

INTERDEPARTMENTAL COMMITTEE FOR METEOROLOGICAL
SERVICES AND SUPPORTING RESEARCH

Record of Actions 2003-1 Meeting
April 30, 2003

MEMBERS PRESENT

OFCM: Mr. Samuel P. Williamson, Chairman
DOC: Dr. Francis P. Kelly for Mr. John E. Jones, Jr., NWS
DOD: CAPT Frank W. Garcia, Jr., USN
DOE: Mr. Rickey C. Petty
DOI: Mr. Lewis T. Moore
DOT: Mr. David Whatley, FAA
DHS: Mr. John Gambel, FEMA
Dr. Jonathan M. Berkson, USCG
EPA: Dr. S. T. Rao
NASA: Dr. Ramesh Kakar
NSF: Dr. Jarvis Moyers
USDA: Mr. Thomas Puterbaugh

Mr. Blaine K. Tsugawa for Mr. James B. Harrison, Executive Secretary
Mrs. Barbara Palmer, Recorder

Agencies Not Represented: DOS, NRC, NTSB

INVITED PARTICIPANTS

DOC: Dr. James F. Kimpel, NOAA/OAR/NSSL
Mr. Richard S. Artz, NOAA/OAR/ARL
DOD: Dr. Wayne Estabrooks, USN/CNO
Lt Col James E. Walker, USAF/XOWP
Mr. Richard N. Fry, Jr., DTRA/Northrop Grumman
DOT: Mr. Anthony W. Johnson, FAA
Ms. Shelley J. Row, FHWA
Mr. Paul A. Pisano, FHWA
DHS: Ms. Emily Hirsch, FEMA
TWC: Mr. Larry Denton
OFCM: Mr. Kenneth Barnett
Mr. James McNitt, STC

Date of Issue: May 23, 2003

1. OPENING REMARKS

The meeting was called to order by the Chairman, Mr. Samuel P. Williamson. The meeting was held in the Eisenhower Room of the White House Conference Center in Washington, D.C. The Chairman welcomed the ICMSSR members and invited participants. Mr. Williamson expressed appreciation to the speakers for the ICMSSR meeting. These include: Mr. James McNitt of OFCM/Science and Technology Corporation (STC); Mr. Rick Artz of NOAA's Air Resources Laboratory; Mr. Richard N. Fry, Jr., of Defense Threat Reduction Agency (DTRA)/Northrop Grumman; Dr. James F. Kimpel of NOAA's National Severe Storms Laboratory; Mr. Larry Denton of The Weather Channel; and Ms. Shelley Row of the Federal Highway Administration.

The Chairman noted that the issues discussed at this ICMSSR meeting are primarily in response to action items identified at the October 18, 2002, meeting of the Federal Committee for Meteorological Services and Supporting Research (FCMSSR). Mr. Williamson highlighted the December 2002 publication of the *Weather Information for Surface Transportation—National Needs Assessment Report*. [**This completes FCMSSR ACTION ITEM 2002-4.2: Weather Information for Surface Transportation.**] The WIST Report sets the stage for revolutionary improvement in the way weather information is applied to surface transportation across the Nation. It establishes a process that involves decision makers throughout the public and private sectors, academia, and industry in a collaborative effort to define weather information needs, and recommends next steps to incorporate current and future efforts from science and technology innovations into surface transportation activities that bear on the safety and economic welfare of all citizens. The WIST Report is the product of an extensive 3-year interagency effort and is an historic achievement from the standpoint that it is the first-ever compilation of weather support needs across the six surface transportation sectors: roadway, railway, transit, marine transportation, pipeline systems, and airport ground operations. Mr. Williamson then described the March 21, 2003, press briefing on the rollout of the WIST Report which was led by VADM Conrad C. Lautenbacher, Jr., USN (Ret.), Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator, and FCMSSR Chairman. The press event was a great success, especially when considered in light of the attention other events were getting at that time.

