"Out of Many, One"

The InterAgency Board

FY 2011 Annual Report

Dedication

Dedicated to those brave Americans who stand forever vigilant to protect this country from those who would attempt to deny us our freedom. May their strength give us strength.

FY 2011 Annual Report
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IAB Champions

Arlington County (VA) Fire Department

ASTM International

Avon (MT) Fire Department

Bellevue (WA) Fire Department

Bailor Security Consultants, LLC

Branford (CT) Fire Department

Boston (MA) Fire Department

Broward County (FL) Sheriff's Office SWAT

Cecil County (MD) Department of Emergency Services

Charlotte (NC) Fire Department

Chicago (IL) Fire Department

Chicago (IL) Police Department

City of Troy (MI) Police Department

City of Tulsa (OK) Security

Cincinnati (OH) Fire Department

Collier County (FL) Sheriff's Office

Cook County (IL) DHS Emergency Management

Contra Costa County (CA) Office of the Sheriff, Office of Emergency Services

Cornell University

Cuyahoga County (OH) Department of Justice Affairs

Dartmouth College

Delaware Emergency Management Agency

Department of Defense, Joint Program Executive Office for Chemical and Biological Defense

Department of Defense, Joint Program Executive Office for Chemical and Biological Defense, Joint Program Manager Guardian

Department of Defense, Research, Development and Engineering Command, Edgewood Chemical and Biological Center

Department of Health & Human Services, Centers for Disease Control and Prevention

Department of Health & Human Services, Office of the Assistant Secretary for Preparedness & Response, Office of Preparedness and Emergency Operations

Department of Health & Human Services, Office of the Assistant Secretary for Preparedness & Response, National Disaster Medical System, National Veterinary Response Team 2

Department of Homeland Security, Domestic Nuclear Detection Office

Department of Homeland Security, Federal Emergency Management Agency, Grant Programs Directorate

Department of Homeland Security, Federal Emergency Management Agency, National Preparedness Directorate

Department of Homeland Security, Federal Emergency Management Agency, Office of Policy & Program Analysis

Department of Homeland Security, Office of Health Affairs, BioWatch Program

Department of Homeland Security, National Protection and Programs Directorate, Office of Infrastructure Protection, Emergency Services Sector

Department of Homeland Security, Office of Intelligence and Analysis

Department of Homeland Security, Science & Technology Directorate, Broadband Standards and Technology

Department of Homeland Security, Science & Technology Directorate, Homeland Security Enterprise and First Responder Group

Department of Homeland Security, Science & Technology Directorate, First Responder Technology Program

Department of Homeland Security, Science & Technology Directorate, Interagency & First Responder Programs

Department of Homeland Security, Science & Technology Directorate, Interoperability Device Standards and Technology

Department of Homeland Security, Science & Technology Directorate, Test & Evaluation and Standards Division

Department of Justice, Office of Justice Programs, National Institute of Justice

Department of Justice, Office of Justice Programs, Bureau of Justice Assistance

Department of Justice, Savannah River National Laboratory

Department of Labor, Occupational Safety and Health Administration

DeWitt (NY) Fire District

District of Columbia Fire and Emergency Medical Services

Environmental Protection Agency, Emergency Response

Fairfax County (VA) SWAT

Fairfax County (VA) Fire and Rescue Department

Fairfax County (VA) Police Department

Federal Bureau of Investigation, Hazardous Materials Response Unit

Georgetown University, Edmund A. Walsh School of Foreign Service

George Washington University, Department of Emergency Medicine, Emergency Health Services Program

George Washington University, Office of Homeland Security

Grand Rapids (MI) Fire Department

Hamilton County (OH) Emergency Management Agency

Homeland Security Management Institute at Long Island University

Homeland Security Studies and Analysis Institute

Huntingdon County (PA) Emergency Management Agency

International Association of Chiefs of Police

International Association of Emergency Medical Services Chiefs

International Association of Emergency Managers

International Association of Fire Fighters

International Personnel Protection, Inc.

Intertek

Kansas University

Kent (WA) Fire Department, Kent Fire Training Academy

Lake County (FL) Sheriff's Office

Lawrence Livermore National Laboratory

Los Angeles County (CA) Fire Department

Los Angeles County (CA) Sheriff's Department

Los Angeles (CA) Police Department

Louisiana Poison Center

Louisville (KY) Metro Police Department

Maryland State Police, Emergency Operations Section, Special Operations Command

Massachusetts Department of Fire Services

Massachusetts Department of Public Health, Bioterrorism Response Laboratory

Merrionette Park (IL) Fire Department

Miami Township (OH) Division of Fire and EMS

Miami-Dade (FL) County Police Department

Montgomery County (MD) Fire and Rescue Service

Mt. Erie (WA) Fire Department

National Bomb Squad Commanders Advisory Board

National Fire Protection Association

National Guard Bureau, United States Army CBRN School

National Institutes of Health, National Institute of Environmental Health Services

National Institute of Occupational Safety and Health, Emergency Preparedness and Response Office

National Institute of Occupational Safety and Health, National Personal Protective Technology Laboratory

National Institute of Standards and Technology, Law Enforcement Standards Office

National Tactical Officers Association

Naval Postgraduate School, Center for Homeland Defense and Security

Naval Surface Warfare Center, Dahlgren Division, Mission Assurance Division

New Castle County (DE) Department of Public Safety, Emergency Medical Services Division

New York City (NY) Fire Department

New York City (NY) Fire Department, Office of Medical Affairs

New York City (NY) Office of Emergency Management

New York State Department of Public Health, Wadsworth Center

New York State Police

Northern Virginia Emergency Response System

Ohio Funeral Directors Association, Mortuary Response Team

Ohio Task Force 1, FEMA Urban Search & Rescue

Orange County (CA) Fire Authority and Health Care Agency EMS

Orange County (CA) Sheriff's Department

Orlando (FL) Fire Department

Orlando (FL) Police Department

Park County (CO) Sheriff's Office

Phoenix (AZ) Fire Department

Placer County (CA) Health and Human Services

Proconsul, Inc.

Responder Knowledge Base (RKB)

Rhode Island Department of Health Laboratory

Riverside County (CA) Sheriff Hazardous Device Team

SRA Touchstone Consulting Group

Sacramento County (CA) Sheriff's Department

Safety Equipment Institute

Salem (NY) Volunteer Fire Department

Sarasota County (FL) Fire Department

Sarasota County (FL) Sheriff's Office

Seattle (WA) Fire Department

Seattle (WA) Police Department

Seattle (WA) Public Utilities

Seminole County (FL) Sheriff's Office

Snohomish County (WA) Fire District #7

South Carolina Law Enforcement Division

South Central (PA) Regional Task Force

Stephenson Disaster Management Institute

Technical Support Working Group, Combating Terrorism Technical Support Office

Texas Engineering Extension Service—Texas Task Force 1

Underwriters Laboratories

United States Army 44th Civil Support Team

United States Army Chemical Materials Agency

United States Army Civil Support Team

United States Army Maneuver Support Center of Excellence (MSCoE) Joint, Interagency, Intergovernmental, Multi-National, Industry, and Academia (JIIM-IA)

United States Army Natick Soldier Center RDEC

United States Army Institute of Public Health

United States Army Research Laboratory

United States Capitol Police

United States Coast Guard, National Strike Force

United States Department of Agriculture

United States Environmental Protection Agency

United States Fire Administration, National Fire Academy

United States Forest Service, National Interagency Incident Communications Division

United States Marine Corps, Chemical Biological Incident Response Force

United States Marshals Service

United States Navy, Emergency Preparedness Directorate, Bureau of Navy Medicine and Surgery

United States Northern Command, North America Aerospace Defense Command

United States Public Health Service

University of Connecticut

University of Montana, College of Health Professions and Bio-Medical Science

University of Toledo, College of Medicine, Department of Public Health and Preventive Medicine

Virginia Department of Emergency Management

Walker County (GA) Emergency Services

Walter Reed National Military Medical Center Bethesda, Health Physics & Radiation Safety Service

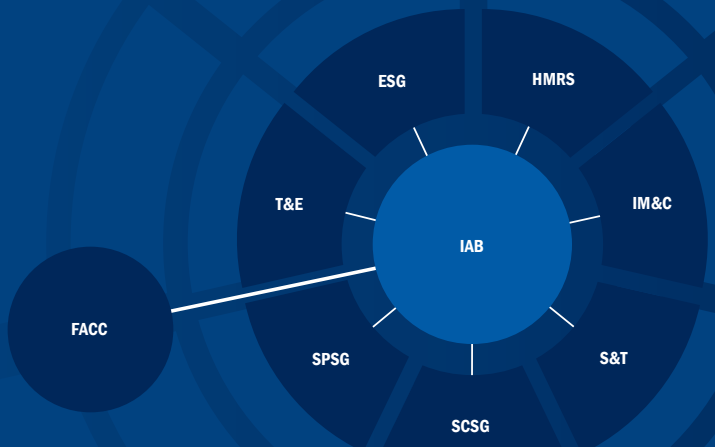
Washington Metro Transit Police Department

West County (MO) EMS & Fire Protection District

White House, Office of Science and Technology Policy

Yale Emergency Medicine

Yale University, Yale New Haven Health System



The InterAgency Board

The mission of the InterAgency Board is to strengthen the nation's ability to prepare for and respond safely and effectively to emergencies, disasters, and CBRNE incidents.

OUT OF MANY, ONE: Background, Mission, Vision, Values, and Focus

Adopted by the IAB October 2008

This section articulates the background, mission, vision, values, and focus of the InterAgency Board (IAB). It serves as the basis for the IAB's ongoing strategic planning effort. This information is not static, but will evolve as the IAB's work progresses.

Background

The IAB is a voluntary, collaborative panel of emergency preparedness and response practitioners from a wide array of professional disciplines that represent all levels of government and the voluntary sector. The IAB provides a structured forum for the exchange of ideas among operational, technical, and support organizations to improve national preparedness and promote interoperability and compatibility among local, state, and federal response communities. Based on direct field experience, IAB members advocate for and assist the development and implementation of performance criteria, standards, test protocols, and technical, operating, and training requirements for all-hazards incident response equipment with a special emphasis on Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) issues. The IAB also informs broader emergency preparedness and response policy, doctrine, and practice.

Mission

The mission of the IAB is to strengthen the Nation's ability to prepare for and respond safely and effectively to emergencies, disasters, and CBRNE incidents.

The IAB will accomplish this by:

- Emphasizing interoperability, compatibility, and standardization
- Fostering a multidisciplinary perspective
- Facilitating effective intergovernmental partnerships
- Being a credible voice of the responder community
- Being proactive
- Sharing field operational experiences and practices

Vision

The IAB seeks to be the source for emergency responder insight about any policy, doctrine, practice, standard, research and development program, or training and exercise program that affects interoperability, compatibility, and standardization. The IAB will continue to be a trusted, authoritative, representative, and valid repository of field perspective, operational knowledge, and technical expertise.

About The InterAgency Board

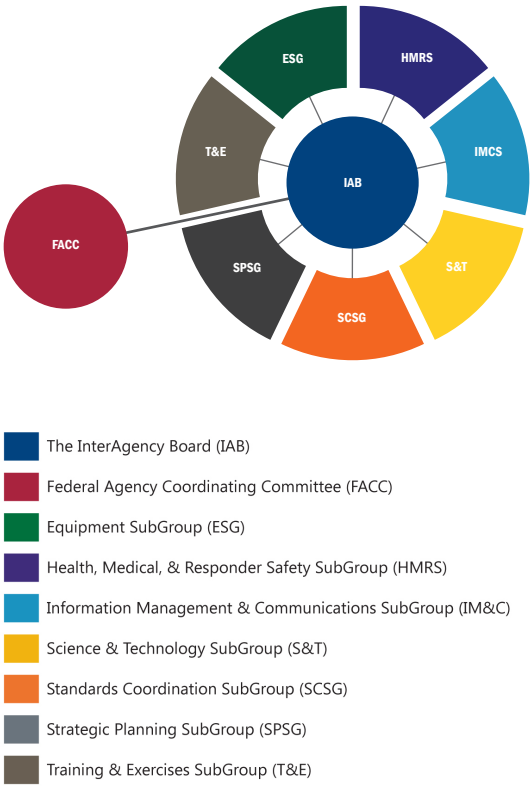
Values

The IAB purposely comprises a very diverse body of emergency preparedness and response experts, but is unified by a set of core values that frame its goals, shape its decisions, and guide its actions. These values are:

Ground truth. The IAB is a conduit for direct feedback from responders currently practicing in the field on the front lines of emergency response at all levels of government. The IAB offers an honest, unfiltered, unvarnished view of what responders really do, what they really need, and how federal programs and policies affect them now and will affect them in the future.

Independence. The IAB is an honest broker that aggregates the diverse views of responders. The Board, as a whole, is unencumbered by particular professional or agency agendas. The IAB's goals and objectives are set by consensus of its representative membership of the federal, state, and local emergency response communities. It is, therefore, broad in scope and able to voice the perspectives, views, and concerns of responders nationwide without undue influence from the particular interests of any one discipline, organization, or professional association.

Credibility. The IAB convenes established experts knowledgeable about emergency preparedness and response issues—particularly related to equipment—including requirements, standards, performance, operability, interoperability, and compatibility. This expertise assists, guides, and informs agencies, associations, and manufacturers seeking to design, develop, test, evaluate, and deploy existing and new equipment and capabilities. It helps organizations that sponsor research and development programs formulate grant guidance and evaluate program effectiveness. It helps response agencies make decisions about equipment by providing insight about performance and operational, training, and maintenance requirements.



IAB Organizational Chart

Diversity. The IAB is broadly representative of professional response disciplines, sectors, and levels of government, explicitly shunning parochialism in favor of a true multidisciplinary perspective. The IAB is also wide-ranging in the size, type, and geographic location of organizations represented. This enables the diverse array of public safety professionals to come together as a unified and integrated emergency preparedness and response system.

Collaboration. The IAB is a forum that brings diverse agencies and perspectives together. This enhances cooperation, reduces redundancy, resolves conflicts, and, thus, improves the safety, efficiency, and effectiveness of programs. The IAB is a nexus of disciplines and agencies that allows people to talk to each other and work together to solve problems. This culture of professional openness allows the group to develop viable solutions to equipment standardization and training challenges because all relevant players interact freely, honestly, and without fear of retribution.

Proactive orientation. The IAB identifies local, national, and global trends that affect the response community in order to understand the implications of policy and operational choices. This allows the IAB to help the field adapt early to emerging trends, address looming threats, and take advantage of promising opportunities.

Focus

In support of our mission and values, the IAB will pursue the following areas of emphasis:

1. Equipment

a. Continue to update and sustain the Standardized Equipment List (SEL).
b. Support the Responder Knowledge Base (RKB).
c. Identify gaps in capability.
d. Participate in requirements development processes.
e. Prioritize equipment needs.

2. Health, Medical, and Responder Safety

a. Identify gaps and needs for providing safe and effective care.
b. Evaluate the efficacy and appropriateness of existing and future health and safety related products, processes, practices, and information.
c. Serve on working groups that address health and safety.
d. Develop recommendations about how to identify, control, reduce, or eliminate responder safety hazards, prevent injuries, and reduce mortality.
e. Develop a medical concept of operations for planning, managing, and recovering from incidents that cause physical and/or physiological harm.
f. Analyze threat scenarios and make recommendations about how to protect the health and safety of responders and victims.

3. Information Management and Communications

a. Identify needs and gaps in the Responder Information Environment.
b. Identify gaps in available information technology needed to support responders.
c. Participate in efforts to identify gaps, and improve systems and strategies for information management, including the gathering/collection, administration, sharing analysis/visualization, and protection of information.
d. Identify gaps and challenges related to information collection, classification, storage, security, and dissemination that effect incident prevention and emergency preparedness response.
e. Educate emergency responders about the National Strategy for Information Sharing and how to collect, receive, and share essential elements of information.
f. Identify gaps and provide decision support material for interoperable communications technologies, policies, and strategies.

4. Science and Technology

a. Identify innovative government- and industry-based technologies applicable for use by emergency responders.
b. Promote the transition of technologies for use by emergency responders.
c. Collaborate on requirements development processes.
d. Promote research, development, testing, and evaluation (RDT&E) agendas to meet emergency responder needs.

5. Standards Coordination

a. Identify and document applicable standards, from internal (IAB) and external sources.
b. Recommend potential solutions in terms of standards, equipment development, training, practices, or policies.
c. Prioritize standards requirements and related interoperability and compatibility issues.
d. Identify existing standards, performance requirements, and test methods that could streamline the development of new standards or be modified to meet the needs of responders.
e. Identify potential conflicting requirements and facilitate reconciliation of these issues.
f. Participate in standards development and revision processes.
g. Inform emergency responders about appropriate application of standards.
h. Draft and disseminate studies, white papers, and other reports on standards, interoperability issues, and compatibility issues.
i. Recommend and promote the adoption and use of standards.
j. Identify and inform responders about relevant standards activities, comment periods, and programs that are addressing interoperability and compatibility issues.

6. Strategic Planning

a. Inform policymakers about operational requirements and environments.
b. Provide insight about the field context, operations, and tactics of emergency response.
c. Participate in forums working to develop or improve policy, doctrine, and practice.
d. Help responders understand emerging policy, doctrine, and practice.
e. Identify, share, and validate smart practices and lessons learned.
f. Assist with vetting, testing, evaluating, and launching emergency response initiatives.

7. Training and Exercises

a. Identify performance improvement needs related to Emergency Support Functions.
b. Provide subject matter expertise to support the development of training and exercise programs.
c. Provide end-user guidance and operational lessons learned to support training and exercise program development and improvements.
d. Facilitate the implementation of training and exercise programs and standards that support individual competencies and organizational capabilities.
e. Advocate for standardized national guidance for responder and equipment training and exercises.

The InterAgency Board Leadership Team

The IAB Chair and Deputy Chairs are selected from the ranks of the state and local membership. These representatives administer, manage, and facilitate the actions of the IAB.

State & Local Chair

David McBath, New York (NY) State Police

State & Local Deputy Chairs

John Delaney, Arlington (VA) Fire Department

Jay Hagen, Seattle (WA) Fire Department

Federal Agency Coordinating Committee

The FACC is a coordination group that provides the interface between the IAB and the sponsoring Federal Government agencies. This committee brings together the interests and initiatives of the federal community with the first responder community.

Federal Chair

Kathleen Higgins, Department of Homeland Security, Science & Technology Directorate, Support to the Homeland Security Enterprise and First Responders Group

Equipment SubGroup

The ESG addresses standardization and interoperability issues relating directly to protection, operational, and support equipment for emergency responders. This SubGroup's responsibilities include the maintenance and publication of the IAB SEL, the development of equipment-driven priorities for research and development and standards development, and the coordination with other SubGroups to ensure proper use of equipment in various mission environments.

State & Local Co-Chair

Douglas Wolfe, Sarasota County (FL) Fire Department

Federal Co-Chair

William Haskell, National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory

Health, Medical, & Responder Safety SubGroup

The HMRS SubGroup provides safety guidance to the IAB on health, medical, and responder equipment, supplies, pharmaceuticals, operations, and training needed to respond to CBRNE events. This SubGroup reviews and makes recommendations to the IAB on needs for new or modified equipment performance and operational standards.

State & Local Co-Chair

Jeff Race, City of New York (NY) Fire Department

Federal Co-Chair

Stephan Graham, U.S. Army Public Health Command, Industrial Hygiene Field Services Program

Information Management & Communications SubGroup

The IM&C SubGroup develops and advocates protocols and technologies for effective, timely, accurate, and secure information management and communications capabilities, addressing the full range of incidents at all phases of operations. This SubGroup identifies gaps in the responder information and communication environments and recommends mitigating solutions and standards.

State & Local Co-Chair

Leonard Edling, Chicago (IL) Fire Department

Federal Co-Chair

Michael Tuominen, National Interagency Fire Center, National Interagency Incident Communications Division

The IAB is organized into a Leadership Team, one committee, and seven SubGroups. The Federal Agency Coordinating Committee is chaired by a federal representative and composed of all supporting Federal Government partner representatives. Each SubGroup is co-chaired by a state and local first responder and a federal representative, and staffed with Members and Subject Matter Experts (SMEs) in that SubGroup's area of expertise.

In addition, each SubGroup is responsible for maintaining its subsection of the SEL.

This information reflects the IAB chairmanship for the majority of Fiscal Year 2011. Elections are conducted during the summer meeting, every May/June. For the current list of IAB Leadership Team and Co-Chairs, please visit the IAB public website at www.iab.gov.

The InterAgency Board Structure

Science & Technology SubGroup

The S&T SubGroup identifies interagency first responder research and development requirements and innovative technologies that address CBRNE detection, individual protection, collective protection, medical support, decontamination, communications systems, information technology, and miscellaneous operational support. This SubGroup is responsible for developing and updating the IAB S&T Requirements Matrix for the SEL, reporting and assessing federal requirement initiatives, and producing the annual IAB priority and demographic survey data.

State & Local Co-Chair

Douglas Carley, Grand Rapids (MI) Fire Department

Federal Co-Chair

Gabe Ramos, Technical Support Working Group

Standards Coordination SubGroup

The SCSG coordinates standards projects within IAB, external organizations, and the first responder community, and works to establish minimum performance standards to which critical equipment can be tested, evaluated, and certified. This SubGroup helps to provide first responders with objective guidance for making informed decisions regarding the purchase and proper use of that equipment in order to instill greater confidence in emerging technologies.

State & Local Co-Chair

Martin Hutchings, Sacramento County (CA) Sheriff's Department

Federal Co-Chair

Philip Mattson, Department of Homeland Security, Science & Technology Directorate, Test & Evaluation and Standards Division

Strategic Planning SubGroup

The SPSG identifies, monitors, evaluates, and coordinates IAB feedback on strategic national plans, programs, and policy initiatives that affect the emergency responder community. This SubGroup informs policymakers about emergency responders' operational outcomes, interprets emerging policies to coordinate IAB's position, and maintains a prioritized list of organizations of interest to IAB to develop a strategic engagement plan.

State & Local Co-Chair

Mark Anderson, Bellevue (WA) Fire Department

Federal Co-Chair

Michael Walter, Department of Homeland Security, Office of Health Affairs

Training & Exercises SubGroup

The T&E SubGroup improves responder mission performance by conducting a cross-disciplinary review of—and providing end-user input on—training doctrine, standards, and guidance developed for the first responder community. T&E is responsible for identifying performance improvement needs related to operational, training, and exercise activities, and facilitating the implementation of training and exercise programs that support individual competencies and organizational capabilities.

