospheric Radiation Monitoring
ASTM	American Society for Testing & Materials
ATD	Atmospheric Transport and Diffusion
ATDD	Atmospheric Transport and Diffusion Division

B

BEEF	Big Energy Explosion Facility

C

CA	California
CAA	Clean Air Act
CG	Cloud to Ground
CO	Colorado

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D

DMCC	DOE Meteorological Coordinating Council
DNFSB	Defense Nuclear Facility Safety Board
DOC	Department of Commerce
DOE	Department of Energy
DPG	Dugway Proving Grounds
DTRA	Defense Threat Reduction Agency

E

EH	Environmental Health
EPICODE	Atmospheric Transport and Dispersion Code
ERO	Emergency Response Organizaton
ES & H	Environmental Safety & Health
ETA	Global Scale Forecasting Model

F

FL	Florida
FRD	Field Research Division
FRMAC	Federal Radiological Monitoring and Assessment Center
FY	Fiscal Year

G

GIS	Geographical Information System
GOES	Geostationary Orbiting Earth Satellite
GPS	Global Positioning System
GUI	Graphical User Interface

H

HOTMAC	3-Dimensional Atmospheric Transport Code
HQ	Headquarter

I

ID	Idaho
INEEL	Idaho National Environmental and Engineering Laboratory

J

JAG	Joint Action Group

K

L

LANL	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory

M

MM-5	Global Scale Atmospheric Transport and Dispersion Model
MTC	Meteorology Topical Committee

N

N	Notice
NARAC	National Atmospheric Release Advisory Capability
NESDIS	
NOAA	National Oceanic and Atmospheric Administration
NOGAPS	Navy Forecasting Model
NRC	Nuclear Regulatory Commission
NTS	Nevada Test Site
NUMUG	Nuclear Utility Meteorological data User Group
NV	Nevada
NWS	National Weather Service

O

O	Order
OBER	Office of Biological and Environmental Research
ODCM	Offsite Dose Calculational Manual
OFCM	Office of the Federal Coordinator for Meteorology
OS	Office of Science

P

PDT	Pacific Daylight Time
PI	Policy and I
PL	Public Law

Q

R

RAMS	3-Dimensional Atmospheric Transport and Dispersion Code
RAPTAD	3-Dimensional Atmospheric Dispersion Code

S

SAIC	Science Applications International Corporation
SCAPA	Subcommittee on Consequence Assessment and Protective Actions
SCE	Southern California Edison
SDO	Standards Development Organization
SNL	Sandia National Laboratory
SNM	Special Nuclear Materials
SODAR	Sonic Doppler Acoustic Radar
SORD	Special Operations & Research Division
S/RID	Standards/Requirements Information Document
SRS	Savannah River Site
STD	Standard
SW	Stone & Webster Incorporated

T

TI	Temperature Indices
TN	Tennessee
TSL	Technical Standards Listing
TSP	Technical Standards Program
TSPO	Technical Standards Program Office
TV	Television
TVA	Tennessee Valley Authority

U

US	United States
UT	Utah
UTEP	University of Texas at El Paso

V

VCS	Voluntary Consensus Standard

W

WIPP	Waste Isolation Pilot Plant
WSRC	Westinghouse Savannah River Company

X

Y

YMPO	Yucca Mountain Project Office

Z

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10.0 APPENDICES

Since a Proceeding of the meeting presentations was not developed prior to the meeting, this section is reserved to document the presentations and other relevant documentation that were made at this meeting. The following presents a listing of these presentations.

Appendix	Description
A	Agenda
B	INEEL Projects
C	NTS Projects
D	NOAA Satellite Systems Forum
E	A Portable System for Boundary Layer Measurement, Analysis, and Forecasting
F	Thoughts on Tornado Hazard Estimates
G	ANSI/ANS-3.11
H	DMCC Report
I	DOE Office of Science Activities
J	MTC Report

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Appendix A

Agenda

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Appendix B

INEEL Projects

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Appendix C

NTS Projects

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Appendix D

NOAA Satellite Systems Forum

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Appendix E

A Portable System for Boundary Layer Measurement, Analysis, and Forecasting

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Appendix F

Thoughts on Tornado Hazard Estimates

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Appendix G

ANSI/ANS-3.11

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Appendix H

DMCC Report

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Appendix I

DOE Office of Science Activities

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Appendix J

MTC Report