Mr. Williamson noted that the 57th Interdepartmental Hurricane Conference (IHC) was held in Miami, Florida, March 10-14, 2003, and was attended by more than 200 individuals. The theme for the conference was *The Nation's Hurricane Warning Program—Streamlining the Roadmap for the Future*. Dr. James R. Mahoney, Assistant Secretary of Commerce for Oceans and Atmosphere and Deputy NOAA Administrator, provided the Keynote Address for the conference. Mr. Raymond J. Ban, Executive Vice President of Meteorology Science and Strategy, The Weather Channel, was the Banquet Speaker for the 57th IHC. Mr. Williamson then discussed the 25th Annual National Hurricane Conference (NHC) which was held in New Orleans, Louisiana, April 14-18, 2003. The theme of the NHC was *Where We Have Been and Where We Are Going in Forecasting and Emergency Preparedness and Response*. VADM Lautenbacher was an Opening Session Keynote Speaker for the conference which was attended by more than

1300 people. Mr. Michael Brown, Deputy Director of FEMA, was also an Opening Session Keynote Speaker. OFCM and the Federal Emergency Management Agency conducted a Training Workshop on April 14th. The theme of the workshop was *Risk Assessment—Characterizing the Impact of Hurricanes and Inland Flooding to Help Emergency Managers and the Public Deal with the Risks They Face*.

Mr. Williamson informed ICMSSR that on May 13, 2003, he would make a presentation at the NOAA Constituent Briefing on Weather Information for Surface Transportation. The briefing will be held from 10:00 a.m. - 11:30 a.m. in room 3407 of the Herbert C. Hoover Building, Washington, D.C. The Chairman will also participate in parts of the Space Weather Week conference May 19-22, 2003, in Boulder, Colorado; and the Thirteenth Annual Meeting and Exposition of the Intelligent Transportation Society of America (ITS-A) in Minneapolis, Minnesota, May 19-22, 2003.

Mr. Williamson reviewed the agenda and encouraged members to raise additional issues for discussion.

[Regarding membership, OFCM is continuing to work with Mr. Kenneth Stroeck as the transition to the Department of Homeland Security is being completed, to name a senior point of contact to interact with the Federal meteorological community at the FCMSSR level. This addresses FCMSSR ACTION ITEM 2002-1.1: Office of Homeland Security Representation.]

ACTION: The agenda was approved.

2. ENVIRONMENTAL SUPPORT TO HOMELAND SECURITY UPDATE

This agenda item addressed three actions from the October 18, 2002, meeting of the Federal Committee for Meteorological Services and Supporting Research (FCMSSR).

- a. Plans for upcoming interagency forum and NOAA/Navy tabletop exercise. In an update on Environmental Support to Homeland Security issues, Mr. James McNitt, Senior Scientist with OFCM/Science and Technology Corporation, briefed ICMSSR on major accomplishments which have already been made, status of FCMSSR action items, review of a Navy/NOAA Tabletop Exercise, and next steps and the way ahead. Major accomplishments included publication in August 2002 of the report *Atmospheric Modeling of Releases from Weapons of Mass Destruction—Response by Federal Agencies in Support of Homeland Security*, progress of the Working Group for Environmental Support to Homeland Security in preparing a National Plan, and coordination of the Navy/NOAA tabletop exercise in Norfolk, Virginia, on March 26, 2003. Response to FCMSSR actions include exploring the opportunity to include the Office of Homeland Security as a member or observer for FCMSSR. OFCM had previously established formal coordination with the Office of Homeland Security. Since the FCMSSR meeting, OFCM has worked with Mr. Kenneth Stroeck of the Department of Homeland Security (DHS) to identify a policy-level focal point for