State & Local Co-Chair

Gregory Noll, South Central (PA) Regional Task Force

Federal Co-Chair

Wayne Yoder, Department of Homeland Security, Federal Emergency Management Agency, U.S. Fire Administration, National Fire Academy

IAB Chair and Deputy Chair Biographies

DAVID MCBATH

New York (NY) State Police

Staff Inspector David McBath is a 26 year veteran in law enforcement, currently assigned to the Field Command (operations) section at New York State Police Headquarters in Albany, New York. He assists in the statewide management of State Police uniform force and special operations activities. He is nationally certified as an emergency manager (CEM), and has degrees in criminal justice and fire protection technology. He has served as the IAB chair since May 2010, and previously served as Deputy Chair and a member of the Equipment Sub Group.

He also has served on the National Institute of Justice, Special Technical Committee for Law Enforcement CBRNE PPE Standards Development. He is a member of the International Association of Chiefs of Police (IACP), Homeland Security Committee, and has represented IACP as a SME on multiple federal agency first responder working groups.

JOHN DELANEY

Arlington (VA) Fire Department

Captain II John Delaney, Jr. has been a member of the Arlington (VA) County Fire Department (ACFD) for 14 years. Currently, his primary responsibility is team leader of the National Medical Response Team-National Capital Region (NMRT-NCR). The NMRT-NCR is a federally funded weapons of mass destruction response team comprised of over 150 fire fighters, paramedics, hazardous material specialists, law enforcement officers, doctors, and nurses from within the Washington metropolitan region.

Captain Delaney has participated in several large scale emergencies; including the 1998 Florida Wildfires, 2004 Hurricane Charley, 2001 Anthrax Attack at the Senate Office Buildings, and the September 11, 2001 attack on the Pentagon. His education and training in weapons of mass destruction, hazardous materials, and technical rescue response has allowed for contribution on numerous initiatives and committees focusing on a variety of first responder and homeland security matters. He is a graduate of James Madison University and in 2008 received his Masters Degree in Homeland Security from the Naval Postgraduate School.

JAY HAGEN

Seattle (WA) Fire Department

Chief Jay Hagen is assigned to the Operations Division of the Seattle, Washington Fire Department. During his twenty five year career as a first responder, he has been assigned to the Operations, Fire Prevention, Training, and Administrative divisions. A 2002 graduate of the University of Montana, he has studied organizational communications and business management. In March 2006, he earned a Master of Arts degree in Homeland Security and Defense from the Naval Postgraduate School in Monterey, California, where he represented his classmates as president.

He is a former Senior Research Fellow at the Department of Homeland Security, Office of Grants and Training, where he worked in the technical assistance division. He returned to the Seattle Fire Department in August 2007 where he focused on homeland security and emergency preparedness projects. He was promoted to Battalion Chief in 2010 and is currently serving in an emergency response role in the Operations Division. He serves as a Deputy Chair of the IAB and as the Chair of the Infrastructure Security Subcommittee of the Area Maritime Security Committee for U.S.C.G. Sector Seattle.

Letter from the Chair

At the May 2010 IAB meeting in Boston, the membership placed their trust in me to serve as the Chair of this organization for the next 2 years. For the first time in IAB history, the incoming Chair is a law enforcement officer, in a position previously held exclusively by fire professionals. I would like to thank the membership for their confidence in my ability to lead the organization, and also thank past-chairs Chief A.D. Vickery, Seattle Fire Department, and Chief Robert Ingram, FDNY, for their encouragement, support, and ongoing commitment to the Chair, and the IAB. They have made my transition to the Chair's role a smooth one, and are always available when I reach out to them for advice or assistance.

My two Deputy Chairs, Jay Hagen, Seattle Fire Department, and John Delaney, Arlington County Fire Department, have been outstanding partners on the leadership team. All of the SubGroup Co-Chairs and the FACC Chair, who collectively comprise the IAB Executive Committee, have also been very supportive. I am also very fortunate to have the IAB Program Staff available and am grateful for their continued patience, support, and expertise in handling the day-to-day workload of IAB activities, as well as planning and organizing our meetings. Most importantly, I am grateful for the dedication and commitment of the Members and subject matter experts who make up the IAB.

In my first year as Chair, we have implemented the processes described in the new bylaws adopted in 2009, and have successfully completed our first annual work plan cycle. As we start 2012, we are moving into our second work plan cycle. At the beginning of each of these cycles, open dialogue at the Executive Committee level takes place to compare FACC agency priorities with IAB SubGroup priorities, and through consensus, allows creation of an overall IAB work agenda and timeline for projects to be addressed during the work of the SubGroups. In the past year, just a few of our work plan accomplishments have been:

- Continued coordination by the Equipment SubGroup with FEMA and the Responder Knowledge Base (RKB) and Authorized Equipment List (AEL) to insure synchronization of the AEL with the IAB Standardized Equipment List (SEL)
- Completion of a draft work plan project document by the Training & Exercise SubGroup on a training and exercise modeling, simulation, and simulators (MS&S) selection matrix
- Completion of a white paper by the Health, Medical, and Responder Safety SubGroup on the need for one national EMS administrative body
- Completion of an IAB position paper by the Information Management and Communication SubGroup to support the efforts of the Public Safety Alliance (http://www.psafirst.org/) to secure the allocation of the 700 MHz "D" Block spectrum for public safety use
- IAB responder member input to development and rollout of the BioWatch program
- IAB responder feedback to NIOSH and NPPTL on their model PPE and Respiratory Protection Program for the first responder community

In addition, as part of our Strategic Planning SubGroup efforts over the past year, we continue to be very involved with the Strategic Foresight Initiative work at FEMA, in an attempt to assist them in understanding who or what could shape the future of emergency and disaster management in the United States, and assist them in developing an emergency management community prepared for whatever challenges the future may hold. The Strategic Planning SubGroup also has engaged numerous federal agencies to offer responder feedback and positions on issues currently under discussion nationally that may affect the first responder community now and into the future.

Over the past year, we also have strengthened our membership "bench" in the Standards Coordination SubGroup,

and, by leveraging technology and the IAB SharePoint site, have built out an electronic IAB "Standards Adoption Database" and implemented an electronic "Standards Adoption Process."

As part of our external relations and communications efforts in 2011, IAB members Chief Vickery, Jamie Turner from the Delaware Emergency Management Agency, and I provided testimony at the Department of Defense Congressional Panel tasked to examine the issue of military support to civil authorities. The IAB also re-engaged with the National Institute of Justice (NIJ) at the Department of Justice, who this year returned to the IAB as a FACC member agency. We have repeatedly engaged this year in dialogue with National Security Staff at the White House, numerous federal agencies not currently formally engaged with the IAB, and with the Global Justice Information Sharing Initiative Advisory Committee.

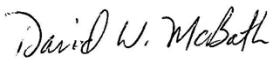
Additionally, efforts on international external outreach also were conducted during the past year. After attending an IAB meeting as guests of the Chair on multiple occasions in 2010, personnel from the Canadian Police Research Center invited the IAB to the Canadian Emergency Management College to brief their first responder stakeholders on the work of the IAB. This stakeholder group in Canada, similar in its composition to the IAB, is exploring the creation of the "Canadian CBRNE Recommended Equipment List (REL)." Former IAB Chair and FDNY Chief, Bob Ingram, traveled to Canada to brief the group in late 2010, and since that time, the IAB has formalized a relationship with the Canadian first responder community and provided technical assistance and feedback to the Canadian Police Research Center, who has taken the lead on the Canadian CBRNE REL project currently under development. As this relationship with our responder colleagues to the north has solidified, the new REL is being modeled very closely to the IAB SEL. This assistance by the IAB, led by the Equipment SubGroup, will be an ongoing effort in the next work plan cycle to help our northern neighbors make their REL become a reality.

The leadership team also has initiated a dialogue with first responders in the United Kingdom related to equipment standardization and interoperability, and in the coming year we are hoping to continue and expand that dialogue.

In the past year under the new bylaws, our mission space has expanded to multiple federal agencies and to multiple program perspectives to ensure responder needs are being met and considered. But while it is easy to achieve lofty goals when times are good, the ultimate challenge is maintaining the ground you've gained and continuing to achieve new heights when times are not so good. We are currently solely dependant on federal funding support to carry out our important work, and have been closely tracking the declining federal fiscal situation over this past year. In the coming year, we know our federal partners will be facing continued fiscal challenges unprecedented since the Great Depression. To ensure that the IAB is being a good steward of the limited federal support it receives, at our November 2011 meeting I established an ad-hoc IAB committee and asked a longtime federal IAB participant, Kathleen Higgins from DHS S&T, to act as the chair. I have asked this committee to examine the current work and business practices of the IAB and make recommendations on areas where the committee feels the IAB could become more efficient in the use of the limited financial support we currently receive. I also have asked them to identify and discuss other options of support that we may have not yet considered but may be worthy of exploration. This committee's report is due back in early 2012, and these recommendations will be incorporated into the Leadership team's work plan for the coming year.

While the IAB continues to diversify its work and membership composition, we have not lost sight that we are still all one team, working with a myriad of partners to ensure that the concerns of the first responder community across this great country are being heard. Out of many, one.

Sincerely,



David McBath, IAB Chair

Photo Courtesy of LT Darin Dowe

IAB FY 2011 Highlights

(October 2010 – September 2011)

- Successfully completed the first full work plan cycle of 2010 strategic reorganization to expand focus and include training, policy, and other first responder community needs. The newly created Charter and Bylaws were used as guidelines to manage the IAB organization.
- Published the IAB Annual Report, the Research & Development Priority List, and the SEL, a voluntary guideline of equipment recommended by the IAB for preparing and responding to CBRNE and all-hazards events, linked to the DHS Approved Equipment List (AEL).
- Established valuable partnerships by meeting with White House National Security Staff representatives and collaborating with the Canadian Police Research Centre for the creation of the Canadian REL.
- Coordinated with NIOSH NPPTL in establishing an Expert Responder Advisory Group to provide input and guidance to CBRN Respirator Guidance Documents, including fast facts, fact sheets, booklets, SCBA training documents, and a CBRN handbook.
- Produced several position papers, white papers, and briefs on pertinent first responder issues:
  - D Block Public Safety Spectrum Position Paper (November 2010)
  - Modeling, Simulations, and Simulators (MS&S) Matrix White Paper (August 2011)
  - National EMS Administrative Body White Paper (September 2011)
  - Project First Responder Brief (September 2011)
- Developed the mechanisms for soliciting Standards requirements and revised the process for adopting Standards.
- Provided feedback to DHS Science and Technology Infrastructure Protection and Disaster Management Division on Exoskeleton Systems (May 2011), The National Fire Protection Association and the NIMS SAR Working Group on FEMA/NIMS training standard (June 2011), and the PP-8.
- Continued participation with the DHS SAFECOM program by engaging in activities such as updating National Emergency Communications Plan, supporting nationally developed Communications Unit Leader (COML) curriculum, contributing to the Virtual USA initiative, and supporting Nationwide Public Safety Broadband efforts.
- Partnered with the 2011 Technologies for Critical Incident Preparedness (TCIP) Conference/ Expo and participated in the 2011 Urban Areas Security Initiative (UASI) Conference by performing outreach through member presentations and booth exhibits.
- Had member participation at various conferences and working groups including, but not limited to: Emergency Response Interoperability Center (ERIC) Technical Advisory Committee, International Wireless Communications Expo, National Alliance of State Animal and Agriculture Emergency Programs Summit, National Bio-Threat Conference, Technical Support Working Group Personal Protective Equipment Conference, and U.S. Department of Justice Information Sharing Initiative Global Advisory Committee *(see IAB Demographics section for more information on IAB participation on work-*

Photo Courtesy of New York State Police

National Strategy for CBRNE Standards

The National Strategy for CBRNE Standards is the product of many efforts from federal, state, and local levels, across a variety of disciplines. Several members of the IAB were asked take part in this strategic effort, and contributed to the development of the Strategy.

In pursuit of the President's goal of national preparedness, it is essential that the Nation has reliable chemical, biological, radiological, nuclear, and explosives (CBRNE) countermeasures equipment that can be used with confidence for the protection of life, health, property, and commerce. The Office of Science and Technology Policy (OSTP), in collaboration with the Departments of Homeland Security and Commerce, has released the National Strategy for CBRNE Standards, which describes the federal vision and goals for the coordination, prioritization, establishment, and implementation of CBRNE equipment standards by 2020.

This Strategy—created by the Cabinet-level National Science and Technology Council, which is the principal means within the Executive Branch for coordinating interagency science and technology policies—represents the federal consensus regarding the development of standards for CBRNE equipment used by federal, state, local, and tribal responders for CBRNE detection, protection, and decontamination. The Strategy is the result of a process that included the identification of current research efforts and practices with respect to performance specifications and test methods, as well as standards-development needs of all relevant federal entities.

The Strategy concludes that achievement of the following goals will be key to ensuring technical performance and interoperability of CBRNE technology, appropriate equipment deployment, and effective user training:

- Establish an interagency group for CBRNE standards to promote the coordination of such standards among federal, state, local, and tribal communities
- Coordinate and facilitate the development and adoption of CBRNE equipment performance standards
- Coordinate and facilitate the development and adoption of CBRNE equipment interoperability standards
- Promote enduring CBRNE standard operating procedures
- Establish voluntary CBRNE training and certification standards and promote policies that foster their adoption
- Establish a comprehensive CBRNE equipment testing and evaluation (T&E) infrastructure and capability to support conformity assessment standards

The first of these goals was achieved on April 15, 2011, with the establishment of the Subcommittee on CBRNE Standards under the National Science and Technology Council's Committee on Homeland and National Security. The Subcommittee has already begun to create a plan for achieving the Strategy's remaining goals.

http://www.whitehouse.gov/blog/2011/08/30/path-emergency-reponse-standards

In August 2011, the IAB conducted its annual demographic survey to capture in depth information about FY 2011 participants. The results of the 2011 IAB Demographic Survey are shown in this section.

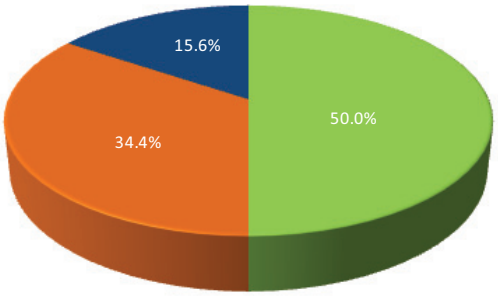
The IAB community comprises approximately 200 dedicated professionals. Roughly two-thirds of IAB participants have first responder backgrounds. State, local, and federal responders from various disciplines, as defined by Homeland Security Presidential Directives, are represented. These disciplines include fire service, law enforcement, medical/health, emergency management, emergency communications, military, and public works. The majority of the first responders have been in service for more than 21 years and work in jurisdictions with populations of 1 million or greater.

The remaining thirty percent of IAB participants provide invaluable knowledge and expertise in a wide array of disciplines. These participants represent government, academic, professional association, and information technology professional roles, among many others.

The graphics below show a detailed breakdown of the IAB community.

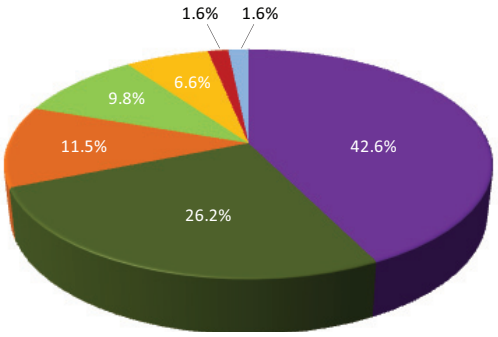
The InterAgency Board Demographics

1. FIRST RESPONDER STATUS



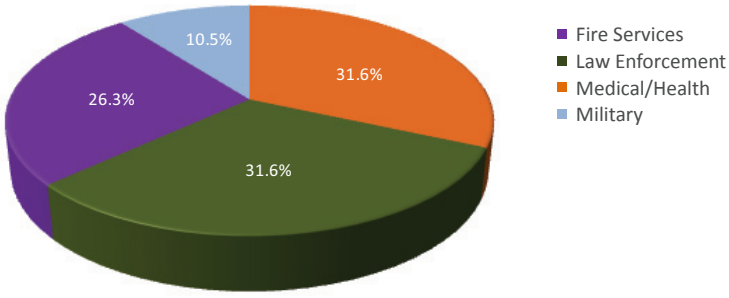
2/3 of IAB participants are or have been first responders.

2. ACTIVE FIRST RESPONDER DISCIPLINE BREAKDOWN

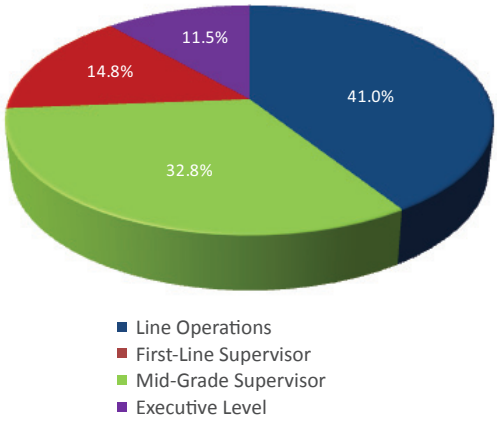


Other: Mass Fatality, Union Representative, Regional Incident Management, Homeland Security

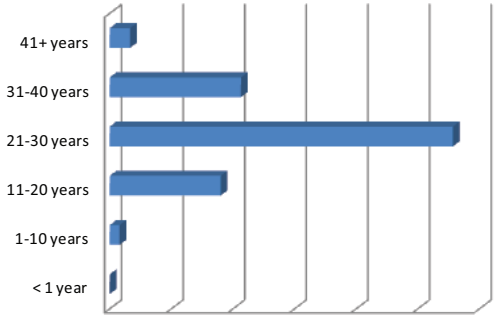
3. RETIRED/DISCONTINUED FIRST RESPONDER DISCIPLINE BREAKDOWN



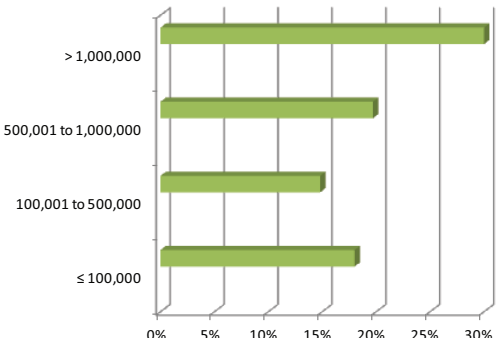
4. ACTIVE FIRST RESPONDER OPERATIONAL LEVEL



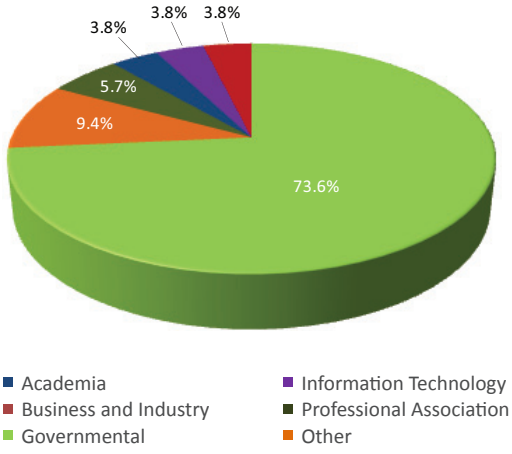
5. ACTIVE FIRST RESPONDER LENGTH OF SERVICE



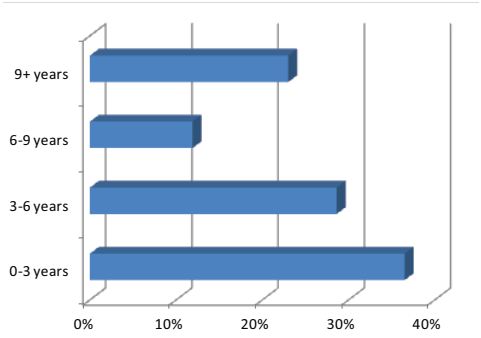
6. ACTIVE FIRST RESPONDER REPRESENTED JURISDICTION SIZE