participation in the OFCM Federal coordinating infrastructure, and OFCM has continued to coordinate with the U.S. Coast Guard and the DHS Directorate of Emergency Preparedness and Response (FEMA). Another action from FCMSSR was to plan and conduct an interagency forum to bring together the responsible Federal agencies, together with representatives of the user communities, academia, and the private sector to address state of the science, identify priorities and issues for needed research and development, develop model evaluation procedures, and plan for field studies. The forum, in addition to a series of exercises, will also be used to validate the concept of operations, which is currently being developed by the Working Group for Environmental Support to Homeland Security. The forum is planned for November or December 2003. OFCM is collaborating with George Mason University (GMU) to host a special session on June 19, 2003, in conjunction with GMU's Workshop on Transport and Dispersion Models (June 17-18, 2003). The workshop is cosponsored by the Defense Threat Reduction Agency (DTRA). The web site address for the GMU/DTRA workshop is <http://squall.scs.gmu.edu/7thworkshop>. OFCM's special session will focus on the area of transition of research to operations; the theme is "Improving and optimizing the capability of Federal agencies to support homeland security requirements for atmospheric modeling of the release from weapons of mass destruction through a shared understanding of National operational and research needs." OFCM is also continuing to participate in tabletop exercises which include Lead Federal Agencies and supporting agencies (June through October 2003). The results will be integrated in the CONOPS section of the National Plan for Environmental Support to Homeland Security. Longer term objectives are to publish the Environmental Support Plan for Homeland Security (National Plan), develop a common framework for model evaluation, and develop a research and development plan to address research needs and priorities for Atmospheric Transport and Dispersion (ATD) modeling.

ACTION ITEM 2003-1.1: Special Session in Conjunction with GMU ATD Workshop. OFCM host a special session on June 19, 2003, in conjunction with George Mason University's Workshop on Atmospheric Transport and Dispersion Models. The special session will focus on the area of transition of research to operations; the theme is "Improving and optimizing the capability of Federal agencies to support homeland security requirements for atmospheric modeling of the release from weapons of mass destruction through a shared understanding of National operational and research needs."

ACTION ITEM 2003-1.2: Interagency Tabletop Exercises. OFCM continue to plan a series of interagency tabletop exercises, building upon the successful Navy/NOAA exercise held in Norfolk, Virginia, on March 26, 2003. These will be held June through October 2003. The results will be integrated in the concept of operations section of the *Draft Environmental Support Plan for Homeland Security*.

ACTION ITEM 2003-1.3: *Draft Environmental Support Plan for Homeland*

Security. Working Group for Environmental Support to Homeland Security complete the *Draft Environmental Support Plan for Homeland Security*, to include a concept of operations section, by October 2003.

ACTION ITEM 2003-1.4: Environmental Support to Homeland Security Forum. OFCM plan and conduct an interagency forum in November or December 2003 to bring together the responsible Federal agencies, together with representatives of the user communities, academia, and the private sector to address state of the science, identify priorities and issues for needed research and development, develop model evaluation procedures, and plan for field studies. The forum, in addition to a series of exercises, will also be used to validate the concept of operations, which is currently being developed by the Working Group for Environmental Support to Homeland Security. **[This addresses FCMSSR ACTION ITEM 2002-2.1: Interagency Forum.]**

- b. Washington, D.C., Dispersion Testbed. **FCMSSR noted that, as appropriate, agencies should support the ongoing development and future expansion of the Washington, D.C., Dispersion Testbed.** Mr. Rick Artz, Deputy Director of NOAA's Atmospheric Research Laboratory, provided an update on this effort. As background Mr. Artz noted that the areas of current dispersion interest are cities and urban areas, and dispersion forecasts are needed. He noted that contemporary models are based on observations and experience in much simpler situations; buildings complicate wind speed, wind direction, and turbulence intensity; and dispersion in urban areas is expected to be different from elsewhere. With the exception of METREX of 1983, previous field studies have been of short duration. Mr. Artz described the vision to be of emergency operations centers having continuous displays of plume forecasts from many modeling systems, permitting managers to specify source term locations and details with near instantaneous display of results; displays tailored to user needs; and data derived from optimal fine-scale weather forecast models, from certified mesonets in the urban area, and from specialized arrays of dedicated instrumentation. Mr. Artz stated that the Washington, D.C., Dispersion Testbed, also known as DCNet, will couple the best available forecasts with real-time measurements of key dispersion properties; develop GIS systems to display current and forecast dispersion plumes; explore existing network data, and develop systems to extract data to improve dispersion forecasts from them; and having developed a refined dispersion system for Washington, D.C., expand the operation to cover the entire National Capital area and other major cities. Mr. Artz then outlined implementation of DCNet to include observations, modeling, and sensors; 40 sites minimal, and 180 sites optimal. He identified sites that were already set up. And he stated that the research of DCNet is planned to lead to an improved operational urban sensor configuration—UrbaNet, which will address the National Capital area including northern Virginia, and Maryland extending to Baltimore and Annapolis. It may then be extended to New York and Philadelphia. Mr. Artz then described how NOAA's Air Resources Laboratory and Oak Ridge National Laboratory will couple DCNet and SensorNet in

Washington, D.C., to include radioactivity sensors and prototype biological sensors. It was noted that the Departments of Commerce, Defense, and Energy were participating in DCNet. Other interested FCMSSR/ICMSSR agencies included DOI, FHWA, EPA, NASA, and NSF.