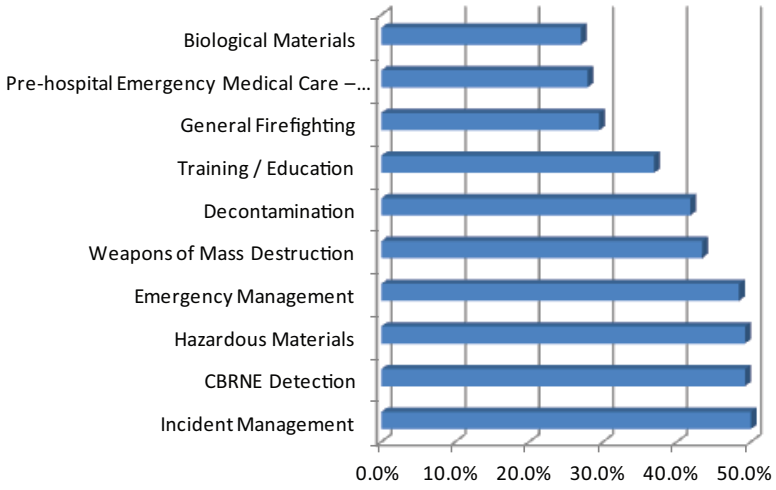
7. NON-FIRST RESPONDER PRIMARY PROFESSIONAL ROLE DISCIPLINE BREAKDOWN



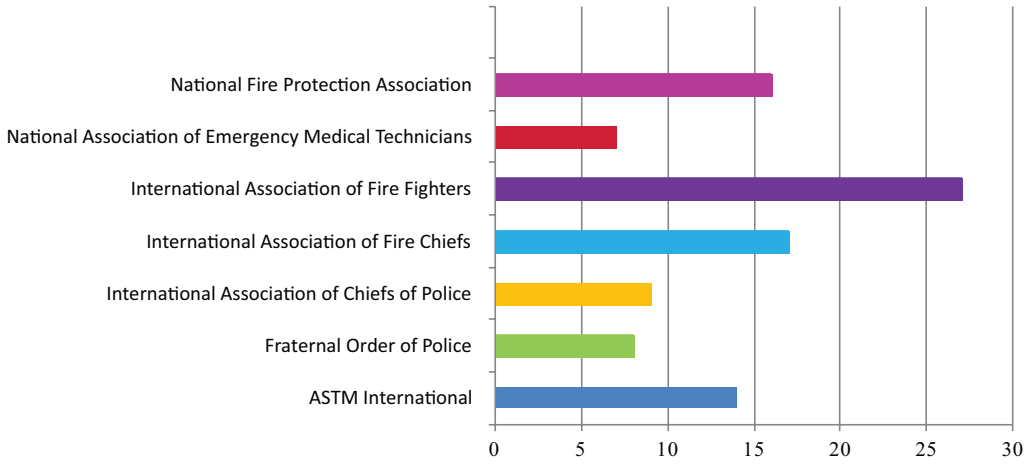
8. LENGTH OF IAB AFFILIATION



9. GENERAL AREAS OF EXPERTISE (ENTIRE IAB COMMUNITY)

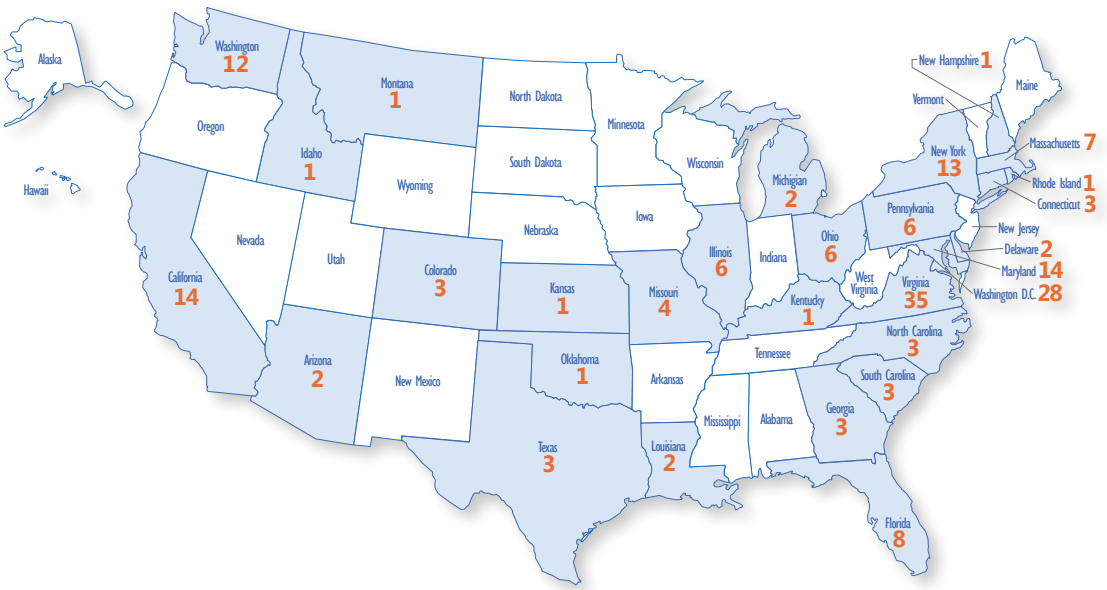


10. TOP PROFESSIONAL ORGANIZATION MEMBERSHIPS



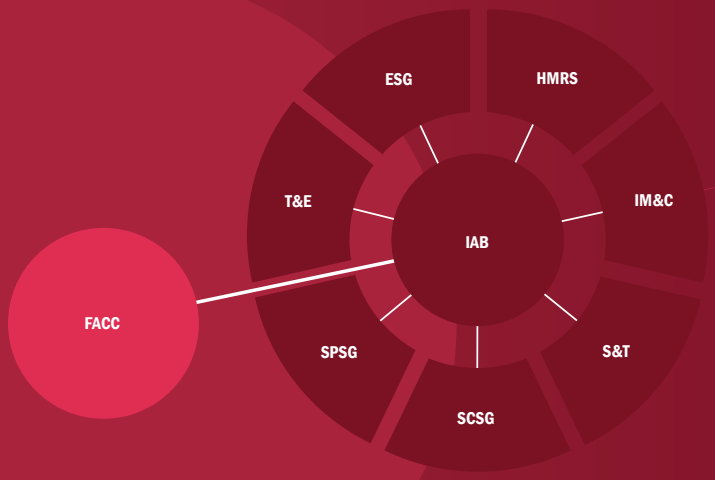
Other – American Chemical Society, American Industrial Hygiene Association, FBI National Academy Associates, International Association of Bomb Technicians and Investigators, International Association of EMS Chiefs, and International Association of Emergency Managers.

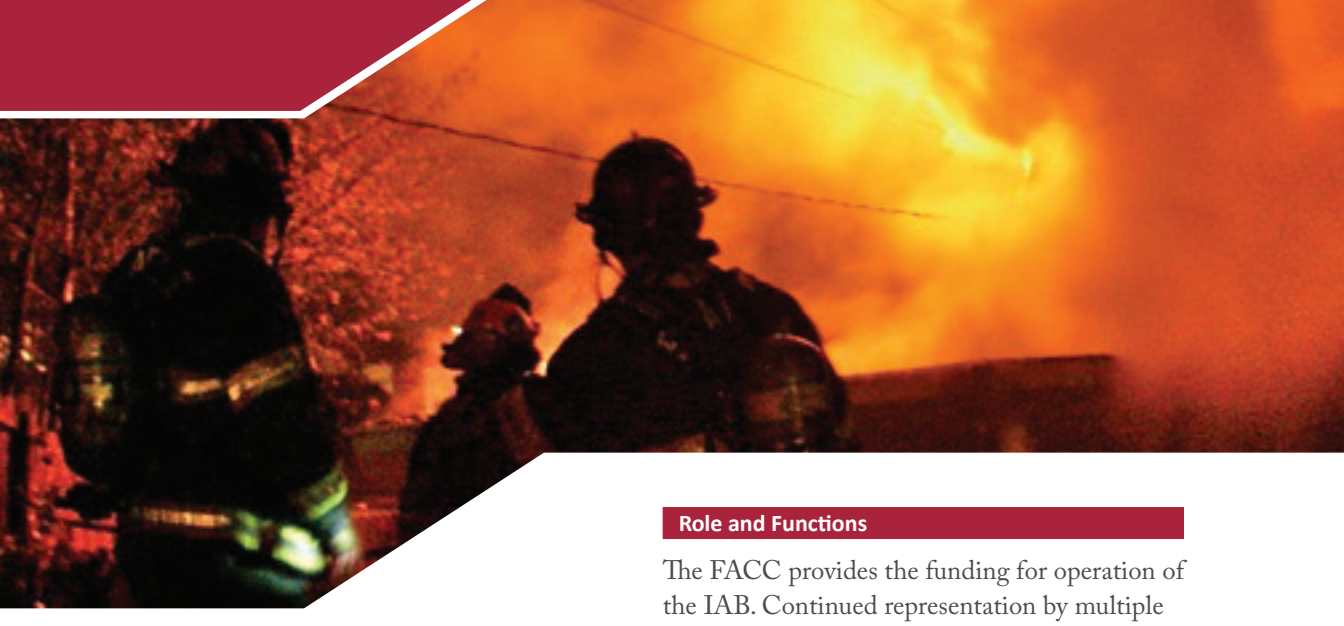
11. FY 2011 IAB PARTICIPATION (200 TOTAL) - State Representation (Members/SMEs)



Federal Agency Coordinating Committee

The Federal Agency Coordinating Committee (FACC) provides the interface between the IAB Chair and Deputy Chairs, and the sponsoring federal government agencies. It coordinates the interests and initiatives of the federal community with the first responder community.





Federal Agency Coordinating Committee (FACC)

The Federal Agency Coordinating Committee (FACC) provides the interface between the IAB Chair and Deputy Chairs, and the sponsoring Federal Government agencies. It coordinates the interests and initiatives of the federal community with the first responder community.

Role and Functions

The FACC provides the funding for operation of the IAB. Continued representation by multiple federal agencies allows the IAB to maintain its independence as an organization as well as to best use the resources and expertise of the federal community. Those agencies and departments that fund the IAB have voting rights as part of the FACC.

Upon unanimous agreement between the federal partners, DHS S&T served as the FACC Chair of the IAB during FY 2011. The FACC Chair is elected on an annual basis.

The FACC leverages ongoing federal RDT&E efforts to meet the responder requirements as identified by the IAB. The IAB Chair, Deputy Chairs, and the FACC work together to prioritize initiatives within the IAB and the federal community. The FACC also coordinates ongoing IAB initiatives within the federal community to ensure task completion and to prevent duplication of efforts. This interagency relationship benefits both the IAB and the federal community by improving protection and response.

The FACC reviews and approves the annual operating budget of the IAB and maintains a support staff to facilitate operations. The FACC meets with the IAB Chair and Deputy Chairs on a regular basis to review SubGroup recommendations and action items.

CHAIR

KATHLEEN HIGGINS
Department of Homeland Security, Science and Technology Directorate, Support to the Homeland Security Enterprise and First Responders Group

Review of FY 2011 Workplan

A critical component of the IAB strategic planning process is to set the agenda for the upcoming fiscal year. The final product of this process, referred to as the work plan, represents a formal approach to develop, plan, document, and prioritize a set of projects that meet the needs and mission of the IAB. The FACC is integral to this process. Each FACC sponsor submits a list of priorities that are vetted amongst all FACC sponsors and aligned with the SubGroup priorities, as appropriate.

For FY 2011, 27 FACC priorities were submitted by 8 member organizations of the FACC, and each were aligned with at least 1 SubGroup priority. Many of the priorities received substantial support and have moved forward as planned. The remaining federal priorities that were not completed have been carried over to the FY 2012 work plan. Reasons for priority carry-over may include some or all of the following: long-term timelines, limitations due to time and/or resources, and changes in political priorities over the year. In addition, in an effort to streamline and make more efficient use of SubGroup time and expertise, the number of priorities for 2012 was reduced to a maximum of two per member organization. These will be combined with priorities that are submitted by State and Local First Response members and prioritized during the Executive Committee meeting in September 2011.

Overall, the FACC was pleased with the support received from the SubGroups and the work accomplished to date. They are encouraged by the work plan schedule and progress and look forward to continuing this cycle during FY 2012.

Federal Government Agencies

Department of Defense, Chemical and Biological Defense Program (CBDP)

The Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) is responsible for the acquisition and advanced development of Chemical and Biological defense systems and materiel. The Special Assistant to the Secretary of Defense (Chemical and Biological Defense) [DATSD(CBD)] assists in the oversight of this program. The CBDP is a key part of a comprehensive national strategy to counter the threat of chemical and biological (CB) weapons as outlined in *The National Strategy to Combat Weapons of Mass Destruction (WMD)*, December 2006.

CB defense capabilities must support the diverse requirements of military operations supporting national security as well as homeland security missions. The CBDP funds research to exploit leading-edge technologies to ensure that U.S. forces are equipped with state-of-the-art capabilities to defend against CB threats.

Through the Joint Project Managers and various programs within the JPEO-CBD, the CBDP has significantly strengthened protection of the DOD installations against chemical, biological, radiological, and nuclear (CBRN) threats. These programs are diverse, and many include providing equipment and training to the DOD

personnel who respond to CBRN events alongside civilian emergency responders.

As one of the founding organizations of the IAB, the DOD continues to support all facets and areas of the IAB. DOD personnel serve on the FACC, participate in the development of the overall IAB strategy, and attend IAB SubGroup and Committee sessions.

Department of Homeland Security, Federal Emergency Management Agency (FEMA)

The 2006 Post-Katrina Emergency Management Reform Act (PKEMRA) mandated the creation of the single directorate to unify FEMA's preparedness, mitigation, response, and recovery missions. The PNP includes the National Preparedness Directorate (NPD), Grant Programs Directorate (GPD), National Continuity Programs, and the Office of the National Capital Region.

The NPD oversees the coordination and development of the capabilities and tools necessary to prepare for terrorist incidents and natural disasters. The NPD provides strategy, policy, and planning guidance to build prevention, protection, response, and recovery capabilities among all levels of government throughout the Nation. NPD programs leverage training courses, exercises, and technical assistance to ensure homeland security capabilities are standardized and incorporated within a common framework. As part of the FEMA, NPD closely coordinates with other FEMA offices, directorates, agencies, and departments to produce a unified approach to emergency management. NPD works with the IAB to keep the Responder Knowledge Base up to date.

The FEMA GPD manages federal assistance to measurably improve capability and reduce the risks the Nation faces in times of man-made and natural disasters. The GPD works with the IAB to provide regular updates and harmonization of the AEL with the SEL.

Department of Homeland Security, National Programs and Protection Directorate (NPPD), Office of Infrastructure Protection (IP)

The IP is a component within NPPD and leads the coordinated national program to reduce risks to the Nation's Critical Infrastructure posed by acts of terrorism, and to strengthen national preparedness, timely response, and rapid recovery in the event of an attack, natural disaster, or other emergency.

The Assistant Secretary to the IP serves as the Sector-Specific Agency (SSA), leading the protection and resiliency efforts for the Emergency Services Sector (ESS), as one of the Nation's 18 Critical Infrastructure Sectors. The ESS SSA is responsible for implementing the National Infrastructure Protection Plan (NIPP) sector partnership model and risk management framework.

Encompassing a wide range of emergency response functions, the primary mission of the ESS is to save lives, protect property and the environment, assist communities impacted by disasters, and aid recovery from emergencies. These functions, the majority of which are per-

formed at the state, local, tribal, and territorial level, are made possible through the IAB, which serves a vital role by providing a direct link to a very diverse body of emergency preparedness and response experts.

Department of Homeland Security, Office of Health Affairs (OHA), BioWatch

DHS OHA serves as the Department of Homeland Security's principal authority for all medical and health matters. OHA provides health, medical, and scientific expertise to support the DHS mission of preparing for, responding to, and recovering from all threats.

OHA serves as the principal advisor to the Secretary and the FEMA Administrator on medical and public health issues. OHA leads the Department's workforce health protection and medical oversight activities, leads and coordinates the Department's biological and chemical defense activities, and provides medical and scientific expertise to support DHS' preparedness and response efforts.

The BioWatch Program enables DHS to detect biological attacks by managing an early warning system to rapidly detect dangerous pathogens in the air. This program deploys detection devices in over thirty major metropolitan areas throughout the Nation. The BioWatch Program provides public health experts with a warning of a biological agent release before exposed individuals become clinically symptomatic ("ill"). This "detect-to-treat" approach provides public health officials an opportunity to respond aggressively to eliminate or substantially mitigate the potentially catastrophic impact on the population of a biological agent release.

Membership

MARGARET SOBEY
Department of Defense, Joint Program Executive Office for Chemical and Biological Defense

BERT COURSEY
Department of Homeland Security, Science and Technology Directorate, Test & Evaluation and Standards Office

DONALD GRANT
Department of Homeland Security, Federal Emergency Management Agency, National Preparedness Directorate

ELIZABETH HARMAN
Department of Homeland Security, Federal Emergency Management Agency, Grants Program Directorate

WILLIAM HASKELL
National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory

SEBASTIAN HEATH
Department of Homeland Security, Federal Emergency Management Agency, Grants Program Directorate

PHILIP MATTSON
Department of Homeland Security, Science and Technology Directorate, Test & Evaluation and Standards Office

RAYMON MOLLERS
Department of Homeland Security, Office of Infrastructure Protection

DEBRA STOE
Department of Justice, National Institute of Justice

RICHARD VANDAME
Department of Homeland Security, Federal Emergency Management Agency, National Preparedness Directorate

MICHAEL WALTER
Department of Homeland Security, Office of Health Affairs, BioWatch

Department of Homeland Security, Science and Technology (S&T) Directorate, Test & Evaluation and Standards Office (TES)

The DHS S&T Directorate serves as the primary R&D arm for the Department. The Directorate's mission is to improve homeland security by providing its customers—the operating components of DHS and state, local, tribal, and territorial emergency responders and officials—state-of-the-art technology that helps them accomplish their missions. DHS S&T manages an integrated program of science and technology, from basic research to product transition, guided by a risk-diverse, multitiered invested strategy based primarily on the stated needs of customers balanced with emerging technology opportunities. The Standards Branch within the Test & Evaluation and Standards Office of S&T, is the organization through which DHS adopts standards. It is important to note that the first standards adopted by DHS were those adopted by the IAB. The S&T Standards Branch provides the majority of the funds that support the standards development requirements identified by the IAB.

Department of Homeland Security, S&T Directorate, Support to the Homeland Security Enterprise and First Responders Group

The U.S. Department of Homeland Security S&T Directorate's Support to the Homeland Security Enterprise and First Responders Group, commonly referred to as the First Responders Group (FRG), was established in October 2010 to strengthen the first response community's ability to protect the homeland and respond to disasters. Through the engagement of first responders at every stage, the FRG pursues a clear understanding of needs and requirements, and develops innovative solutions to the most pressing challenges faced during both day-to-day incidents and large-scale emergencies.

In close partnership with the emergency preparedness and response community, FRG identifies, validates, and facilitates the fulfillment of needs through the use of existing and emerging technologies, knowledge products, and standards. Three divisions work together to carry out FRG's overall mission: the Office for Interoperability and Compatibility, the Technology Clearinghouse/R-Tech, and the National Urban Security Technology Laboratory. Core FRG initiatives are aimed at making first responders safer; helping first responders share data and critical information; and enabling first responders to communicate successfully through interoperability and the development of standards.

Department of Justice, National Institute of Justice (NIJ)

The NIJ is the research, development, testing, and evaluation arm of the Department of Justice. NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 1968[1] and the activities of its Office of Science & Technology from Title II of the Homeland Security Act of 2002.

One mission of NIJ is to conduct research to support the development of voluntary performance standards for public safety equipment. NIJ has been developing standards for more than 30 years, has produced over 75 standards, and is best known for its *Ballistic Resistance of Body Armor NIJ Standard 0101.06*.

NIJ's new standards development process is called the Special Technical Committee (STC). Members of an STC include practitioners, scientists, stakeholder organizations, and individuals knowledgeable in testing, standards development, and certification. The final

[1] as amended (42 USC 3721 – 3723).

products of the committee are three related documents: the standard; certification requirements; and a selection and application guide.

Recently published NIJ Standards:

- NIJ Standard-0116.00, CBRN Protective Ensemble Standard for Law Enforcement
- NIJ Standard-0101.06, Ballistic Resistance of Body Armor

Standards currently being developed or revised include:

- Duty Holster
- Bomb Suit
- In-Car Video Systems
- License Plate Readers
- Offender Tracking Systems
- Restraints
- Walk-Through and Hand Held Metal Detectors
- Protective Helmets

NIJ standards are subject to continued research and revision, as appropriate. More information can be found at www.nij.gov/standards.

National Institute for Occupational Safety and Health (NIOSH), National Personal Protective Technology Laboratory (NPPTL)

NIOSH conducts a range of efforts in the areas of research, guidance, information, and service. The NIOSH program portfolio focuses on relevance, quality, and impact, achieved through strong involvement of partners and stakeholders through the entire research continuum (conceiving, planning, conducting, translating, disseminating, and evaluating). The programmatic and support structures provide a foundation for staff to carry out its mission to maintain national and world leadership to prevent work-related illnesses and injuries.

The NIOSH program portfolio is organized into 8 sectors representing industrial sectors; and 24 cross-sector programs around adverse health outcomes, statutory programs, and global efforts. The mission of the Personal Protective Technology (PPT) cross-sector is to prevent work-related illness and injury by advancing the state of knowledge and application of PPTs. PPT includes the technical methods, processes, techniques, tools, and materials that support the development and use of personal protective equipment (PPE) worn by individuals to reduce effects of their exposure to a hazard.

NPPTL was established by NIOSH in 2001 when Congress underscored the need for improved PPE and encouraged research for PPTs. NPPTL leadership serves as the Program Manager for the NIOSH PPT Cross-Sector Program. NPPTL is organized into three branches: Technology Evaluation, Technology Research, Policy and Standards Development, and the Surveillance, Communication and Scientific Support Team.

NPPTL applies state-of-the-art science to meet the increasingly complex occupational safety and health challenges of the 21st century. Our strategic research programs help to ensure that the development of new personal protective technologies keep pace with the changing needs and requirements of employers and workers.

KATHLEEN HIGGINS

Department of Homeland Security, Science and Technology Directorate, Support to the Homeland Security Enterprise and First Responders Group

KATHLEEN M. HIGGINS, Chief, Stakeholder Engagement; Support to the Homeland Security Enterprise and First Responders Group; Science and Technology Directorate; U.S. Department of Homeland Security.

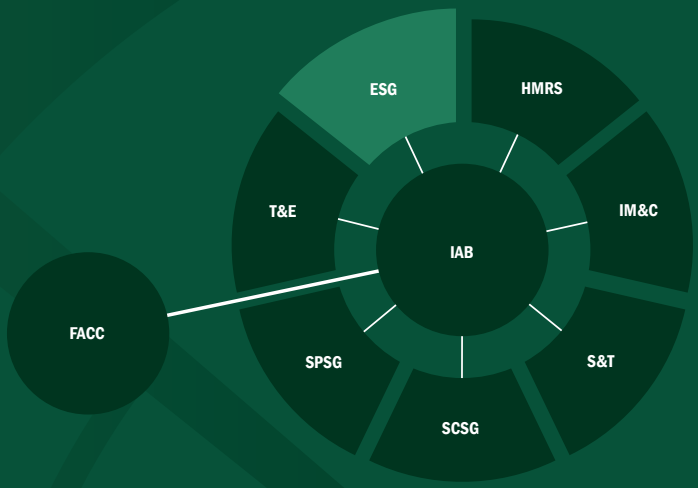
Ms. Higgins' career began soon after earning her B.S. in chemistry from the University of Rhode Island. She worked as a toxicologist at the Rhode Island Department of Health, earned a Master's degree in Forensic Chemistry at Northeastern University, and served as a Senior Chemist with the Massachusetts State Police Crime Laboratory. She also lectured at Northeastern University, where she was made Coordinator of Educational Services in Forensic Science.

In the late 1980s, Ms. Higgins managed the materials-development programs for the U.S. Postal Service, including one that produced today's self-sticking postage stamps, earning a Meritorious Service Honor Award for her efforts. In 1994, she joined the National Institute of Standards and Technology as the Director of the Office of Law Enforcement Standards.

In 2001 the Department of Commerce awarded her its Silver Medal for Outstanding Achievement, and in 2002 George Washington University honored her with the prestigious Arthur S. Fleming Award for extraordinary service to the Federal Government and the Nation. In 2003 she was asked to serve as Assistant to the NIST Director for Homeland Security and to chair NIST's Homeland Security Strategic Working Group.