ACTION ITEM 2003-1.5: Additional Participation in DCNet. OFCM will arrange a meeting of interested agencies, including DOI, FHWA, EPA, NASA, and NSF, with Mr. Bruce Hicks, Director of NOAA's Air Resources Laboratory, to discuss participation in DCNet. **[This addresses FCMSSR ACTION ITEM 2002-2.2: Washington, D.C., Dispersion Testbed.]**

- c. Oklahoma City Field Exercise. Mr. Richard N. Fry, Jr., DTRA/Northrop Grumman, briefed on the status of the upcoming DTRA/DOE-sponsored Oklahoma City Field Exercise. This field exercise is officially titled "Joint Urban 2003" and is an atmospheric dispersion study which will occur in Oklahoma City from June 28 - July 31, 2003. The objectives are to collect meteorological and tracer data resolving atmospheric dispersion at scales of motion ranging from flows in and around a single city block, in and around several blocks in the downtown central business district, and into the suburban Oklahoma City area several kilometers from the central business district; and to use tracer and meteorological data collected in Oklahoma City to evaluate and improve existing indoor and outdoor dispersion models. Mr. Fry noted that the participants include elements of DOD, DOE, DHS, DOT, and DOC. Additional Federal agencies serve in a coordinating role, including EPA and NASA; and other participants include universities, state agencies, and elements of the United Kingdom and Canada. **[This addresses FCMSSR ACTION ITEM 2002-2.3. Oklahoma City Field Study.]** Mr. Fry stated that the experimental design is based on atmospheric scales of motion; analysis of the July climatological record of Oklahoma City; and scientific objectives of investigators, modelers, and reviewers. The June 28 - July 31, 2003, time will include 10 Intensive Operation Periods. Sulfur Hexafluoride tracer will be released and sampled during 8-hour periods. Mr. Fry reviewed instrumentation to be used, Sulfur Hexafluoride release locations, tracer bag sampler locations, and the detailed schedule for the exercise. Mr. Fry noted that the end product will be a data archive which will be available one year after the exercise. Dugway Proving Ground will have primary responsibility for data management and design and maintenance of the database. The data will be used to develop new urban weather, transport and dispersion models, and to validate existing models. The exercise plan is completed. In approximately one year there will be a report from the exercise and results will be briefed at a George Mason University workshop. Interim results will be briefed at OFCM's Environmental Support to Homeland Security forum to be held November or December 2003.

ACTION ITEM 2003-1.6: Joint Urban 2003 Interim Results. DTRA/DOE brief interim results of Joint Urban 2003 (Oklahoma City Field Exercise) at OFCM's interagency Environmental Support to Homeland Security forum to be

held November or December 2003.

ACTION ITEM 2003-1.7: Joint Urban 2003 Report and Final Results.

DTRA/DOE complete report of Joint Urban 2003 (Oklahoma City Field Exercise) and brief results at George Mason University's 2004 workshop on transport and dispersion models.

3. PHASED ARRAY WEATHER RADAR PROJECT

An action from FCMSSR was for the Federal Coordinator to work with the Interdepartmental Committee and the Office of Homeland Security, to determine specific needs of the agencies, show benefits of the phased array radar capability for their respective agencies, and explore opportunities for expanded participation in the Phased Array Weather Radar Project. Dr. James F. Kimpel, Director of NOAA's National Severe Storms Laboratory (NSSL), briefed ICMSSR on the Phased Array Weather Radar Project, which has the potential to vastly improve the NEXRAD system for all weather applications.

Dr. Kimpel described the current NOAA effort in weather radar. He noted that the long term vision is to use new technology, new paradigms, and new partnership opportunities to improve tornado, severe storm, flash flood, and winter weather performance measures. Tornado performance measures were shown as an example, where lead time, probability of detection, and false alarm rates would improve from 11 minutes, 68 percent, and 78 percent in 2001, to 45 minutes, 80 percent, and 50 percent in 2025. The new technology described by Dr. Kimpel included Phased Array Radar (PAR) with faster scan rates, higher spatial resolution, and adaptive scan strategies; and Networked Radars (RADNET) where thousands of low power, low cost, radars (supported by other than NOAA) would be used as gap-fillers to get improved low-level (boundary layer) coverage. The present paradigm uses NOAA's NEXRAD radar to identify precursor signatures of tornadic storms, then extrapolate into the future (warn on detection); the future paradigm would use high resolution radar data to initialize cloud resolving ensemble forecast models to identify precursors 30-45 minutes in advance (warn on forecast and detection). Regarding partnerships, the present NEXRAD involves NOAA, FAA, and Air Force, and is a weather only system. The future PAR would address weather plus other needs. The new partnership opportunities would include, in addition to NOAA, FAA and Air Force (3D aircraft tracking backup, icing, improved rerouting around storms), Navy (better data for fleet-scale numerical forecast models, COAMPS), Homeland Security (non-cooperative aircraft tracking, detection and prediction of chemical/biological tracks, radar winds for assimilation into dispersion models), and Army (better data for battlefield models, new environmental information from tactical radars). Dr. Kimpel noted that NOAA should lead this effort since weather radar has been the main sensor for NOAA/NWS detection of and warning for tornadoes, hail, high winds and flash floods since the early 1960's; the NEXRAD deployment, with its Doppler technology, has enabled significant improvement in NOAA's NWS warning performance; and NOAA has the majority of the national expertise to perform the necessary R&D, field test the new technologies, and evaluate prototypes for cost-benefit.

Dr. Kimpel compared present tornado warnings with conceptual future tornado warnings. He noted that the PAR technology would result in more accurate, higher resolution data in space and time and have better and earlier detection or tornado precursors. Characteristics include 20 second volume rates versus 5 minutes; dwell–repetitive sampling in areas of interest; adaptive scan strategies–tune radar to weather at hand; direct measurement of cross beam winds; and graceful degradation–lower failure rate. Dr. Kimpel outlined the present status of the FY 03 NOAA Tornado/Severe Storms/PAR Initiative, and provided details of contributors and funding through FY 02. He noted that the research objectives are to: demonstrate that PAR technology can be applied to the tornado detection, forecast, and warning mission in a multi-use environment; demonstrate skill in probabilistic forecasts of tornadoes and other severe weather events using ensembles of models that assimilate PAR data; and determine if there is a viable economic strategy which would permit a national PAR network to support NOAA, FAA, DOD, Homeland Security, and other national missions. Dr. Kimpel stated that a possible outcome would be a 3- or 4-faced system with no moving parts, multiple uses (weather, 3D aircraft tracking, homeland security), replacement of five existing national radar networks, and highly cost effective.

Dr. Kimpel summarized by stating that NOAA Research plans to fully support NWS NEXRAD Product Improvement through dual-polarization and beyond (algorithm development). The phased array radar has the potential to provide high resolution, high quality, dual-polarized, data (volume scan update rates approaching 20 seconds; data collection capabilities improve resolution, accuracy, and content of radar returns). Coupled with complementary ensemble cloud-scale modeling R&D, PAR has potential to provide revolutionary improvements in NWS tornado and severe storm performance measures. NOAA’s NSSL will partner to conduct field research to evaluate PAR and RADNET capabilities and apply results to NWS performance measures. Cost offsetting partnerships may exist with the FAA, DOD, and Homeland Security.

ACTION ITEM 2003-1.8: Visit Regarding Phased Array Radar. Federal Coordinator arrange a visit of interested agencies (including DHS/FEMA, DOT/FHWA, EPA, NASA, NSF, and DOI) to the National Severe Storms Laboratory, Norman, Oklahoma, to help determine specific needs of the agencies, show benefits of the phased array radar capability for their respective agencies, and explore opportunities for expanded participation among agencies. [This addresses FCMSSR ACTION ITEM 2002-4.1: Phased Array Weather Radar Project.]