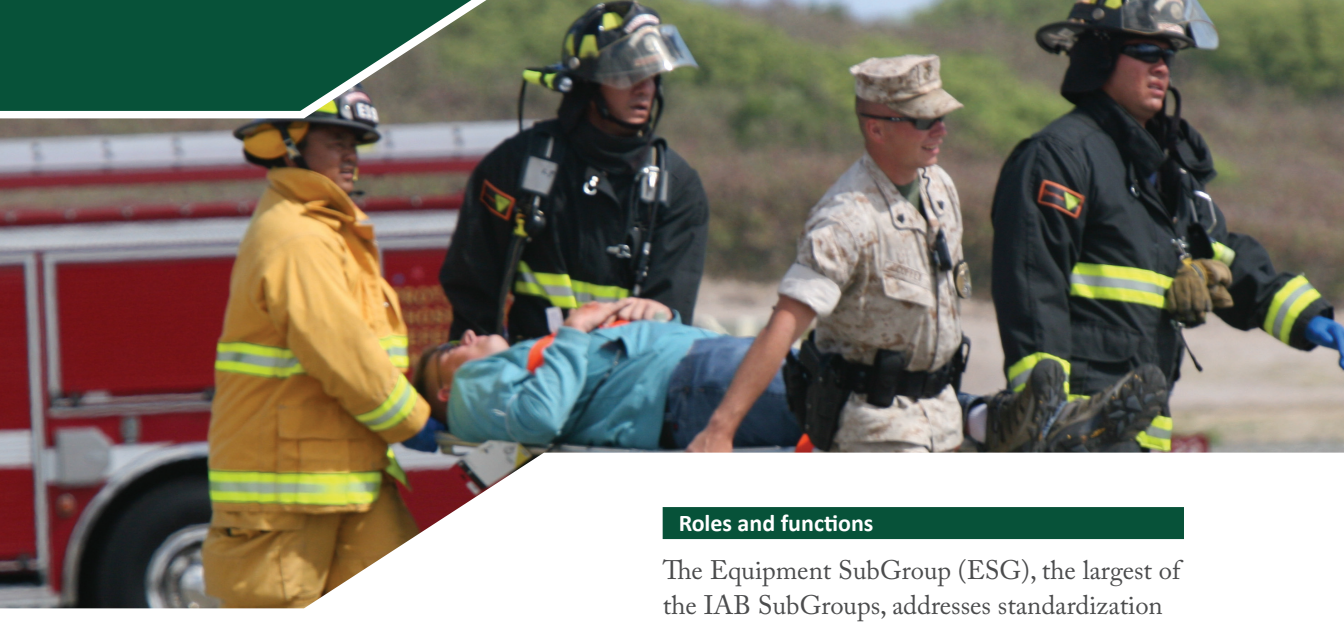
In late 2007, Ms. Higgins accepted the position of Director of the Office for Interoperability and Compatibility in the Command, Control, & Interoperability Division at DHS where she served for approximately 1 year before accepting her current position as Chief, Stakeholder Engagement.

Ms. Higgins is a Fellow of ASTM International, a member of the Homeland Security Committee of the International Association of Chiefs of Police, the U.S. representative to ISO's Strategic Advisory Group on Homeland Security, and Chair of the Federal Agency Coordinating Committee of IAB.



Equipment SubGroup

The mission of the Equipment SubGroup is to develop, maintain, and update the Standardized Equipment List for equipment items; to address the standardization and interoperability of responder equipment items for preparedness, prevention, mitigation, response, and recovery operations based on anticipated hazards, risk assessments, and job functions; and to review and make recommendations for new equipment research and standardization, closely coordinating its efforts with those of the other IAB SubGroups.



Equipment SubGroup (ESG)

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Roles and functions

The Equipment SubGroup (ESG), the largest of the IAB SubGroups, addresses standardization and interoperability issues relating directly to protective, operational, and support equipment for emergency responders. ESG responsibilities include the maintenance and periodic publication of the IAB Standardized Equipment List (SEL) [including the designation of example products and identification/incorporation of new technologies]; the development of equipment-driven priorities for R&D and standards development; and coordination with other SubGroups such as Training & Exercises to ensure proper training, selection, and use of equipment in various mission environments.

The equipment sections managed by the ESG are listed in the SEL. The majority of these equipment items and associated information are aligned with the Authorized Equipment List (AEL), which is maintained by the DHS FEMA Grant Programs Directorate.

ESG SEL EQUIPMENT OVERSIGHT AREAS

1	Personal Protective Equipment
2	Explosive Device Mitigation/Remediation
3	CBRN Operational and Search & Rescue
4	Information Technology
5	Cyber Security Enhance Equipment
6	Interoperable Communications Equipment
7	Detection
8	Decontamination
9	Medical
10	Power
11	CBRN Reference

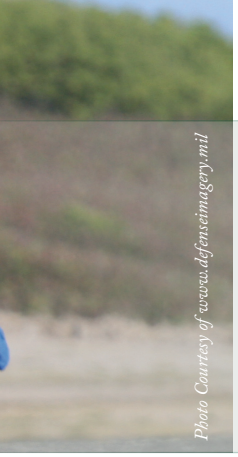


Photo Courtesy of www.defenseimagery.mil

STATE & LOCAL CO-CHAIR

DOUGLAS E. WOLFE
Sarasota County (FL) Fire Department

FEDERAL CO-CHAIR

WILLIAM E. HASKELL
National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory

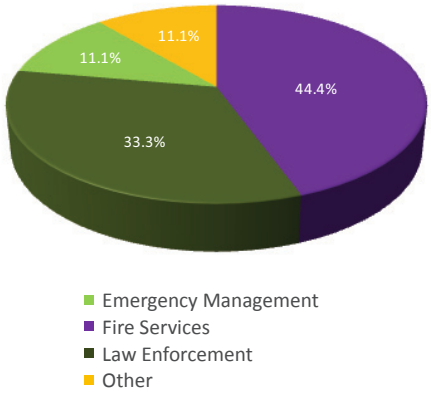
12	CBRN Incident Response Vehicles
13	Terrorism Incident Prevention Equipment
14	Physical Security Enhancement
15	Inspection and Screen Systems
16	Animals and Plants (New)
17	CBRN Prevention/Response Watercraft
18	CBRNE Aviation Response
19	CBRNE Logistical Support Equipment
20	Intervention Equipment
21	Other Equipment

Membership

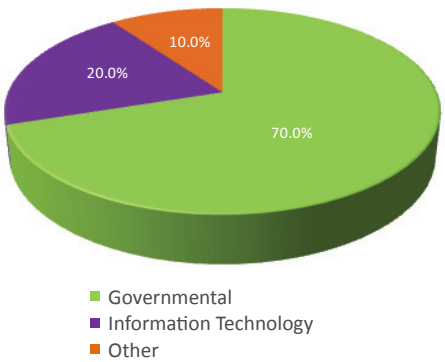
The ESG includes a wide range of members and subject matter experts (SMEs) from emergency response organizations, federal agencies, and standards development organizations. This synergistic membership facilitates system-wide improvements in the SEL, as well as advocacy and participation in equipment performance and certification standards development. The current composition of the SubGroup is as follows:

- State and Local Organizations (50%)—Representing the fire service, law enforcement, emergency medical service, medical first receivers, hazardous device operations, hazardous materials, search and rescue, and water operations.
- Federal Agencies (50%)—Representing National Institute for Occupational Safety and Health (NIOSH), U.S. Coast Guard (USCG), Environmental Protection Agency (EPA), Federal Bureau of Investigation (FBI), Department of Defense (DOD), and the U.S. Army Public Health Command.

Active First Responder Primary Role



Primary Professional Role



The ESG has wide representation from standards development, labor, and professional organizations, such as the National Fire Protection Association (NFPA), ASTM International, International Association of Fire Fighters (IAFF), National Tactical Officers Association (NTOA), and the National Bomb Squad Commander's Advisory Board (NBSCAB). These organizations have membership or SME status on the ESG.

This membership enhances partnerships among local, state, federal, military, and professional organizations, and the standards development community. Through these partnerships, protective clothing, equipment, expertise, technologies, and standards are being developed. Ongoing federal and military research and development programs continue to be leveraged and, in some cases, fast-tracked for the benefit of the emergency response and public safety community. Bringing all the stakeholders to the table in a cooperative manner has been, and will continue to be, essential to the success of this SubGroup.

FY 2011 Highlights

Equipment SubGroup Initiatives and Activities (October 2010 – September 2011)

- Continued to serve as the IAB lead SubGroup for revisions and updates to the SEL and supporting the DHS/FEMA Preparedness Grants Office and the Responder Knowledge Base (RKB) staff with the AEL.
- New SEL Section 16, Animals and Plants was finalized and incorporated into the SEL in 2011. The first group of items in this new section addresses equipment and supplies, including animal capture and restraint, housing, transportation, and veterinary care for both large and small animals. This initiative was completed with assistance and expertise from a representative from the U.S. Department of Agriculture (USDA). The ESG will be working to further enhance this area of the SEL with regards to response agricultural terrorism and disasters.
- ESG Members and SMEs hosted and facilitated a brainstorming workshop during the TSWG PPE Conference 2010 in Ft. Lauderdale, Florida, on the topic "What does the Future Responder look like?" The information that was gathered allowed for the ESG to develop even greater understanding of equipment R&D and standards gaps. This workshop was well attended by local, state, and federal agencies and departments, as well as by equipment manufacturers.
- The IAB worked to develop Mission Specific Sub Lists (MSSLs) that were added to the interactive SEL (https://iab.gov/SELint.aspx). These sublists are compiled using selected items from all 21 sections of the SEL, and allow users to obtain "tailored" versions of the SEL for specific mission areas of interest. The ESG is developing a new series of MSSLs specific to the law enforcement community. These will include: patrol officer, tactical/SWAT teams, bomb

squads, forensic, dive teams, perimeter security, K-9, and fixed/rotary-wing aviation. These new mission-specific sublists will be added to the IAB Interactive SEL as they are completed.

- The ESG continues to support the development of the proposed Canadian Recommended Equipment List (REL). Under an agreement with the Canadian Police Research Centre (CPRC), the IAB is providing system and subject matter assistance in creating a parallel SEL tailored to the needs of the Canadian emergency response community. Canadian representatives now participate on the ESG to facilitate communication. This effort will exploit the many commonalities of the Canadian and U.S. communities, while providing a venue for future coordination. The first version of the REL is expected to be published in the spring of 2012.
- Members and SMEs from the ESG continued to participate on the NFPA Committee Project, entitled Fire and Emergency Services Protective Clothing and Equipment (FAE-AAC), and participate on numerous NFPA Technical Committees revising existing equipment standards and developing new standards. The NFPA Staff Liaison for

Membership

FRANK ANDERSON
Riverside County (CA) Sheriff Department – Hazardous Device Team

ERIC ASHBURN
Walker County (GA) Emergency Services

TAUSEEF BADAR
USMC 3d Marine Aircraft Wing

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National Naval Medical Center

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West County (MO) EMS & Fire District

THOMAS GROEL
Federal Bureau of Investigation - HMRU

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Orange County (CA) Sheriff's Department

ERIC IMHOF
Contra Costa County (CA) Office of the Sherriff

LISA LANHAM
Sarasota (FL) County Sheriff's Office

JAMIE LESINSKI
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FOREST WILLIS
United States Coast Guard, National Strike Force

JOHN WILSON
National Guard Bureau – 44th Civil Support Team

Subject Matter Experts

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United States Coast Guard

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United States Capital Police (Ret.)

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U.S. Department of Agriculture

RICHARD DUFFY
International Association of Fire Fighters

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Disaster Mortuary Operational Response Team

DON HEWITT
Principal Consultant – Proconsul

ALEX KLISTOFF, MD
Placer County (CA) Community Clinics

JEFF MARCUS
Los Angeles (CA) Fire Department

BOB MASSIE
United State Marine Corps – Emergency Management/CBRN

JERRAL RIPPETOE
DHS/FEMA Propositioned Equipment Program

DAVID TREBISACCI
National Fire Protection Association

BRUCE TEELE
National Fire Protection Association

JEFFREY STULL
International Personnel Protection

this project and committees is an SME on the ESG.

- ESG Members and SMEs continued to participate on the NIJ Special Technical Committee providing final review and approval on NIJ CR-0116.00—Law Enforcement CBRN Protective Ensemble Certification Program Requirements. This standard will set ensemble certification requirements for NIJ Standard 0116.00—CBRN Protective Ensemble Standard for Law Enforcement (November 2010).
- The ESG continued to support the development of the proposed NIJ Bomb Suit Standard for Law Enforcement (NIJ Standard 0117.00). This proposed standard will set minimum performance requirements for protective bomb suits worn by law enforcement bomb technicians while performing operations to dispose of improvised explosive devices (IEDs).
- The ESG also advocated improvements in existing performance requirements and test methods for measuring chemical resistance of ensemble materials and next-generation respirators against chemical warfare agents (CWAs) and toxic industrial chemicals (TICs).

DOUGLAS E. WOLFE

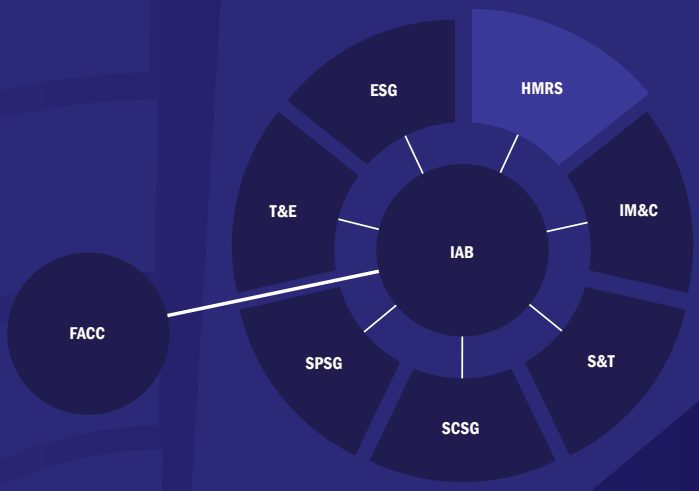
Captain, Special Operations Coordinator
Sarasota County (FL) Fire Department

Douglas Wolfe has served in the hazardous materials emergency response field for 25 years with the Sarasota County Fire Department, and coordinates its Special Operations and Domestic Security programs. During his tenure in the field, Douglas has instructed on a national basis for numerous organizations, including the National Fire Academy, where he has served as subject matter expert and co-authored numerous programs, including, "Advanced Life Support Response to Hazardous Materials Incidents," "EMS: Special Operations," "Emergency Response to Terrorism: Tactical Considerations," and "Chemistry for Emergency Response." In addition to the IAB, Mr. Douglas serves on the Florida SERC and Hazardous Materials Training Task Force, as well as the Florida State Working Group for Domestic Security Equipment Subcommittee.

WILLIAM E. HASKELL

National Institute for Occupational Safety and Health;
National Personal Protective Technology Laboratory;
Centers for Disease Control and Prevention

Bill Haskell is a member of the Policy & Standards Branch at the NIOSH National Personal Protective Technology Laboratory (NPPTL). Mr. Haskell serves as the Chairman of the NFPA Technical Correlating Committee (TCC) for Fire and Emergency Services Protective Clothing and Equipment, and NFPA technical committees for hazard materials, electronic safety, structural/proximity, special operations, and emergency medical service protective clothing and equipment. Mr. Haskell is a member of the ASTM International F23 Protective Clothing and E54 Homeland Security Committees, and the IACP Homeland Security Committee. Mr. Haskell holds a B.S. in civil engineering and an M.S. in plastics engineering from the University of Massachusetts at Lowell.



Health, Medical, & Responder Safety SubGroup

The mission of the Health, Medical, & Responder Safety (HMRS) SubGroup is to provide guidance to the IAB on medical issues, responder and public health and safety including equipment, supplies, and pharmaceuticals needed to respond to all-hazards events with a focus on CBRNE events.

Health, Medical, & Responder SubGroup (HMRS)

The mission of the Health, Medical, & Responder Safety SubGroup is to provide guidance to the IAB on medical issues, responder and public health and safety including equipment, supplies and pharmaceuticals needed to respond to all-hazards events with a focus on CBRNE incidents. This guidance is developed from member knowledge, experience, and discussion of relevant material. In addition, HMRS reviews and makes recommendations to the IAB on needs for new or modified equipment, performance and operational standards relative to the SubGroup qualifications and expertise. HMRS SubGroup understands and documents generic health, medical and responder and public health and safety capabilities in the SEL and Responder Knowledge Database (RKB) in order to support first responders and receivers as they respond to and recover from all-hazards events with a focus on CBRNE incidents.

Membership

The Health, Medical, & Responder Safety SubGroup (HMRS) consists of representatives from local, state, and federal responder agencies and institutions engaged in health, medical, and responder safety. HMRS members engage all of the response disciplines as defined by DHS FEMA's National Preparedness Directorate (NPD). HMRS also draws upon a wide range of Subject Matter Experts (SMEs), both from within and outside the IAB, to provide input into HMRS workplan projects.

Roles and Functions

- Identify gaps and needs for providing safe and effective care.
- Evaluate the efficacy and appropriateness of existing and future health and safety-related products, processes, practices, and information.
- Serve on working groups that address public health, medical, and responder safety.
- Develop recommendations about how to identify, control, reduce, or eliminate responder safety hazards, prevent injuries, and reduce mortality.
- Develop a medical concept of operations for planning, managing, and recovering from incidents that cause physical and/or physiological harm.
- Analyze threat scenarios and make recommendations about how to safely protect public health, medical, and responder personnel and victims.

STATE & LOCAL CO-CHAIR

JEFF RACE
City of New York (NY) Fire Department

FEDERAL CO-CHAIR

STEPHAN GRAHAM
U.S. Army Public Health Command, Industrial Hygiene Field Services Program

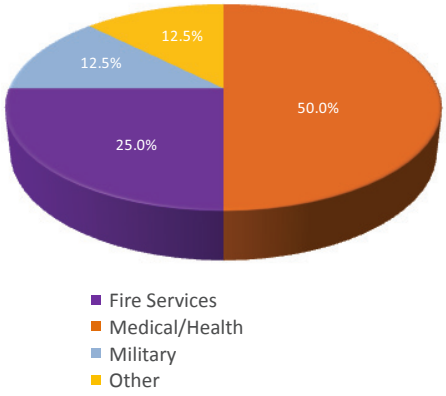
Initiatives:

- HMRS continued to evaluate the establishment of a single Federal Government office for EMS oversight and governance of EMS issues that need federal action and national coordination. The SubGroup also is exploring the need for the establishment of advocacy for EMS encompassed in professional organizations. It is shaping the role of EMS providers in monitoring the health and safety of first responders during incident response and advocates for development of national standards and best practices.
- Increased focus on health monitoring of first responders during incident response, which included exploring new or novel technologies to identify physiological parameters that correlate with performance, safety, and health.
- HMRS continued to explore the long-term effects of low level exposure to hazardous materials on incident sites and potential cumulative effects over the span of a career and what mitigation effects might be employed.
- New technological breakthroughs linked to improved performance safety, or health were evaluated for incorporation into the standard equipment list or the formal research and development process.

Accomplishments

- Developed a White Paper on National Leadership for Emergency Medical Services

Active First Responder Primary Role



Primary Professional Role

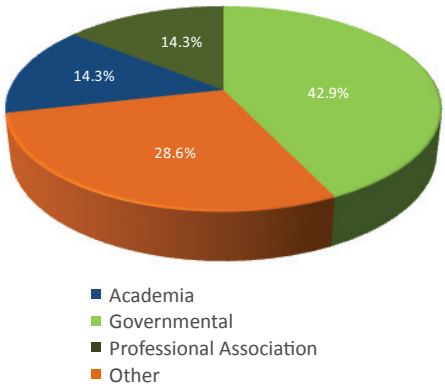


Photo Courtesy of New York Fire Department

(EMS). The paper provides expert review of strategic challenges facing our nation's EMS systems, and proposes consolidation of governance and oversight within a single office within the Federal Government.

- Established a prioritized list of research and development issues impacting the health and safety of our nation's first responders.
- Identified and developed physiological parameters for monitoring first responders and first receivers during response operations.
- Addressed exposure monitoring over a career and its impact on long-term health.
- Furthered priorities of focus to include development of patient tracking tools, conversion of buses to multi-patient ambulances, and ambulance based point of care, as well as ambulance design standards.
- Completed a review of SEL and AEL items.

Membership

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Yale Emergency Medicine

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University of Toledo

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NEAL DOLAN
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Arlington County (VA) Fire Department

STEVE SKOWRONSKI
Center for Disease Control and Prevention

ANTHONY TOMASSONI
Yale University School of Medicine

BARRY WANTE
Brigham and Women's Hospital

JEFF RACE

Captain, Commanding Officer
City of New York (NY) Fire Department

Captain Jeffrey D. Race is a 27 year veteran with the New York City Fire Department EMS Command. Assigned as the Commanding Officer of EMS Special Operations, Captain Race has developed, managed, and trained the department's EMS resources in Haz Mat Operations, EMS Haz Mat Medical Technician, and Paramedic Rescue Medical Programs. He supported the department's unique capabilities to manage and mitigate pre-hospital care needs to the public and responders during Haz Mat and Technical Rescue situations with a focus on CBRN and WMD events.

Receiving numerous awards throughout his profession, Captain Race received the Medal of Honor for his work at the Avianca aircraft disaster in the 1990s. A World Trade Center survivor and operations officer, he also has operated and managed many other high profile NYC disasters during his career, including Anthrax attacks and many Haz Mat and Rescue operations.

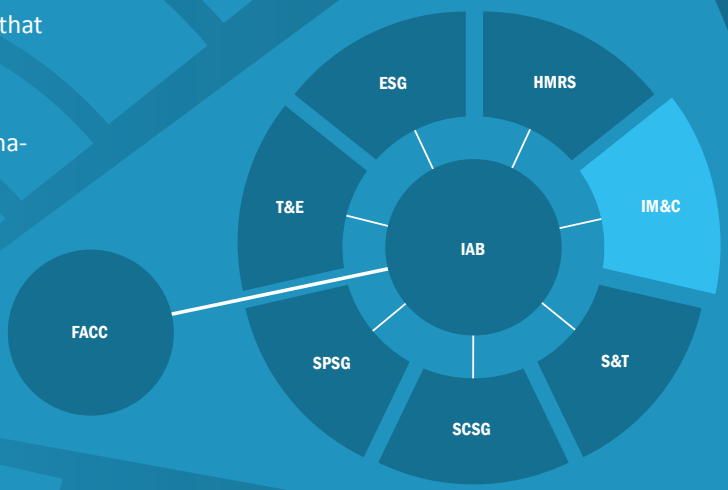
Captain Race is a graduate from the EMS Systems Management program at Davenport University in Grand Rapids, Michigan. He also continues to serve as a local first responder as a firefighter/EMT. Captain Race contributes to many national and international organizations and currently Co-Chairs the IAB Health, Medical, & Responder Safety SubGroup as the State and Local Representative, as well as several others.

STEPHAN GRAHAM

Technical Manager
U.S. Army Public Health Command,
Industrial Hygiene Field Services Program

Stephan (Steve) Graham is an Industrial Hygienist with 34 years experience with the U.S. Army Public Health Command and its predecessors located at the Edgewood Area of Aberdeen Proving Ground, Maryland. He has a BS from Quinnipiac College in Environmental Health Technology and an MS Degree in Environmental Health and Industrial Hygiene from the University of Cincinnati. He is a Certified Industrial Hygienist (CIH) and Certified Safety Professional (CSP). As a federal representative to the IAB, his responsibilities have included membership on the Standards Coordinating Committee (SCC) and HMRS SubGroup, where he presided as Acting Federal Chair. He has presented IAB responses to calls for information from two National Academy of Sciences Institute of Medicine fact finding committees regarding personal protective equipment use and practices.

Welcome to the Information Management and Communications (IM&C) SubGroup section of this year's annual IAB report. On behalf of the IM&C SubGroup, co-chairs Mike and Len hope that you may find the information pertaining to information management and communications related technologies, software, processes, and more to be helpful and informative. We are pleased to affirm that there are significant national efforts under way to improve emergency incident information sharing and communications. IM&C SubGroup members have been involved in many of these efforts.



Information Management & Communications SubGroup

Information Management and Communications (IM&C) SubGroup

The mission of the Information Management and Communications SubGroup is to develop and advocate processes, protocols, and technologies for effective, timely, accurate, secure, and resilient information management and communications capabilities for addressing the full range of incidents at all phases of operations.

Roles and Functions

The Information Management and Communications (IM&C) SubGroup will accomplish its mission through the identification of needs and gaps in the responder information and communications environments in order to recommend and advocate for mitigating solutions and standards. The scope includes the following practices and technologies:

- System and strategy improvements for intelligence and decision support, including the collection, administration, sharing, analysis, and protection of information
- Gaps and challenges related to information collection, sharing, classification, categorization, storage, security, and dissemination that affect incident prevention and emergency preparedness and response
- Decision support materials and interoperable communications technologies, policies, and strategies
- Effective development and integration of interoperable communications and decision support technologies and practices to provide indications and warnings, and information/intelligence support for operations

The primary means by which the IM&C SubGroup accomplishes its mission is through the quick, efficient, and beneficial exchange of information, whether voice or data (i.e., communications). In after-action reports for major incidents and drills throughout the Nation, communications continues to be listed among the top "issues" needing more work. "Interoperability" continues to be one of the most-used buzzwords in the realm of emergency response, on all levels.

Perhaps the greatest strength of the IAB is the emphasis on the practitioner. The majority of the membership consists of current first responders from EMS, emergency management, fire, and law enforcement agencies. The standards and equipment guides are developed by first responders, for first responders. In this work, "responder" members are fortunate to have the support and input from the rest of the membership, comprised of representatives from state and Federal Government, academia, industry,

STATE & LOCAL CO-CHAIR

LEN EDLING
Chicago (IL) Fire Department

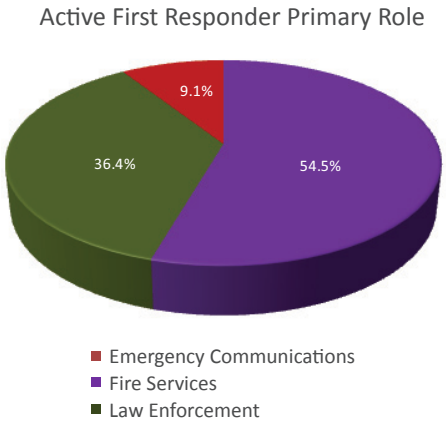
FEDERAL CO-CHAIR

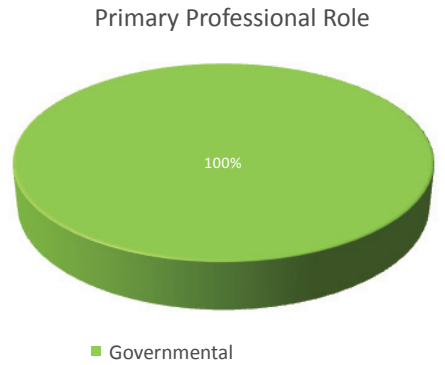
MIKE TUOMINEN
National Interagency Fire Center, National Interagency Incident Communications Division

and others. While working with the other IAB SubGroups, the IM&C SubGroup's role has always been one of developing a common or standardized operating picture for all the essential components of an emergency incident response. The unique quality of this effort is providing the information from the responder's perspective.

The IM&C SubGroup acknowledges there are many other national groups focusing on improving incident communications. While involved and participating in many of these other groups' efforts, we believe it is our emphasis on the involvement of actual responders that makes the IAB and IM&C SubGroup unique. Others of these groups are tasked with developing long-term solutions. Some are developing wide-reaching solutions, and some are mission-specific or discipline-specific. Because of our ability to speak to the end-user's perspective ("ground-truthing"), members of the IM&C SubGroup provide expert advice and guidance to many of these other organizations.

The two-way information flow is beneficial to all involved. Through this process, our federal partners are able to rapidly obtain feedback essential to improving the safety and security of our nation. First responders are rewarded through the timely dissemination of information regarding such issues as grant programs, technology trends, resources, and ongoing research and development. It is our goal to provide yet another means to get information out to those who may not otherwise receive it.





The IM&C SubGroup continues to emphasize standardization of equipment and methods used for communications by first responders, focusing on several vital areas:

- Computer aided dispatch (CAD)-to-CAD interfaces
- Records management systems (RMS)-to-RMS interfaces
- CAD-to-RMS interfaces
- Skills and training of communications support personnel
- Cybersecurity
- Intelligence sharing and exchange
- Common Operating Picture

SubGroup Accomplishments:

Communications Unit Leader (COML)/ Communications Unit Technician (COMT)

The IM&C SubGroup recognizes that the interrelationships between agencies, jurisdictions, and people continue to be the core issue underlying 'Communications Interoperability.' Further, only as efforts continue to be directed at addressing the 'people/relationship' issues, will true interoperability be achieved.

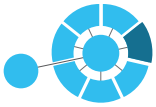
To that end, and in keeping with the mission of the IAB, the IM&C SubGroup continues working toward these by:

- Emphasizing interoperability, compatibility, and standardization
- Fostering a multidisciplinary perspective
- Facilitating effective intergovernmental partnerships
- Preliminary work was started on addressing these issues when the events surrounding September 11th emphasized the importance of these efforts

Two programs having among the most impact in this area were two courses developed by the Department of Homeland Security's Office of Emergency Communications (DHS OEC). COML and COMT courses have been giving those in the responder community the knowledge, skills, and abilities to address the dynamic communications challenges presented in various incident environments.

To date, the DHS courses have been ongoing for about 36 months, and ~3,000 individuals have been trained nationwide. The course calls for students to meet some prerequisites, to take a 3-day, 24-hour course for COML (5-day, 40-hour course for COMT), to go through a field practicum, and finally, to go through some as yet-to-be-defined process for final certification.

Responsibility for the course has transitioned from the DHS OEC to the Federal Emergency Management Administration's (FEMA) instructional group, the Emergency Management Institute (EMI). The National Consortium for Justice Information and Statistics (SEARCH) has, and will continue, to administer the course.



Information Management & Communications SubGroup

One challenge of the program is that students are completing the task book portion of the course, but there continues to be hesitation on the part of the state and Federal Government to become the certifying entity. Further, because of budget cuts, many states are losing those agencies (State Interoperability Offices) that would have potentially done the certification.

The IM&C SubGroup has continued our partnership with Louisiana State University's (LSU) Stephenson Disaster Management Institute (SDMI) to address the certification issues. The NRECT, the IAB, and SDMI continue to work with SEARCH and FEMA on the interrelationships necessary to keep this effort progressing. The SubGroup continues working on the coordination of efforts between SEARCH (teaching the course), FEMA EMI (owner of the course), and SDMI (the certifying entity).

C4ISR/Common Operating Picture/ Cyber Security

The IM&C SubGroup has begun a working relationship with Emergency Services Sector (ESS) to provide direct input for a number of development programs. Mark Hogan (IM&C Member) is leading an effort by chairing a cyber security advisory group tasked with the creation of a cyber security roadmap for the sector. The draft has been turned in, and the advisory group is working with the NCSD on a second project that will identify risks and aid in the completion of the document. Mark leaned heavily on the SubGroup; they were instrumental in the creation of this draft.

There are several SubGroup members working with the ESS and NCSD on a Cybersecurity Assessment and Risk Management Approach (CARMA) assessment tool for the ESS. There was a presentation on CARMA at the last

Membership

LEIF ANDERSON
Phoenix (AZ) Fire Department

DON BOWERS
Fairfax County (VA) Fire and Rescue

THOMAS CHIRHART
Department of Homeland Security

JAMES CRONKHITE
NORTHCOM

BERNARD DOCTOR
JPEOCBD

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BOB MCKEE
Texas Task Force 1

GEORGE PERERA
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KEELEY TOWNSEND
Department of Homeland Security

DAVID TRITCH
Kettering Fire Department/Ohio Task Force 1, FEMA Urban Search and Rescue

PAULA YOUNG
Cuyahoga County Department of Justice Affairs

meeting. This working group is flushing out the scenarios for CARMA that will enable the tool to provide realistic issues for departments to check their cyber security against. This tool will be a value to small and large departments and of great assistance to the sector. The tool will provide the ESS SSA EMO with information that provides a baseline report for the sector cyber security.

Additionally, the SubGroup has been asked for input regarding social networks currently available to responders. The SSA would like the group to provide input as to what value each portal offers, locate duplicity, and offer suggestions for consolidation. The SubGroup's work also will look at single sign-on versus linked portals, which often require a second login to actually access the portal. The SubGroup also will look at the various social networks on the public web. Many agencies do not allow access to these networks, yet the information on them can be exploited to the sectors benefit. In this regard, the group will look at the feasibility of creation of a secure web-based tool that accesses the public networks to query and compile that data in a safe location within the secure portal.

The IM&C SubGroup has continued its work with the DHS S&T Command, Control and Interoperability Division during its launch of Virtual USA (vUSA), an end-user driven and federally supported initiative focusing on cross-jurisdictional information sharing and collaboration among the homeland security and emergency management community. vUSA is developing a technical system and operational guidelines to share incident response information through existing systems and geospatial platforms, in partnership with local, tribal, state, and federal officials, as well as the vendor community. Through vUSA, homeland security and emergency management stakeholders have the capability to quickly access critical information from relevant sources and customize the display of that information based upon the end-user's unique needs to save lives, protect property, and realize operational efficiencies through improved situational awareness. The SubGroup also has provided valuable input into the development of a national vUSA program.

CAD-to-CAD Interface and Public Safety Information Sharing:

Prior to 2008, members of the IAB's IM&C SubGroup—then named Interoperable Communications and Information Sharing—understood that sharing data among disparate computerized information and decision support systems is key to efficient and effective incident management. The overall goal is to provide decision makers at all levels of the incident management organization with actionable information. Sharing information between systems removes the requirement of duplicate data entry, thereby increasing efficiency and accuracy.

Members of the IM&C SubGroup have focused their work on the following model:

- Multiple methods exist to share electronic information, with each method providing value when matched correctly to the desired actions.
- Standards are a key to success, if data information is going to be shared with more than one disparate system.
- Sharing information between CAD systems is the logical choice for beginning the data sharing process because the CAD system is the first place where event or incident information is captured digitally, and CAD-to-CAD interfaces can provide many agencies with a daily enhancement to resource utilization and incident management.

- For actionable information on a regional scale, information sharing systems' architecture is just as important as the standards used in the data transfer.

IM&C SubGroup members were key participants in several early efforts that updated the SAFECOM Interoperability Continuum to include data sharing, which identifies the strength and weaknesses of several methods of information sharing, and establishes the most advanced method as "standards based"—from one to many interfaces.

The complexities of trying to include many public safety, transportation, and infrastructure 'information' systems within the homeland security information sharing sphere, make a single "standard" for data sharing elusive. In order to keep pace with the rapidly changing landscape, a system for developing common documented exchange elements has been recognized as the "standard approach" to public safety information sharing. The National Information Exchange Model (NIEM), which is most often included in U.S. Department of Justice and DHS grant requirements, is a national approach and common vocabulary for information exchange.

While many CAD-to-CAD implementations have been documented throughout the country, IM&C SubGroup members have focused their attention on the concept of a generic CAD system connected to many other systems via a single technical interface using a middleware for translations. This "web services" or "business services" model allows efficiencies needed in the "many-to-many" data sharing relationship to develop actionable information on an area of responsibility larger than a single agency.

The National Capital Region (NCR) has created a Data Exchange Hub (DEH) and used the NIEM conformity for the individual data exchange processes. The DEH architecture allows efficiencies and cost savings because only one system interface is required and the owner can share information with any other authorized system subscribed to the hub. Furthermore, when an additional agency joins the system, the existing users do not require any costly modifications or interfaces. This "scalability" is key to leveraging past investments and reducing the maintenance and sustainment costs within a growing information sharing environment.

Originally piloted for three Northern Virginia fire and rescue departments to facilitate automatic aid response, the implementation provided an average 90 second reduction in automatic-aid resource recommendations and dispatch from multiple 911 centers. The region is undergoing strategic planning efforts to identify "common operating picture" and "actionable information" requirements for emergency management and partner response agencies. These efforts will produce value-added justification for further development of the business services architecture hubs for public safety information sharing with multiple partners and information fusion centers.

Other Activities:

The IM&C SubGroup also has had direct participation with the Federal Communications Commission's (FCC) Emergency Response Interoperability Council Public Safety Advisory Committee (ERIC PSAC), the SAFECOM Emergency Response Council, and the DHS S&T First Responder Resource Group providing direct input, as well as reach back capability, into the IAB and the first responder community.

LEN EDLING

Chicago (IL) Fire Department

Lieutenant Edling is a 17-year veteran of the Chicago Fire Department with 20 years of emergency response experience, including serving as a Firefighter, Paramedic, Hazmat Technician, and Hazmat Response Chief. He also is Chief of the Volunteer Merrionette Park Fire Department. During the past year, he served as Administrative Assistant for the Deputy Fire Commissioner of Operations with the Chicago Fire Department, where his responsibilities include working on various federal, state, and local committees and programs in the areas of hazardous materials, incident management teams, communications, and major incident response. In addition to serving as the state and local Co-Chair of the IAB IM&C SubGroup, Mr. Edling co-chaired the Chicago and Cook County Interoperable Communications Committee.

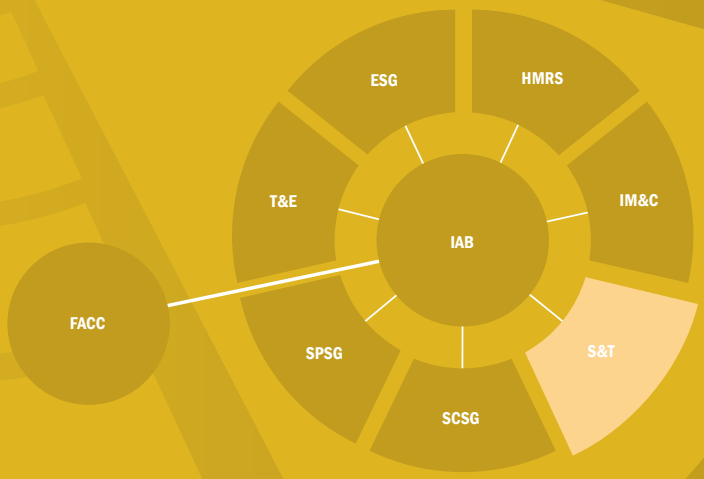
MIKE TUOMINEN

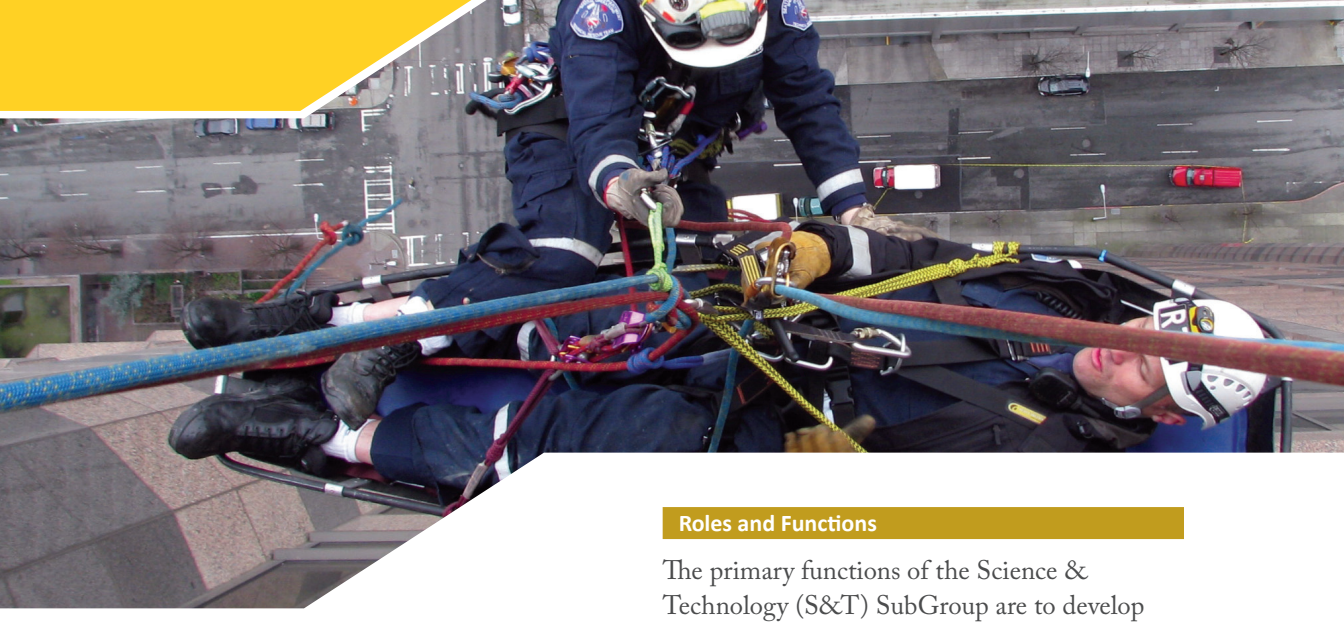
Branch Chief, Incident Communications Operations, National Interagency Fire Center, National Interagency Incident Communications Division

Mike Tuominen has more than 20 years of experience in incident communications, and serves at the national level as an operations specialist for all-risk incident communications involving both natural and human-caused disasters. During such incidents, he fills the role of Communications-Technician, -Unit Leader, -Coordinator, -Duty Officer, or Technical Specialist. His duties include the management of all facets of emergency communications systems utilizing low-power, very-high-frequency, and ultra-high-frequency land mobile radio; high-frequency and satellite radio and telephone; and frequencies equipment and personnel resources for areas involved in severe multi-incident emergencies. He also is involved in training through the National Wildfire Coordinating Group for Incident Communications Technician S-258, Communications Unit Leader S-358, and Communications Coordinator, and was involved in the development of all-risk Communications Unit Leader and Communications Technician courses. Some of his recent assignments include Hurricanes Katrina and Rita, 2005; Alaska, Northern California, Northern Rockies, Northwest, Southern, and Southwest Fires, 2005 through 2010; Haiti Earthquake, 2010; North Dakota Flooding, 2010; and technical assistance to the Republic of Ghana, 2005.

Science & Technology SubGroup

The Science & Technology (S&T) SubGroup's mission is to identify interagency (local, state, federal, and tribal) research and development requirements and innovative technologies (fieldable in the next six months to five years) for first responders that address CBRNE focus areas to include, but not limited to: detection, individual protection, collective protection, medical support, decontamination, communications systems and information technology, and deterrence and prevention: security and situational awareness.





Science & Technology (S&T) SubGroup

The S&T SubGroup's mission is to identify interagency (local, state, federal, and tribal) research and development requirements and innovative technologies (fieldable in the next six months to five years) for first responders that address CBRNE focus areas to include but not limited to:

- Detection,
- Individual protection,
- Collective protection,
- Medical support,
- Decontamination,
- Communications systems and information technology, and
- Deterrence and prevention: security and situational awareness

Roles and Functions

The primary functions of the Science & Technology (S&T) SubGroup are to develop and update the IAB S&T Requirements Matrix for inclusion in the Standardized Equipment List (SEL), coordinate IAB representation on federal requirements boards, record and prioritize requirements of individual SubGroups, report to SubGroups on federal requirement initiatives, provide an annual demographics report of the IAB membership, and assess innovative government-developed and industry-developed technologies. The IAB S&T Requirements Matrix (see Appendix) identifies future technology needs for detection, individual protection, collective protection, medical support, decontamination, communications systems, information technology, and operational equipment.

Initiatives and Progress

During FY 2011, the S&T SubGroup accomplished the following:

- Designated SubGroup Chairs followed up as mission area leaders responsible for detailed review and prioritization of S&T needs and projects.
- Administered the Web-based survey to prioritize research and development (R&D) requirements from SubGroups.
- Conducted a statistical analysis of the IAB R&D requirements survey results and delivered a Prioritized R&D Requirements List (PRL) for official publication.

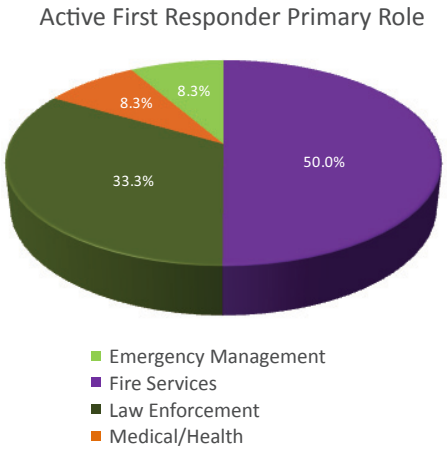
STATE & LOCAL CO-CHAIR

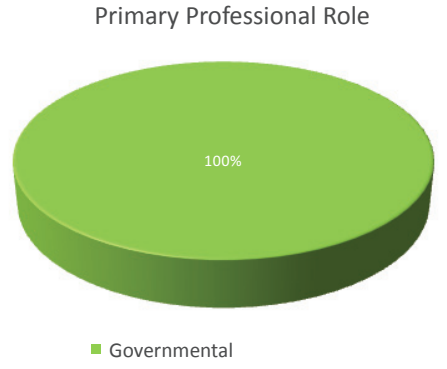
DOUGLAS CARLEY
Grand Rapids (MI) Fire Department

FEDERAL CO-CHAIR

GABRIEL RAMOS
Technical Support Working Group

- Reviewed the 2011 SEL Categories and updated the Summary of Current R&D Projects Matrix (also known as the S&T Matrix).
- Coordinated input into federal research and development agencies to leverage IAB-prioritized requirements.
- Administered the Web-based survey to gather IAB membership demographics data.
- Completed the demographic information survey of the IAB membership to assist in describing the interagency composition, skill sets, and representation in the IAB.
- Conducted a Mass Decon Equipment Demonstration and Workshop. The demonstration was provided by the San Diego, Coronado Fire Department.
- Initiated review and discussion of next generation Bio-Detection for incident response in accordance with workplan, and prepared a draft Bio-Detection workshop agenda.
- Attended the following events:
  - Institute of Medicine (IOM) Subcommittee on Certification of Non-Respiratory Personal Protective Technologies
  - Technical Support Working Group (TSWG) PPE Conference
  - TSWG Explosives Detection Symposium and Workshop
  - InterAgency Workgroup for Biological Threat Assays





- Participated in a 3D locator workshop
- Techology information workshop on applications of "Solid Phase Micro-extraction (SPME) Fibers"
- 4th National Conference on Environmental Sampling and Detection of Bio-Threat Agents
- 2011 International Wireless Communications Expo
- Technologies for Critical Incident Preparedness (TCIP) Conference

Ongoing Initiatives in FY 2011

The S&T SubGroup has established a formal process to collect and prioritize IAB R&D requirements. This work will continue in 2012 and will involve a new requirements collection survey from all IAB SubGroups, followed by statistical analysis and prioritization based on results of the survey.