4. THE WEATHER CHANNEL PARTNERSHIP WITH NOAA - SHOWCASING AGENCY PROGRAMS

The partnership between The Weather Channel (TWC) and NOAA provides a unique opportunity to inform and educate the public on a variety of oceanic and atmospheric programs, services, and activities. Mr. Larry Denton, The Weather Channel, previewed the NOAA series of TV specials and evaluated the interest of other agencies with similar environmental services and programs. Mr. Denton began by noting that TWC has been in existence for 21 years; and in that time TWC has grown to become the preeminent

provider of weather and climate information to the nation. TWC has a web site that is consistently rated in the top five; and TWC has developed a following that is educated, composed of mid- and upper-income individuals, environmentally aware, and concerned. Mr. Denton pointed out that, for Federal agencies that have environmental programs, TWC has developed their audience. Mr. Denton then described its partnership with NOAA. A couple of years ago, Mr. Raymond J. Ban, TWC Executive Vice President of Meteorology Science and Strategy, and Mr. Denton met with representatives of the NOAA Line Offices and learned that there were a whole series of NOAA programs and efforts that NOAA thought needed increased public awareness, in accordance with NOAA's education and outreach responsibilities. A series of discussions over several months resulted in the idea that NOAA and TWC would jointly fund and produce TV programs which would be shown on TWC multiple times.

TWC is under contract to NOAA to produce four TV specials that will be aired this fall, probably October. These are 1/2 hour specials which are in-depth documentaries including interviews with agency experts, interspersed with video, graphics, and other commentary. The NOAA programs which TWC will showcase include: (1) El Nino (cosponsored with NOAA's Office of Oceanic and Atmospheric Research), (2) Coastal Storms (cosponsored with NOAA's National Ocean Service), (3) History of polar-orbiting satellites that will end with NPOESS and where it is all going (cosponsored with NOAA's National Environmental Satellite, Data, and Information Service), and (4) Weather Forecasts (cosponsored with NOAA's National Weather Service). These four are in various stages of development. The agreement between TWC and NOAA is such that the Federal government has the Intellectual Property Rights for the programs; TWC has 6 months of exclusive media domain usage (after that the programs are in the public domain); but from the outset the government has rights to use the programs, cut and paste, use in their entirety to duplicate and send to elementary and secondary schools, museums, intra government training, etc. TWC produces a professional quality video of the program and turns it over to the government.

Other areas in which TWC has interest include fire weather, road weather, aviation weather, global climate change, water management, flooding, air quality, etc. TWC is currently having discussions with EPA Global Programs Division, EPA headquarters, and NASA Earth Sciences Enterprise. The bottom line is that TWC is interested in finding compelling TV stories. If an agency has an environmental program that the agency feels needs to be showcased to the American public, i.e., needs to have substantially increased public visibility, and if the agency has an education or public outreach responsibility, then TWC can help.

FHWA expressed interest in developing a TV special for road weather.

ACTION ITEM 2003-1.9: Showcasing Agency Programs. Agencies which would like to explore with The Weather Channel the possibility of producing TV specials on environmental programs contact Mr. Larry Denton at telephone 410-827-5520 or email address dentonassoc@cs.com.

5. TRANSPORTATION UPDATE

Ms. Shelley Row, Director, Office of Transportation Operations, Federal Highway Administration, presented this transportation and commerce update. Ms. Row identified several reasons we care about the impacts of weather on surface transportation, including 6,600 fatal crashes per year; 470,000 injury crashes; 15 percent of congestion due to weather events; \$3.4 billion freight costs due to weather-related traffic delay; and cleanup costs for winter weather. Ms. Row noted that a vision for a road weather program is anytime, anywhere road weather information for transportation managers and travelers. Goals are to understand the impacts of weather on the highway system, and to develop and promote the tools, methods, and techniques to alleviate the impacts. Ms. Row stated that we can't change the weather, but we can change how we respond to it. Advisories include the 511 traveler information system, web sites, variable message signs, and in-vehicle information; control includes signals, gates, and contraflow; treatment includes anti-icing and deicing.

Ms. Row stated that the release of the OFCM *Weather Information for Surface Transportation–National Needs Assessment Report* marks a major milestone for both the weather and transportation communities. It opens the door for new partnerships, and will serve as the cornerstone for coordinated efforts. The report will aid in addressing the surface transportation goal in the NOAA Strategic Plan, to “Support the Nation’s Commerce with Information for Safe and Efficient Transportation.” Objectives identified by Ms. Row include: (1) Advance the state-of-the-practice of weather-responsive transportation management, (2) Promote the implementation of a national, open road weather observing system, and (3) Foster a collaborative, comprehensive, and dedicated surface transportation weather research program. Regarding the first objective of weather-responsive transportation management, Ms. Row noted that there are currently effective but inconsistent practices across maintenance, traffic and emergency management; however, the target is to have tailored road weather information that enables managers to make better decisions on a system-wide basis. Related accomplishments include development and demonstration of the Maintenance Decision Support System (MDSS), drafting a concept of operations for weather-responsive traffic management and releasing a best practices CD, and conducting stakeholder workshops and providing grants for emergency and traffic management coordination. Other related activities are ongoing and planned. Regarding the second objective of a road weather observing system, Ms. Row noted that there are currently effective but inconsistent deployment of road weather sensors, used primarily for maintenance purposes; however, the target is to have tools and guidance material to aid in the implementation of a national, open road weather observing system. Related accomplishments include development and implementation of communication standards. Ongoing activities include five studies through the Cooperative Program for Operational Meteorology, Education and Training (COMET) with state universities in Pennsylvania, Iowa, New York, Nevada, and Utah; gap analysis on observing systems through the OFCM Committee for Integrated Observing Systems; and link to mesonets. Planned activities include siting guidance for road weather sensors, and vehicle-based and remote sensing. Regarding the third objective of a surface transportation weather research program, Ms.

Row noted that the current state is limited, uncoordinated research on road weather impacts and solutions; and the target is to have a coordinated, dedicated, interdisciplinary surface transportation weather research program. Related activities include the WIST Report, an ongoing study with the National Research Council, working with the U.S. Weather Research Program, and co-hosting with the American Meteorological Society a Surface Transportation Policy Forum this fall.

In conclusion Ms. Row stated that we must channel the momentum and build the solutions that are now on the horizon; continue to forge partnerships to build a surface transportation/weather coalition; and leverage resources to conduct the research and promote implementation.

ACTION ITEM 2003-1.10: NOAA Constituent Briefing. Federal Coordinator make a presentation at the May 13, 2003, NOAA Constituent Briefing on Weather Information for Surface Transportation.

ACTION ITEM 2003-1.11: FHWA Ongoing Research Activities. Federal Highway Administration continue activities concerning a National Research Council/National Academy of Sciences Board on Atmospheric Sciences and Climate (BASC)-Transportation Research Board (TRB) study; working with the U.S. Weather Research Program; and co-hosting a Surface Transportation Policy Forum during the fall of 2003 with the American Meteorological Society.

6. OPEN DISCUSSION

The Chairman noted that an action from the October 18, 2002, FCMSSR meeting was that “The Federal Coordinator should act as liaison, as required, to ensure that known agency requirements for atmospheric information are passed to the U.S. Climate Change Science Program for incorporation into the Climate Change Research Initiative (CCRI) and that the Federal meteorological community (FCMSSR) is kept aware of the CCRI’s progress.” Mr. Williamson stated that OFCM is developing a matrix that looks at specific areas for atmospheric information where we want to identify needs, and that this matrix will be forwarded to the agencies for identifying needs and requirements and validation. Our goal is ensure that output will be part of an Integrated Global Observing System (IGOS).

ACTION ITEM 2003-1.12: Agency Requirements for IGOS. Federal Coordinator develop a matrix that looks at specific areas for atmospheric information where we want to identify needs related to an Integrated Global Observing System (IGOS), and forward the matrix to the agencies for validation. [This addresses FCMSSR ACTION ITEM 2002-4.3: Development and Planning for New Sensors, and FCMSSR ACTION ITEM 2002-4.4: Agency Requirements.]

7. NEXT MEETING

The Executive Secretary will schedule the next ICMSSR meeting in coordination with

the ICMSSR Chairman and members.

The meeting adjourned at 4:00 p.m.