The S&T SubGroup will invite industry representatives and federal R&D labs and centers to deliver focused S&T briefings. The S&T SubGroup also will publish "S&T technical summaries" of new and emerging technologies on the R&D SharePoint Database. The SubGroup also plans on coordinating visits to industry R&D facilities and federal R&D labs and centers.

The S&T SubGroup will continue work to support a demographic database and analysis of the IAB membership. New demographic data were gathered in 2011.

As federal agency's programs address prioritized IAB R&D requirements, the S&T Matrix will be updated to reflect the project name, managing agency/participants, and status of availability. A "Technology Readiness Level (TRL)" column to the S&T Matrix will be included.

Work will continue to integrate the S&T Matrix as a content area of the Responder Knowledge Base, allowing the information to be cross-referenced to SEL categories.

S&T SubGroup work also will continue to address Bio-Detection technologies as applied to incident response, and assist with the formation of an IAB ad-hoc working group.

Identified Requirements

The following prioritized R&D requirements were identified by the IAB in 2011 as capability gaps that should receive special consideration by R&D initiatives.

2011 IAB Research and Development Priority List*

1	Seamless Communication with Environments that Interfere with Radio Transmissions
2	3-D Tracking of Personnel
3	Handheld Standoff Chemical and Explosive Identifier
4	Noise-Filtering Digital Speaker/Microphone for SCBA Facepiece
5	Hands-Free Radio Intercom

Science & Technology SubGroup

6	Emergency Responder Body-Worn Integrated Electronics System Development
7	Incident Management Accountability System
8	Bomb Suit Protective Ensemble with SCBA Interface
9	Vehicle-Borne Improvised Explosive Device (VBIED) Render-Safe Tool
10	Rapid System(s) to Decontamination Vehicle Interiors
11	Radio and Battery Usage Rating Standardization
12	Respiratory Escape Device for SCBA
13	Unknown Substance Field Screening Skills Proficiency Evaluation Program
14	Device for Standoff Casualty Triage
15	Conops Analysis for Robotic Applications within the Fire Service
16	Equipment/Supply Guide for Relocating Special Needs Evacuees
17	Guide for Increasing Patient Transport Capability
18	Proactive Training Resource (PTR) Initiative
19	Modeling, Simulation, Gaming Software Evaluation Tool
20	Enhanced Decontamination Capability for Special Needs Victims
21	Weapons Contamination/ Decontamination Study

*See Appendix for a detailed description of each priority.

Membership

CRAIG ADAMS
Los Angeles Police Department, Counter Terrorism Training Unit

KENNETH BRENNAN
Fairfax County (VA) Police Department

BRYAN COOKE
Fairfax County (VA) - Explosives Ordnance Disposal

DEAN COX
Fairfax County (VA) Fire Department

BILL DESO
Department of Homeland Security

VINCENT J. DOHERTY
Long Island University/Naval Postgraduate School

JOHN DONNELLY
DC Fire and Emergency Medical Services

CHRISTINA EGAN
New York State Department of Public Health

GERARD FONTANA
Boston (MA) Fire Department

DAVID LADD
Massachusetts Department of Fire Services

ADAM MILLER
Huntingdon County (PA) EM Agency

MILT NENNEMAN
DHS S&T Interagency and First Responder Programs

DON OSTROWSKI
Troy (MI) Police Department

TOM RICHARDSON
Seattle (WA) Fire Department

RON SHAFFER
National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory

DAVID TAFAOA
South Carolina Law Enforcement Division

Subject Matter Experts

TECARIE CZARNECKI
Civil Support Team

MATTHEW DAVENPORT
Department of Homeland Security

KERRIE DEMARCO
Department of Homeland Security

ANGELA ERVIN
Department of Homeland Security

NEAL POLLARD
Georgetown University Walsh School of Foreign Service

SEAN POLSTER
Department of Homeland Security

MICHELLE ROYAL
Homeland Security Institute

MARGARET SOBEY
Department of Defense, JPEO-CBD

NANCY SUSKI
Lawrence Livermore National Laboratory

DARREN WHEELER
Department of Defense, JPEO-CBD

2011 IAB Research and Development Priorities: Breakdown by SubGroup

Equipment SubGroup (ESG)

1	Handheld Standoff Chemical and Explosive Identifier
2	Bomb Suit Protective Ensemble with SCBA Interface
3	Vehicle-Borne Improvised Explosive Device (VBIED) Render-Safe Tool
4	Respiratory Escape Device for SCBA
5	Weapons Contamination/Decontamination Study

Health, Medical, & Responder Safety SubGroup (HMRS)

1	Emergency Responder Body-Worn Integrated Electronics System Development
2	Rapid System(s) to Decontamination Vehicle Interiors
3	Device for Standoff Casualty Triage
4	Equipment/Supply Guide for Relocating Special Needs Evacuees
5	Guide for Increasing Patient Transport Capability
6	Enhanced Decontamination Capability for Special Needs Victims

Information Management & Communications SubGroup (IM&C)

1	Seamless Communication with Environments that Interfere with Radio Transmissions
2	3-D Tracking of Personnel
3	Noise-Filtering Digital Speaker/Microphone for SCBA Facepiece
4	Hands-Free Radio Intercom
5	Radio and Battery Usage Rating Standardization

Science & Technology SubGroup (S&T)

1	Incident Management Accountability System
2	Conops Analysis for Robotic Applications within the Fire Service

Training & Exercise SubGroup (T&E)

1	Unknown Substance Field Screening Skills Proficiency Evaluation Program
2	Proactive Training Resource (PTR) Initiative
3	Modeling, Simulation, Gaming Software Evaluation Tool

DOUGLAS CARLEY

Grand Rapids (MI) Fire Department

Fire Lieutenant Douglas Carley joined the Grand Rapids Fire Department in August 1985 and is currently assigned to Ladder Company #2. Prior to working with the Fire Service, Lt. Carley spent 4 years as a Hull Maintenance Tech in the Navy serving on the Aircraft Carrier Carl Vinson. In 1987, he was assigned as Radiological Officer for the City of Grand Rapids and certified as a Hazmat Technician. Lt. Carley attained Hazmat Specialist status in 1993, and ran the Grand Rapids Hazmat Team from 1994–2009. He has participated in a variety of local and state Homeland Security boards, helping to provide direction and expertise on Hazmat related issues. He has served as a Team Leader for one of Michigan's Regional Response Teams, where he also served as the equipment chair for all the State's Regional Response Teams. Lt. Carley has been a member of the IAB S&T SubGroup since 2007.

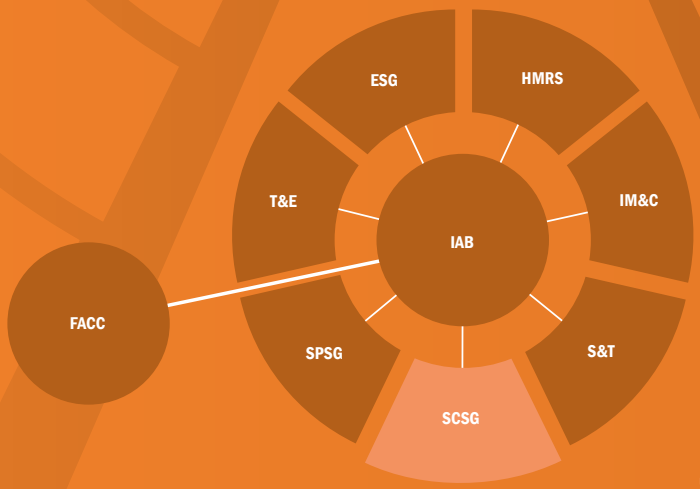
GABRIEL RAMOS

Deputy Director, Technology Division
Combating Terrorism Technical Support Office (CTTSO)

Gabriel Ramos is the Deputy Director, Technology Division at the CTTSO, providing management and technical oversight for the execution of the Technical Support Working Group (TSWG) rapid R&D program. He has 26 years of experience developing and evaluating Combating Terrorism (CT) capabilities for DOD and the federal interagency community. Mr. Ramos has a B.S. in chemical engineering from the Polytechnic University, Brooklyn, N.Y. and also is a graduate of the U.S. Army School of Engineering Logistics Product/Production Engineering Program. Mr. Ramos is a member of the IAB for Equipment Standardization and Interoperability and has served as the IAB federal co-chair of the S&T SubGroup since February 2003.

Standards Coordination SubGroup

The mission of the Standards Coordination SubGroup (SCSG) is to identify and coordinate standards development needs and activities within the IAB, with external organizations, and with the first responder community.



Standards Coordination SubGroup (SCSG)

The mission of the Standards Coordination SubGroup (SCSG) is to identify and coordinate standards development needs and activities within the IAB, with external organizations, and with the first responder community. The objective is to promote local, tribal, state, and federal preparedness through the development and implementation of standards for operational and response capabilities associated with all-hazards incidents, especially those involving CBRNE events. By focusing the Nation's resources and expertise in a common effort to establish performance standards to which critical equipment can be tested, evaluated, and certified, the SCSG helps to provide first responders with objective guidance for making informed decisions regarding the purchase and proper use of that equipment. As a result, both first responders and the citizens they serve can have greater confidence in the technologies upon which their lives depend.

Membership

The Standards Coordination SubGroup (SCSG) includes representatives from federal, state, and local agencies, as well as private standards development and testing organizations.

Roles and Functions

The SCSG supports and coordinates the IAB's efforts to identify and meet standards requirements within the responder community. Specifically, the IAB SubGroups identify existing standards that must be modified and areas in which new standards must be developed, and the SCSG assists with the following:

- Identify and document applicable standards from IAB and external sources
- Prioritize standards requirements and related interoperability and compatibility issues
- Identify existing standards, performance requirements, and test methods that could streamline the development of new standards or be modified to meet the needs of responders
- Identify potential conflicting requirements and facilitate reconciliation of these issues
- Participate in standards development and revision processes
- Inform emergency responders about appropriate application of standards
- Draft and disseminate studies, white papers, and other reports on standards, interoperability issues, and compatibility issues

STATE & LOCAL CO-CHAIR

MARTIN HUTCHINGS
Sacramento California (CA) Sheriff's Department

FEDERAL CO-CHAIR

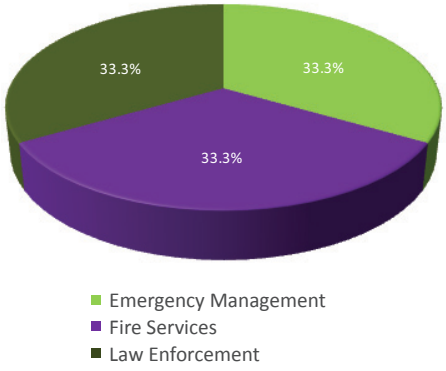
PHILIP J. MATTSON
Department of Homeland Security, Science & Technology Directorate, Test & Evaluation and Standards Division

- Recommend and promote the adoption and use of standards and conformity assessment requirements
- Identify and inform responders about relevant standards activities, comment periods, and programs that are addressing interoperability and compatibility issues

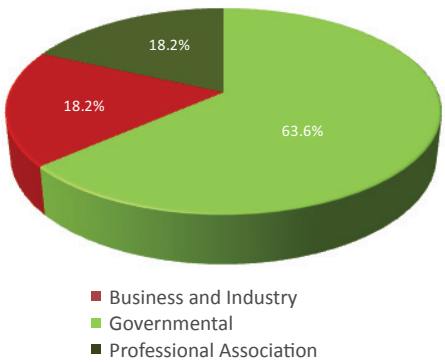
The SCSG also tracks and reviews the progress of standards activities of interest to the IAB, and serves as a feedback loop to the IAB by:

- Alerting the IAB when conflicting standards requirements are proposed and facilitating reconciliation
- Notifying the IAB when proposed requirements contradict federal or state regulations
- Alerting the IAB to similar or complementary development efforts under way within regulatory, consensus, and/or voluntary standards organizations
- Providing advice for improving performance requirements
- Informing the IAB about open comment periods for standards that have application to the responder community

Active First Responder Primary Role



Primary Professional Role



Partnerships

The success of the IAB's standards efforts relies on its partnerships with regulatory agencies, federal agencies funding standards development, and standards-development organizations. For example, with regard to equipment, the SCSG serves as the IAB's liaison to these partners in

matters relating to: performance requirements; test methods; certification requirements; and selection, use, care, and application guides. The SCSG also has initiated working relationships with many federal, nonprofit, and private standards agencies, including, but not limited to, the following:

- American National Standards Institute (ANSI)
- ASTM International
- International Association of Chiefs of Police (IACP)
- International Association of Fire Chiefs (IAFC)
- International Association of Fire Fighters (IAFF)
- Department of Defense (DOD)
- Department of Homeland Security (DHS)
- Environmental Protection Agency (EPA)
- Institute of Electrical and Electronics Engineers (IEEE)
- National Bomb Squad Commanders Advisory Board (NBSCAB)
- National Fire Protection Association (NFPA)
- National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory (NIOSH NPPTL)
- National Institute of Justice (NIJ)
- National Institute of Standards and Technology, Law Enforcement Standards Office (NIST/OLES)
- Occupational Safety and Health Administration (OSHA)

IAB Standards Development Priorities and Adopted or Referenced Standards

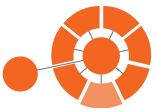
The SCSG establishes and maintains an updated list that identifies standards that have been adopted or referenced. In addition, the SCSG supports and coordinates the IAB's efforts to identify and prioritize standards requirements derived from the responder community.

To do so, the SCSG conducts a rigorous survey for the IAB. After the respective gaps are identified across all IAB SubGroups, the gaps are then evaluated using a standardized survey questionnaire. The survey responses are statistically analyzed, and a rank order is established for each gap selected for the evaluation. The end product of the survey is a list of priorities, vetted by IAB membership—the IAB Standards Development Priorities. The IAB prioritized list of standards development requirements is available on the IAB website, www.iab.gov.

The Standards List located at the end of the SEL includes standards officially adopted by IAB and additional standards that SEL users will find valuable for reference.

Accomplishments

During the past year, the IAB has successfully influenced the development of priorities for standards, as well as the revision of



Standards Coordination SubGroup

several CBRN and all-hazards related standards, specifically the following:

- Significantly expanded its membership and, as a result, was able to make great progress on a number of critical initiatives.
- SCSG and IAB members continued to serve as the IAB's liaison on the joint AOAC/ANSI/ASTM working groups responsible for the revision of several relevant explosive and biological sampling standards.
- SCSG members continued to serve as the IAB's liaison to numerous NFPA technical committees to include the NFPA Protective Clothing and Equipment Technical Correlating Committee and the NFPA Hazardous Materials Protective Clothing and Equipment Committee.
- Continued to promote the DHS program requirement that funds used specifically for the purchase of CBRNE equipment meet DHS-established or adopted performance standards.
- Participated in ASTM standards development activities in the areas of chemical detector standards, response robot test methods, and decontamination equipment standards.
- Developed, documented, and implemented new procedures for the identification of standards for adoption and ultimate adoption of standards by the IAB, and for the identification and prioritization of new standards development requirements.
- The IAB, using the new process developed by the SCSG, formally adopted ASTM E2601-08 Radiological Response Standard Practice and the NIJ 0116.00 CBRN Protective Ensemble Standard for Law Enforcement.

Membership

CHARLES CORDOVA
Seattle (WA) Fire Department

ALIM FATAH
National Institute of Standards and Technology

JEFF FINN
Fairfax County (VA) Police Department

JOHN FORD (RETIRED)
Joint Program Executive Office Chemical Biological Defense

KATHLEEN HIGGINS
Department of Homeland Security, Science and Technology Directorate, First Responder Group

LISA LYON
U.S. Army-Joint, Interagency, Intergovernmental & Multinational Program

GREGORY MROZINSKI
U.S. Army-Edgewood Chemical Biological Center

TIM REHAK
CDC National Institute for Occupational Safety and Health

DERECK ORR
National Institute of Standards and Technology

DEBRA STOE
National Institute of Justice

MARK STOLOROW
National Institute of Standards and Technology, Law Enforcement Standards Office

JONATHAN SZALAJDA
National Institute for Occupational Safety and Health, National Personal Protective Technologies Laboratory

Subject Matter Experts

JASON ALLEN
Intertek Testing Labs

RICK LAKE
ASTM International

STEVEN CORRADO
Underwriters Laboratories

TIMOTHY FISK
Orlando (FL) Police Department (Ret.)

PAT GLEASON
Safety Equipment Institute

CASSY ROBINSON
Savannah River National Lab

ROBERT VONDRASEK
National Fire Protection Association

- Completed the revision and publication of ASTM Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders.

Current Initiatives

The following are among the equipment performance standards activities to which the SCSG is currently contributing:

- Revision of ASTM Chemical Detection and Equipment Certification Standard
- Continued NIOSH, ECBC, and NIST development of standards and test procedures for all classes of CBRN respirators, including CBRN combination SCBAs, CBRN supplied-air respirators, and closed-circuit SCBAs
- Continued support of standards development activities in ASTM for urban search and rescue robots
- Support of work being done by NIST on the Vehicle Borne Improvised Explosive Device (VBIED) Robotic Standard Test Methods

Summary

The importance of standards for public safety operations and response to all hazards and threats cannot be overstated. The IAB is the vanguard of America's effort to rapidly develop critical standards. The SCSG, by coordinating the activities of the IAB SubGroups and harmonizing the efforts of the contributing organizations, continues to enhance the safety of responders and the security of the United States.

MARTIN HUTCHINGS

Sacramento County Sheriff's Department
Sacramento, California

Martin Hutchings retired after 29 years as a Sergeant with the Sacramento County Sheriff's Department and continues to represent the Sheriff's Department on the IAB as a Reserve Deputy Sheriff. Martin was a certified bomb technician for 15 years and the Bomb Squad and Explosive Detection Canine Supervisor for his last 10 years at the department. Mr. Martin was elected as a founding member of the National Bomb Squad Commanders Advisory Board, and served on the board for six years. For the last four years since retirement, he has worked part-time as an Explosive/Bomb Technician Subject Matter Expert in support of the National Institute of Standards and Technology, Law Enforcement Standards Office. Mr. Martin has worked on many committees to support bomb squads including: the NIJ Law Enforcement Personal Protective Equipment and the Bomb Technician Bomb Suit Standard Committees; National Accreditation, and Certification Committee for U.S. Bomb Squads; Department of Homeland Security (DHS), Science & Technology Domestic Improvised Explosive Device Subcommittee; and the DHS Explosive Standards Working Group.

PHILIP J. MATTSON

Standards Branch
Test & Evaluation and Standards Office
Science & Technology Directorate
Department of Homeland Security

Philip Mattson serves as the Program Manager for the Execution, Standards Branch in the Test & Evaluation and Standards Office at the Department of Homeland Security Science and Technology Directorate. As part of his duties, he coordinates and manages the broad portfolio of standards development projects executed through the Office of Standards. Prior to coming to DHS, he served as the Program Manager for Critical Incident Technologies at the Office of Law Enforcement Standards at the National Institute of Standards and Technology, where he managed programs to develop a suite of first responder related standards. He is the federal Co-chair of the Standards Coordination SubGroup of the IAB for Equipment Standardization and Interoperability, and is the Vice Chairman of the ASTM E54 Homeland Security Applications Committee. He holds a Bachelor's Degree in Nuclear Engineering Technology from Oregon State University, and a Master's Degree in Physics from the Naval Postgraduate School. He has received extensive training in nuclear weapons and radiological incident management, and is a registered Professional Engineer. He is a retired Army officer, serving 20 years as a nuclear physicist and in the Corps of Engineers.

Strategic Planning SubGroup

The mission of the Strategic Planning SubGroup (SPSG) is to identify, monitor, evaluate, and coordinate IAB feedback on strategic national plans, programs, policy, and doctrinal initiatives that affect the emergency responder community.

Strategic Planning SubGroup (SPSG)

The mission of the Strategic Planning SubGroup (SPSG) is to identify, monitor, evaluate, and coordinate IAB feedback on strategic national plans, programs, policy, and doctrinal initiatives that affect the emergency responder community.

Roles and functions

- Inform policymakers about emergency responders' operational concerns.
- Identify and interpret emerging policy, doctrine, or practice issues and coordinate IAB response.
- Monitor diverse strategic national initiatives for integration and coordination, and identify gaps and conflicts, focusing on the interagency and multidisciplinary response to major incidents.
- Coordinate overarching strategic initiatives that impact multiple SubGroups of the IAB.
- Coordinate ad-hoc special project teams as directed by the Leadership Team.
- Facilitate external communications and outreach as directed by the Leadership Team.

Ongoing projects

- Coordinate IAB feedback to the National Security Staff on interagency policy development and review.
- Identify existing and future plans, policies, and doctrinal initiatives that would benefit from IAB input.
- Build relationships with associated emergency services policymakers and organizations.

Priorities and Objectives for FY 2011

- Develop and maintain a prioritized list of organizations and initiatives of interest or influence to the IAB, and develop an engagement plan.
- Provide IAB feedback to the National Security Staff on Presidential Policy Directive – 8 and its implementation.
- Participate in the FEMA Strategic Foresight Initiative.
- Provide IAB feedback on policy and operational implementation concepts to the DHS Office of Health Affairs on the BioWatch program.
- Participate in the development of CPG 103 – Strategic Planning for Emergency Management and Homeland Security Officials.
- Serve as central point of contact for IAB participation in Project Responder 3.
- Support short-fuse taskings from funding federal partners that fit the SPSG mission, roles, and functions.

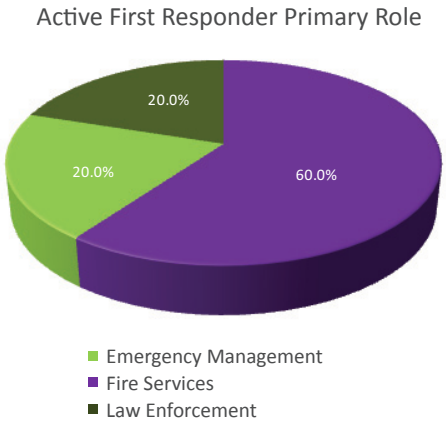
Photo Courtesy of www.defenselink.gov

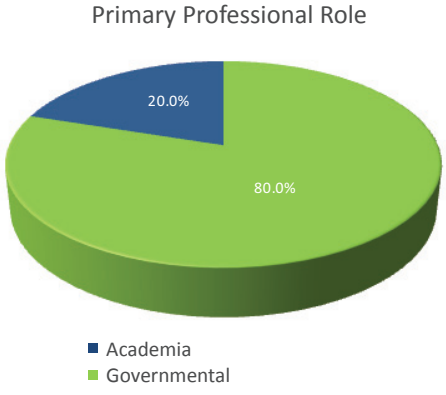
STATE & LOCAL CO-CHAIR

MARK ANDERSON
Bellevue (WA) Fire Department

FEDERAL CO-CHAIR

MICHAEL WALTER
Department of Homeland Security, Office of Health Affairs, BioWatch





Membership

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MARK ANDERSON

Bellevue (WA) Fire Department

Mark Anderson is a Firefighter/Paramedic with the Bellevue (WA) Fire Department and has 22 years of experience as a first responder in the Seattle metro area. He has been working at the local, regional, and state levels on homeland security planning and preparedness issues since 1998. His primary areas of focus are: fire service special operations (including mass casualty incident response, structural collapse rescue, hazardous materials response, and medical support to public safety special operations), intelligence fusion, information sharing, and risk assessment and strategic planning.

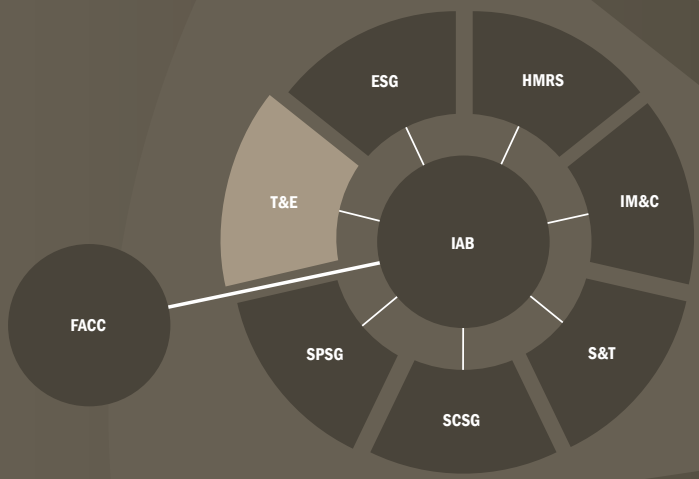
Mr. Anderson's homeland security service and experience includes: medical specialist and medical manager on a FEMA Urban Search & Rescue Task Force (including a deployment to the Hurricane Katrina response); development of regional response protocols for suspicious substances in the wake of the anthrax attacks of 2001; development of regional structural collapse rescue programs and training; management of local and regional homeland security grant programs training of regional first responders in CBRNE response tactics, techniques, and procedures; and development of regional plans for fire service integration in the Washington State Fusion Center.

Mr. Anderson holds a B.A. in Geo-Political History from the University of Washington, and served as a special operations officer in the United States Army for 15 years. He became a member of the IAB in 2009.

MIKE WALTER

Department of Homeland Security, Office of Health Affairs

Dr. Michael V. Walter joined the U.S. Department of Homeland Security's Office of Health Affairs as the BioWatch Program Manager in September 2009. Prior to joining the BioWatch Program, Dr. Walter was Staff Senior Scientist and headed the Technology Special Project Team for the U.S. Department of Defense Joint Program Executive Office for Chemical and Biological Defense. He also has held positions with the Central Intelligence Agency, the Naval Surface Warfare Center, and Texaco, Inc. Dr. Walter possesses more than 20 years experience in microbiology and biological warfare research. He has an extensive background in sampling and detection for aerosolized microorganisms, as well as in the management and development of design, test, evaluation, and quality assurance for related systems and programs. He also has significant experience in laboratory assay development and testing. Dr. Walter is the recipient of eight publication and innovation awards, and the author of numerous scientific articles, abstracts, and patents. He received his Ph.D. in Microbiology from the University of North Dakota.



Training and Exercise SubGroup

The mission of the Training and Exercise (T&E) SubGroup is to improve responder mission performance by conducting a cross-disciplinary review of, and providing end user input on, training and exercise doctrine, standards, and guidance developed for the responder community.

Training and Exercise (T&E) SubGroup

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Membership

The Training and Exercise (T&E) SubGroup consists of representatives from local, state, and federal responder agencies and institutions engaged in responder training and exercise development and delivery. A goal of the SubGroup is to engage all of the response disciplines, as defined by DHS FEMA's National Preparedness Directorate. The T&E SubGroup also draws upon a wide range of subject matter experts (SMEs), both within and outside the IAB.

Roles and Functions

- Identify performance improvement needs related to Emergency Support Functions.
- Provide subject matter expertise to support the development of training and exercise programs.
- Provide end-user guidance and operational lessons learned to support training and exercise program development and improvements.
- Facilitate the implementation of training and exercise programs and standards that support individual competencies and organizational capabilities.
- Advocate for standardized national guidance for responder and equipment training and exercises.

Initiatives and Progress

The IAB membership and federal partners recognize that, in addition to the core mission of recommending appropriate responder

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GREGORY G. NOLL, CSP
South Central (PA) Task Force

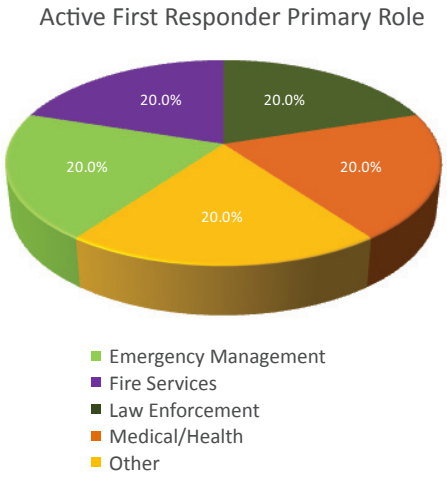
FEDERAL CO-CHAIR

WAYNE E. YODER
Department of Honeland Security, Federal Emergency Management Agency, U.S. Fire Administration, National Fire Academy

equipment and performance standards for their equipment, a crucial need exists to provide guidance on the training required to effectively and safely use the equipment. The basis for this guidance is to enhance preparedness capabilities and to improve responder performance and safety.

The following initiatives were addressed by the T&E SubGroup in FY 2011:

- In cooperation with the Equipment SubGroup, developed best practice documentation for the evaluation of manufacturer and vendor-provided training that will effectively meet user needs. The best practice document is intended to assist purchasers in becoming educated consumers of manufacturer and vendor-provided training for equipment acquired from the Authorized Equipment List or Standardized Equipment List (AEL/SEL).
- Developed guidance documentation to assist response organizations in the selection of modeling, simulations, and simulators. This resource includes questions for purchasers to ask vendor so that the purchasing agency can determine if a particular product meets their training and operational requirements.
- Participated in the development of fact sheets and related support materials for the NIOSH NPPTL project, pertaining to CBRN respiratory protection and personal protective clothing, equipment, and training.
- Categorized and updated training requirements for equipment included in the SEL



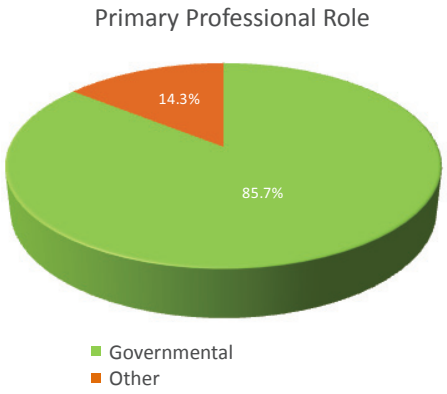


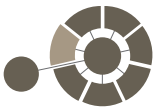
Photo Courtesy of LT Darin Dowe

to assist in equipment procurement by providing guidelines on operator proficiency.

- Identified the training required (federal, state, local, and tribal) to successfully tie performance of tasks to overall capability.
- For each SEL item, identified core training required to operate the equipment and also categorized each item as having minimal, moderate, or extensive training requirements, for initial and sustainment training. This enables responders to consider total cost of ownership for equipment items by highlighting initial and sustainment training requirements in addition to procurement costs. The following definitions are used to indicate training requirements for each item:
  - Core training is defined as the fundamental baseline knowledge, skills, and abilities required for mission specific assignments. For example, an Emergency Medical Technician—Intermediate or Law Enforcement Patrol Officer.
  - Initial training is defined as the training required for a responder competent in a specialization to achieve competency-based knowledge, skills, and abilities beyond day-to-day duties. Initial training requirements for SEL items are presented as minimal (<1 day), moderate (1-2 days), or extensive (>2 days). For example, competency-based training reflects the use of:
    - new detection equipment by a certified Hazmat technician; or
    - specialized PPE employed by SWAT, EOD, or Crime Scene Technician.
  - Sustainment training is defined as training required to maintain competency-based knowledge, skills, and abilities. Sustainment training requirements for SEL items are presented as minimal (<1 day), moderate (1-2 days), or extensive (>2 days).
- Continued to explore modeling and simulation training technologies to identify viable, utilitarian applications, with the intent to advocate for more effective selection and implementation approaches for the response community.
- Provided input to the Standards Coordination SubGroup on the development, adoption, and implementation of appropriate and relevant training standards.

Ongoing Commitments

- Continue to be a national, interdisciplinary sounding board for training and exercise needs, doctrines, and programs. This task is essential in focusing funds and resources on relevant, operationally sound training and exercise programs.
- Provide input on the development, adoption, and implementation of appropriate and relevant training and exercise standards and requirements for the response community.
- Enhance responder safety through the sustainment of marketing and information programs pertaining to development and implementation of respiratory protection



Training & Exercise SubGroup

programs and personal protective equipment.

- Explore opportunities to improve the delivery of equipment-specific training through recommended instructional design measures.
- Identify critical performance-based training and exercise needs through engagement with the response community.
- Support the emergency preparedness community in the development of training standards, with an emphasis on matching training requirements to responder equipment.
- Review and provide input to improve the operational applicability of training and exercise doctrine and programs that impact the emergency preparedness community.
- Promote instructional systems design-based models, such as analysis, design, development, implementation, and evaluation (ADDIE) for training and exercises.
- Coordinate with the respective IAB SubGroups to identify in each equipment category the minimal, moderate, or extensive training requirements based on initial and sustainment training required to operate the equipment.

Membership

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Orlando (FL) Fire Department

MICHAEL BRANDON
Louisville (KY) Metro Police Department

TERRENCE CLOONAN
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Technical Support Working Group, Training Technology Development Subgroup

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York Country (ME) Emergency Management

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Fire Department, City of New York, retired

JAMES REMINGTON
National Institutes of Health, National Institute of Environmental Health Sciences

Priorities for FY 2012

- Provide input and feedback to Nevada National Security Site (NNSS) Counter Terrorism Operations Support on the Improvised Nuclear Device (IND) Awareness, Incident Commander and Key Leaders Training Programs currently under development.
- Participate in governance board for DHS Science and Technology First Responder Group Virtual Training Simulation Program and Pilot, and provide input to program development.
- Participate in the development of the Law Enforcement Personal Protective Equipment Standards and Training process, as requested by the National Institute of Justice.
- Identify possible gaps with current training in CBRN response, that addresses the concerns of the public health laboratories, law enforcement, and hazardous materials response teams, to better prepare the response community for such an event.
- Develop a method to gather emerging training and exercise needs from the broader response community, including reviewing Naval Postgraduate School Center for Homeland Security and Defense thesis topics.

Future Initiatives

The process of providing advice on relevant and successful responder-focused training and exercise programs is an ongoing process, driven by threat, capability, technology, and personnel. The T&E SubGroup will identify and prioritize training and exercise requirements based on these factors.

The T&E SubGroup will work closely with all IAB SubGroups to identify standards where they exist and identify their application to individual competency-based and organizational capability-based training. Where standards do not exist, the SubGroup will advocate, through the IAB, for their establishment.

Summary

The IAB T&E SubGroup strongly recommends that any equipment purchased include identification of initial and sustainment requirements for competency-based training on the application, operation, and maintenance of the equipment.

The IAB T&E SubGroup recommends that organizations purchasing or developing training require that it adhere to the principles of instructional systems design and best practices for adult learning, such as those demonstrated in the Responder Training Development Center (RTDC) (can be accessed by visiting https://www.firstrespondertraining.gov/rtdc/state/).

The IAB T&E SubGroup endorses the exercise cycle as cited in the Homeland Security Exercise Evaluation Program (HSEEP). Exercises serve to validate plans and training, and, as such, are a critical component in the cycle of preparedness.

GREGORY G. NOLL

Program Manager
South Central (PA) Task Force

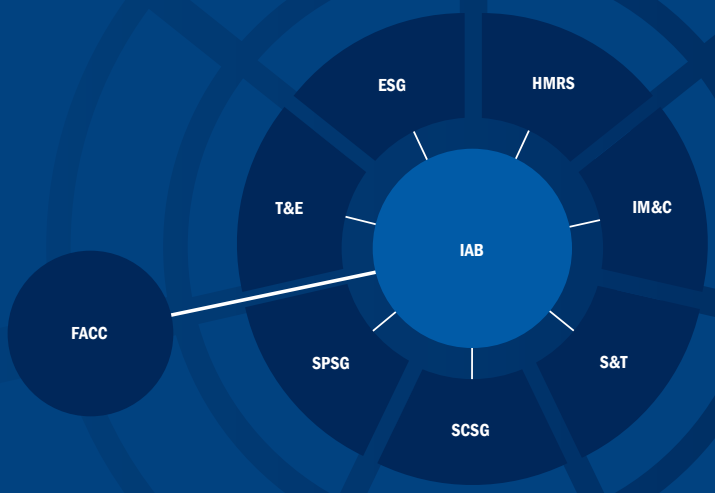
Greg Noll is the Program Manager for the South Central (PA) Regional Task Force, one of nine regional task forces established throughout Pennsylvania, as well as the Hazmat and WMD Manager for the PA Task Force-1 federal urban search and rescue unit. A member of the U.S. Air Force Reserve with over 29 years of service, Mr. Noll has served as a subject matter expert for various DOD hazardous materials and counter-terrorism response training programs.

Mr. Noll has 40 years of experience in the fire service and emergency response community, and is the co-author of 9 textbooks on hazardous materials emergency response and management topics. In 2010, he received the William Patterson Lifetime Achievement Award from the California hazardous materials emergency response community for his significant contributions to the hazardous materials emergency response and training communities, and in 2011 was the recipient of the John M. Eversole Lifetime Achievement Award by the International Association of Fire Chiefs (IAFC), for his leadership and contributions to further and enhance the hazardous materials emergency response profession.

WAYNE E. YODER

Training Specialist, Hazardous Materials Program
DHA/ FEMA /U.S. Fire Administration,
National Fire Academy

Wayne Yoder is the Hazardous Materials Program Manager and Training Specialist for the U.S. Fire Administration's National Fire Academy, where he is responsible for curriculum management, technical assistance, and serves as the resident subject matter expert for the program area. Mr. Yoder is retired from the Delray Beach (FL) Fire Department after 21 years of service as a fire fighter/EMT-I/ Hazardous Materials Technician, Company Officer, and Special Operations Coordinator. He has over 30 years in fire and emergency services, with over 25 years in hazardous materials and WMD response, management, training, and planning at the local, regional, state and federal levels. Mr. Yoder has extensive experience in development and delivery of training systems and programs for hazardous materials and WMD responders and managers at all levels, for both the public and private sectors. He is also a member of the NFPA Hazardous Materials Response Personnel Technical Committee, and the ASTM E54 Homeland Security Applications Technical Committee. Mr. Yoder is currently credentialed as a Certified Hazardous Material Manager by the Institute of Hazardous Materials Management.



IAB SEL Summary

SEL Summary

FOREWORD

The Standardized Equipment List (SEL) is provided to the responder community by the InterAgency Board (IAB) for Equipment Standardization and Interoperability. The SEL has traditionally contained a list of generic equipment recommended by the IAB to local, tribal, state, and Federal Government organizations in preparing for and responding to all Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) events. This edition continues the transition to a broader "all-hazards" SEL, while maintaining an emphasis on CBRNE events.

The SEL is a guideline, and its use is voluntary. The SEL promotes interoperability and standardization across the response community by offering a standard reference and a common set of terminology. The IAB does not assume any liability for the performance of equipment items mentioned in the SEL.

The most current SEL is printed and distributed each year in conjunction with the IAB Annual Report. This printed edition is always preceded by a complete review of the SEL, and, thus, contains numerous changes and updates. However, the SEL master is maintained online in order to keep pace with maturing and emerging technologies. It is available in interactive format on the IAB web site, www.iab.gov. The SEL is updated online as required, and each online record includes the date and time of its most recent change. Local, tribal, state, or Federal Government organizations may present suggested changes at any time for consideration.

Alignment with the DHS Authorized Equipment List

The numbering scheme and structure of the SEL are aligned with the Authorized Equipment List (AEL) produced by Department of Homeland Security (DHS). Originally a subset of the SEL, the AEL is the equipment purchase grant guidance for several major grant programs, including the entire DHS Homeland Security Grant Program (HSGP). It is currently maintained by the Federal Emergency Management Agency (FEMA) Grant Programs Directorate of DHS. The SEL/AEL alignment is the result of a multi-year effort undertaken so that the responder community could easily obtain grant allowability information from DHS alongside the features and operating consideration information contained in the SEL.

The SEL and AEL each contain 21 sections, as follows:

1. Personal Protective Equipment
2. Explosive Device Mitigation and Remediation Equipment
3. Operational and Search & Rescue Equipment
4. Information Technology
5. CyberSecurity Enhancement Equipment
6. Interoperable Communications Equipment
7. Detection
8. Decontamination
9. Medical
10. Power
11. Reference Materials
12. Incident Response Vehicles
13. Terrorism Incident Prevention Equipment
14. Physical Security Enhancement Equipment
15. Inspection and Screening Systems
16. Animals and Plants (New in 2011)
17. CBRNE Prevention and Response Watercraft
18. CBRNE Aviation Equipment
19. CBRNE Logistical Support Equipment
20. Intervention Equipment
21. Other Authorized Equipment

Until this year, Section 16 of the DHS AEL was entitled "Agricultural Terrorism Prevention, Response, and Mitigation Equipment," and was not included in the SEL. The IAB and DHS undertook a complete revision of this section in 2011, renaming it "Animals and Plants." The first eight items in this section have now

been incorporated into the SEL. The IAB continues to work closely with FEMA's Grant Programs Directorate to ensure the closest possible correlation between the two lists.

SEL/AEL Numbering Scheme

The SEL and the DHS AEL both utilize the numbering scheme originally introduced in the 2003 SEL. The format for SEL/AEL numbers is 99xx-88-yyyy, where

- 99 is the section number, from 01 through 99 (currently 01 through 21 are used, as shown on page 76).
- xx is the category. It is alphanumeric and unique within its section. For example, within Personal Protective Equipment, all items associated with the NFPA 1994 standard will have the category "CB".
- 88 is the numeric subcategory. For example, within the Personal Protective Equipment Section, the NFPA 1994 Class 2 Ensemble has a subgroup code of "02". This code may be set to "00" when not required.
- yyyy is the item identifier. It is alphanumeric and unique within its section, class, and group. Using an alphanumeric code at this level increases flexibility, and decreases the chance of human error. For example, the Hard Hat in the Personal Protective Equipment section uses the item identifier "HHAT."

IAB Equipment SubGroup

The IAB's Equipment SubGroup (ESG) has sole responsibility for the maintenance and publication of the SEL. The ESG is the largest working group within the IAB, and draws subject matter expertise from across the IAB to support its mission. While the ESG has multiple missions and priorities as described in the Annual Report, its highest priority is the continuation of the SEL.

2011 Changes

The 2011 SEL includes 680 items, 114 of which have been changed or added in this edition. There was only one deletion in this edition (Promethazine, a gastrointestinal pharmaceutical in Section 9, was deleted in favor of medications with fewer side effects). Ten new items were added: an explosives item in Section 2, tourniquets in Section 9, and eight items in the new Section 16, Animals and Plants.

The impact by section is summarized in the following table:

2011 SEL Section Impact Summary

Section Title		Changes	Additions	Deletions
1.	Personal Protective Equipment	12		
2.	Explosive Device Mitigation and Remediation Equipment	17	1	
3.	Operational and Search & Rescue Equipment	1		
4.	Information Technology	26		
5.	CyberSecurity Enhancement Equipment	3		
6.	Interoperable Communications Equipment	21		
7.	Detection	8		
8.	Decontamination	1		
9.	Medical	8	1	1
10.	Power	1		
11.	Reference Materials	0		
12.	Incident Response Vehicles	0		
13.	Terrorism Incident Prevention Equipment	2		
14.	Physical Security Enhancement Equipment	0		

15.	Inspection and Screening Systems	1		
16.	Animals and Plants (New in 2011)	0	8	
17.	CBRNE Prevention and Response Watercraft	0		
18.	CBRNE Aviation Equipment	1		
19.	CBRNE Logistical Support Equipment	0		
20.	Intervention Equipment	2		
21.	Other Authorized Equipment	0		

Training Requirements

The inclusion of Training Requirements for each SEL item began in the 2008 Edition. These requirements were developed by the Training SubGroup in cooperation with each of the four SubGroups responsible for SEL content, and have been updated in this edition. Each item contains training requirement information in three parts:

1. Core Training requirements, which describe the fundamental baseline training (as opposed to product specific training) required for operation, usually by reference to one or more key documents (such as a standard containing minimum qualifications) or certifications (such as a diver's certificate).
2. Initial Training requirements, which quantify the amount of training needed to utilize the specific piece of equipment, presented as Minimal (< 1 day), Moderate (1-2 days), or Extensive (>2 days).
3. Sustainment Training requirements, which quantify the amount of annual recurrent training needed to maintain proficiency in using the specific piece of equipment. Again, the requirement is presented as Minimal (< 1 day), Moderate (1-2 days), or Extensive (>2 days).

In some cases, additional information is supplied. For example, some bomb squad items show Sustainment Training as "Extensive (>2 days) with 3-yr recertification rqt" to remind users of the 3-year recertification requirement for FBI-accredited bomb squad members.

Selection Factors and Mission-Specific SubLists

Early editions of the SEL included "selection factors" to provide an alternate method of referencing SEL items. The goal was to allow searches based upon a combination of mission factors, usually one threat/environment factor and one personnel-related factor. In 2009, the ESG began examining the efficacy of these selection factors. They found that the use of unique factor definitions for different SEL sections was confusing to users, and that in some cases factors were defined merely to "force-fit" the selection scheme for a given section. Further, the apparent usage of these factors was too low to justify the effort involved in maintenance.

While reviewing the selection factors for 2010, the ESG noted that the list developed in 2008 for Medical Points of Dispensing (the POD-List) was relatively well understood and easy to use. Instead of requiring a matrix, the POD-List was a simple "sublist" in which any applicable SEL item from any section was checked for inclusion. A second sublist for Mortuary Operations was already being created by the Health, Medical, and Responder Safety SubGroup. This prompted a decision by the ESG to abandon the selection factor approach in the 2010 edition for all sections except Section 1, and to utilize "Mission Specific SubLists" to replace the selection factor process.

This edition features ten Mission Specific SubLists, including a new SubList entitled "Mass Care/Shelter." Additional sublists are being developed for 2012, including several Law Enforcement mission lists.

Elimination of Printed SEL in favor of CD-ROM

Since adding features and operating considerations information in 2004, the printed version of the SEL expanded steadily. As a result, the 2008 edition became the first to "streamline" the printed SEL to include only the SEL Number, Title, and Description

of each item. With both size and costs increasing, this edition takes the next logical step: rather than layout and print a partial list, the entire SEL is being stored on the CD-ROM located inside the back cover of this document. It contains both PDF versions of the printed document and a complete interactive version of the SEL. The SEL on the CD-ROM is formatted identically to the online SEL, contains complete information on every item, and is viewable offline on virtually any computer using a Web browser.

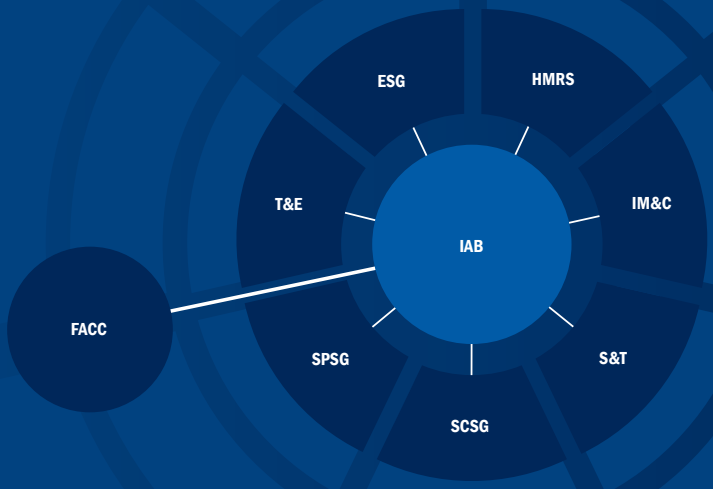
Online Versions of the SEL

The master, interactive version of the 2011 SEL is accessible online at the IAB web site (www.iab.gov). As mentioned above, this version of the SEL will always contain the latest updates. The IAB site also allows users to download the IAB Annual Report in PDF format.

Another version of the SEL is available as part of the Responder Knowledge Base (RKB), at www.rkb.us. The RKB's SEL display provides links to related standards, products, grants, and other equipment-related information, as well as an integrated display option that combines elements from the SEL and AEL.

Summary

The 2011 SEL represents the collective efforts of the IAB members and several related support organizations to provide recommendations for response to emergencies, disasters, and CBRNE incidents. Like all previous versions, it is intended to provide the best possible information in support of all emergency responders. Suggestions and comments are welcome.



Appendix

Summary of Current Research and Development by SEL Category

Project	Description	Managing Agency/ Participants	Availability/Status	TRL
SEL Category 01- Personnel Protective Equipment				
Enhanced Performance Tactical Chemical, Biological, and Radiological Boot	An enhanced performance CBR boot providing protection against chemical warfare agents, toxic industrial chemicals and materials, and flash fire. The boot is designed to meet the component requirements of National Fire Protection Association (NFPA) 1994, Standard on Protective Ensembles for First Responders to CBR Terrorism Incidents, and NFPA 1971, Standard on Protective Ensembles for Structural and Proximity Fire Fighting.	www.tswg.gov	Conducting operational field and service life testing. North Carolina State University Textile Protection and Comfort Center/ Globe Firefighter Suits, Falcon Performance Footwear/W. L. Gore & Associates.	8
Multipurpose Threat Glove	A multipurpose glove that protects against cuts, punctures, and pathogen threats. The gloves are slip-resistant but are thin and pliable enough to retain manual dexterity.	www.tswg.gov/ TSWG/NIJ	Conducting operational testing. Warwick Mills, Inc.	8
Low Profile Escape Mask	Short-duration protective mask to escape from a contaminated area and meet requirements of the National Institute for Occupational Safety and Health Standard for Chemical, Biological, Radiological, and Nuclear—Self-Contained Escape Respirator (September 2003). Packaged mask is expected to approximate the size of a daily planner to make it easily portable.	www.tswg.gov	Ongoing development/testing.	5
CB/Smoke Escape Hood	Provides 15 minute escape capabilities from smoke and chem/ bio incidents.	www.tswg.gov	Ongoing development/testing. Essex Inc.	5
End-of-Service-Life Indicator for Respirator Cartridges	System to indicate remaining service life of chemical filter cartridges.	NIOSH/NPPTL/ DOD	Ongoing development.	5
Land Warrior Project	Integrated protection, detection, and communications ensemble for soldiers.	www.natick.army.mil	Ongoing development.	6
Long Duration Tactical SCBA	A lightweight, low-cost, low-profile, long-duration closed-circuit SCBA (rebreather) for law enforcement tactical operations.	www.tswg.gov	Development performance testing completed. Vendor will seek NIOSH certification. www.technicalproductsinc.us	8
Next-Generation Bomb Suit	Improved bomb suit with integrated chemical protection.	www.tswg.gov	Ongoing development.	6
Full Spectrum Ballistic Eyewear	Full-spectrum ballistic eyewear with an electrochromatic film to rapidly increase or decrease light transmission in response to the ambient light.	www.tswg.gov	Ongoing development.	6

Project	Description	Managing Agency/ Participants	Availability/Status	TRL
SEL Category 02- Explosive Device Mitigation and Remediation				
Next-Generation Handheld Explosives Detector	Improved handheld explosive detector for residue, imaging, and personnel screening.	www.tswg.gov	Ongoing development.	5
Homemade Explosives Containment Guide	Standardized containment guidance for the clean-up of chemicals and materials that may be found in laboratories producing illicit explosive materials.	www.tswg.gov Air Force Research Lab (AFRL)	Ongoing development.	7
Dual-Energy X-Ray to Detect Vehicle-Borne Improvised Explosive Devices	Dual-energy X-ray system for the detection of bulk explosives that may be concealed in cars and trucks. Discriminates between organic and metallic objects.	www.tswg.gov	Commercial transition completed. Spectrum San Diego/ SAIC	9
Backscatter Walk-through Portal	Ruggedized, modular, walkthrough backscatter system intended for military and civilian use in harsh environments, including severe weather and extreme temperatures.	www.tswg.gov	Ongoing testing/development. Rapiscan Systems Inc.	7
Automatic Target Recognition for Backscatter Portals	Software package for current backscatter X-ray portals to provide privacy filters and automatic target recognition.	www.tswg.gov	Project completed. Functional prototypes available. L3 Communications Service Division	8
X-ray Explosive Detection System Image Quality Enhancement	Statistical studies to improve the performance of explosive detection system by determining the quantitative relationships between explosives detection, false alarm rates, image resolution, and dual-energy detection capability.	www.tswg.gov/ TSWG/DHS S&T	Ongoing testing/development. Reveal Imaging, GE Global Research Center, with GE Homeland Protection	6
SEL Category 03- CBRNE Operations & Search & Rescue Equipment				
Stand off Patient Triage	Device to identify viable patients in mass casualty incident.	www.tswg.gov/ TSWG/DHS S&T	Ongoing testing/development. Prototype available. Boeing	6
Vehicle Retrofit Kit for Mass Casualty Evacuation	An easy-to-install kit that rapidly transforms a transit or school bus into an evacuation vehicle following a large-scale CBRNE incident or natural disaster.	www.tswg.gov/ FDNY	Transitioned to commercial product. Raytheon	8
3-D Personnel Locator	Device to locate personnel in three dimensions.	www.tswg.gov DHS S&T	Ongoing development. TRX Systems Inc.	6
SEL Category 04- Information Technology (Software)				
Tool Characterization Guide	Characterize the performance of disruptors against varying sizes of threat devices. This data will be incorporated into a Tool Characterization Guide, which will assist bomb technicians in determining which disruptor needs to be used based on an IED or VBIED threat.	www.tswg.com	Ongoing testing/development. Battelle Memorial Institute and Sandia National Laboratories	6

Project	Description	Managing Agency/ Participants	Availability/Status	TRL
SEL Category 05- Cyber Security Enhancement Equipment				
Detection of Novel Attacks Against Network Servers	Intrusion detection of network servers against viruses and cyber attacks.	www.tswg.com	Ongoing development.	6
Passive Network Mapping Tool	Rapidly assess cyber network performance.	www.tswg.com	Ongoing development.	6
SEL Category 06- Interoperable Communications Equipment				
Small, Portable Voice Radio Repeater System	Hockey puck-sized radio repeater system to maintain voice communications in collapsed buildings and tunnels.	www.tswg.com	Prototype available. Operational testing. DTC Inc.	7
Unified Incident Command and Decision Support (UICDS)	Develops a framework based on NIMS/Incident Command System (ICS) and NRP and develops compliant tools to manage and share incident information that will enhance Incident Command Systems and Multi-Agency Coordination common situational awareness and decision support during all types of incidents. UICDS framework will be based on an open-architecture to allow multiple responding organizations (using their own equipment) to jointly manage personnel, direct equipment, and seamlessly communicate, gather, store, redistribute, and secure any mission-critical information needed by incident commanders and emergency responders during an emergency situation.	DHS S&T	Ongoing testing/development. FY10-FY11.	7
SEL Category 07 - Detection				
Biological Aerosol Mass Spec (BAMS)	Real-time detection, identification, and warning of hazardous biological agents in complex interferent backgrounds.	www.tswg.gov LLNL	Ongoing development.	6
Distributed Chemical Sensing and Transmission	A fiber optics-based distributed sensing system that rapidly detects, identifies, and alarms the presence of TICs and CWAs at or below IDLH levels.	www.tswg.gov	Operational testing. Functional prototype available. IOS http://www.intopsys.com/dicast.html	8
Handheld Biodetection for First Responders	A study to determine the feasibility of modifying existing Cellular Analysis and Notification of Antigen Risks and Yields (CANARY) equipment for the analysis of suspect powder, based on first responder requirements.	DHS S&T/PFPA/ ECBC	Ongoing testing/development. FY10-FY11. MIT Lincoln Labs.	6

Project	Description	Managing Agency/ Participants	Availability/Status	TRL
SEL Cateogory 08 - Decontamination				
Enzymatic Decontamination	Decontamination solution using enzymes to break down chemical and biological contaminants on equipment and in the environment.	www.sbccom.army.mil	Ongoing development.	5
SEL Category 09 - Medical				
SEL Cateogory 10 - Power				
Fuel Cell for Continuity of Operations	Develop and demonstrate fuel cell technology to improve the logistical sustainment of critical response operations.	www.tswg.gov	Continued operational testing FY11.	8
Miscellaneous				
Nano-Material and Nanotechnology Research and Development	Application of nanotechnology materials for chemical-biological detection and protection.	www.raytheon.com	Ongoing development.	5
Camera Blinder	Enable law enforcement to neutralize surveillance cameras from a distance and ensure that their tactics, techniques, and procedures are not compromised.	www.tswg.gov	Operational field testing.	7

Summary of Available Research and Development by SEL Category

Project	Description	Managing Agency/ Participants	Availability/Status
SEL Category 01- Personnel Protective Equipment			
Development of Computer-Aided Face Fit Evaluation Methods	Establish updated database of facial characteristics that can be used by respirator manufacturers to develop better products and by NIOSH for certification.	NIOSH/NPPTL	Completed. Data available.
Improved Chemical Protective Ensemble (ICE)	ICE provides protection against chemical-biological agents with significantly enhanced operational ergonomics and performance. The ensemble provides protection at the NFPA 1994 level and is ideal for physically demanding missions in a chemical or CBRN hazardous environment.	www.tswg.gov/TSWG/CBIRF	Available. Lion Apparel: http://www.lionapparel. com
Risk-Based Protective Clothing Material Permeation Criteria	Develop realistic permeation end-point criteria and test methods for Toxic Industrial Chemicals (TICs) based on dermal toxicity data.	www.tswg.gov/TSWG	Completed. Final recommendations provided to national standards.
Next Generation Fire Fitghter Ensemble	Fire fighter bunker gear with integrated chemical-biological protection. Meets NFPA standards for fire and CB protection.	www.tswg.gov/TSWG/DHS	Completed performance and operational testing. Commercialized versions available from Morning Pride/Total Fire and Globe, respectively, to meet users needs. http://www.totalfiregroup.com. http://www.globefiresuits.com
SEL Category 02- Explosive Device Mitigation and Remediation			
Radio Frequency Shielded Blackout Tent	Rapidly deployable, multi-configuration RF-shielded enclosures evaluated by TSWG. Isolate suspect RCIEDs from external influences. Use patented BEMA RF shielding technology.	www.tswg.gov/TSWG	Available through TEMI Support Services, LLC.
Power Hawk Integration for Robotic Platforms	Integrates the Power Hawk Rescue System as a remotely operated access tool onto the ANDROS F6A robotic platform. Both the Power Hawk Rescue System and the integration kit are available through Remotec.	www.tswg.gov/TSWG	Available. Remotec. Requests for additional information should be sent to iddsubgroup@tswg.gov.
Pallet Charge Disruptor for Large Vehicle	Provides bomb technicians a means to disrupt the contents of vehicles containing large quantities of explosives in a controlled manner while producing minimal collateral effects. The system is supplied with a binary explosive to reduce the burden of explosives storage logistics and is configured to minimize response time and Time on Target.	www.tswg.gov/TSWG	Available. Mining Resource Engineering, Ltd.,
Tactical Timed Firing Device	Provides civilian bomb disposal technicians a small, reliable, multi-use, timed firing device to initiate energetic charges and tools. The device is capable of firing multi-sized shock tube, electrical blasting caps, or electrically primed cartridges.	www.tswg.gov/TSWG	Available. Requests for additional information should be sent to iddsubgroup@tswg.gov.

Project	Description	Managing Agency/ Participants	Availability/Status
IED Wire Attack Tools	For state and local bomb squads during render safe operations, the KUKRI monitors the electrical system and remotely severs the detonator leads if the IED attempts to function. The SABER provides the capability to determine the state of the switch or the threat from the detonator and provides the technician with the proper render-safe action to take.	www.tswg.gov/TSWG	Available as a kit through A-T Solutions at: http://www.atsolutions.com.
Scalable Disruptor	Scalable vehicle bomb disruptor based on commercial-off-the-shelf plastic containers of various sizes and commercial explosive materials readily available to state and local bomb squads. The tamped detonation wave-shaping device results in a reduction of explosive mass and, therefore, reduced collateral damage. Fabrication information and operational guidance is available on CD-ROM for distribution to accredited bomb squads.	www.tswg.gov/TSWG	Applied Research Associates, Inc. Requests for copies of the CD-ROM should be sent to iddsubgroup@tswg.gov.
Protective Boots for Deployed Military Working Dogs	Evaluated canine boots for use in screening operations. Boots extend the working time of the canines and provide protection for the canines in environments where they could step on shattered glass and other debris.	www.tswg.gov/TSWG	Paw, Inc. at http://www.therapaw. net, and Ruff Wear, Inc. at http://www.ruffwear. com
Evaluation and Optimization of Explosives Trace Detection Portals	Transportation Security Administration (TSA) and TSWG study to evaluate and optimize the performance of two explosives trace detection systems, the Smiths Detection Ionscan® Sentinel II and the GE EntryScan3.	TSA and www.tswg.gov/TSWG	GE EntryScan3 portal is available at http://www.geindustrial.com/ge-interlogix/iontrack/prod_entryscan. html. Smiths Detection Ionscan® Sentinel II is available at http://www.smithsdetection.com/eng/1522. php
SEL Category 03- CBRNE Operations & Search & Rescue Equipment			
SEL Category 04- Information Technology			
SEL Category 04- Information Technology (Software)			
Chemical Data and Hazard Assessment	The Chemical Companion system allows incident commanders to evaluate and select the best PPE ensemble given the chemical agent, concentration, and ambient conditions faced. Facilitates rapid, accurate decisions regarding isolation, protective action distances, and hot-zone stay times. Software tool incorporates initial symptoms of exposure, odor thresholds, PPE breakthrough times, and exposure guidelines.	www.tswg.gov/TSWG	Available. Free to government employees and first responders at: http://www.chemical companion.org.
Personal Heat Stress Calculator	Provides a planning tool for first responders to assess and manage heat risk associated with wearing PPE. Personal digital assistant (PDA) allows users to input workload, PPE configuration, and environmental conditions to obtain optimal work/rest cycles for the first responder.	www.tswg.gov/TSWG	Available. GEOMET Technologies, Inc. at: http://heatcommander.net.

Project	Description	Managing Agency/ Participants	Availability/Status
CB Building Protection Protocols	Software that assists engineers in the design/ retrofit of collective protection systems for buildings/critical facilities.	www.tswg.gov U.S. Army Corps of Engineers	Available. UTRC, www.utrc.utc.com
First Responder Radiation Assessment Tools (FRAT) Radiation Biological Dosimetry Tools for First Responders	A software program that contains a number of tools useful to first responders for the management and assessment of casualties of radiation exposure.	www.tswg.gov/TSWG/ Armed Forces Radiobiology Research Institute (AFRRI)	Available to State and Local Government organizations. AFRRI web site at: www.afrri.usuhs.mil.
SEL Category 05- Cyber Security Enhancement Equipment			
Computer Log Collector	A software tool to collect information from a computer hacking incident. A small thumb drive contains the software program and attaches to any USB port on a computer or server. The tool can extract data pertinent to the hacking and store it on the thumb drive, allowing easy downloading to other storage media. The software categorizes, analyzes, and formats the data to make it easy to use by investigators.	www.tswg.gov/TSWG	Available. ID Scientific. jwilkinson@idscientific.com
SEL Category 06- Interoperable Communications Equipment			
SEL Category 07 - Detection			
Hazardous Gas Detection System	Open path, line of sight, IR sensor used for continuous and real-time monitoring of facilities and perimeters at path length up to 100m for hazardous chemical gases/ vapors. Uses optical IR spectral analysis and comparative library to rapidly detect and identify chemical agents.	www.tswg.gov/TSWG/ DHS	Available. Avir Sensors http://www.avirsensors.com
Fast Repetition Rate Fluorimeter	The Fast Repetition Rate Fluorimeter II (FRRF II), monitors chemical contamination in water supplies in near real-time by measuring the bio-fluorescence of naturally-occurring algae.	www.tswg.gov/TSWG	Available. http://www.chelsea.co.uk/FASTtrackaSystem.htm
Non-PCR Detection of Bio Agents	A gold nanoparticle- and antibody-based fieldportable assay for rapid detection and identification of biological agents, which is much simpler to use and operate than conventional PCR methods.	www.tswg.gov/TSWG	Available. www.nanosphere-inc.com
Self-Indicating Radiation Dosimeter	A beta/gamma self-reading radiation dosimeter badge measuring cumulative dose for rapid assessment of radiation exposure so responders can quickly assign triage levels.	www.tswg.gov	Available. JP Labs http://www.jplabs.com/html/about_jp_labs.html
Hardened Benchtop and Handheld Trace Detectors	Assessed and modified design of GE Homeland Security and Smith Detection trace detection systems for operations in rugged and military austere environments.	www.tswg.gov/TSWG	Available.
Handheld Explosive Detector Evaluation	Assessed commercial handheld detectors for trace explosives as a way to screen for vehicle-borne improvised explosive devices.	www.tswg.gov	Requests from government agencies for technical report should be sent to edsubgroup@tswg.gov

Project	Description	Managing Agency/ Participants	Availability/Status
SEL Cateogory 08 - Decontamination			
Electrostatic Decontamination System	A spray-on decontamination solution for rapid (UV light-activated) neutralization of chemical and biological agents.	www.tswg.gov	Available. www.cleanearthtech.com
Expedient Mitigation of a Radiological Release	Easily applied and removable adsorbent coating systems to mitigate the spread of radiological contamination.	www.tswg.gov Argonne National Labs DHS (S&T)	Available. Istron http://www.isotron.net/
Mass Personnel Decontamination Protocols	A handbook containing consensus-based best practices and procedures for CBR mass decontamination.	www.tswg.gov	Available. https://www.cbrniac.apgea.army.mil/Products/Catalog/Pages/default.aspx
Statistical Tool for Sampling Contaminated Buildings	Provides a statistically valid surface sampling plan for building decontamination following a CB event. Guides the sample collection and decontamination process. This is a software tool to efficiently and effectively focus the efforts of decontamination personnel.	www.tswg.gov/TSWG/ Pacific Northwest National Laboratory (PNNL)	Available. Free download at http://dqo.pnl.gov/index.htm.
Fibertect® Dry Decon Mitt	Fibertect® Mitt is a three-layer, inert, flexible, drapable, nonwoven composite substrate for absorbing and adsorbing CWAs and TICs. The Mitt design allows for easy clean-up of bulk chemicals on people, weapons and sensitive equipment and can be worn over gloves.	www.tswg.gov/TSWG/ DHS	Available. First Line Technology, LLC www.firstlinetech.com
Sensor Web	Sensor Web pods that can be efficiently and cost-effectively deployed in a building to monitor the physical conditions and chemical concentrations in real-time over the Internet. The communication packages on the pods automatically organize themselves into a wireless network, providing a thinking infrastructure for the sensors they carry.	www.tswg.gov/TSWG	Available. SensorWare Systems http://www.SensorWareSystems.com.
Wired/Wireless Multi Sensor Environmental Monitor	Distributed sensor system for real-time monitoring of chemical concentrations to ensure the effective gas-phase decontamination of large buildings. Portable sensor system has six interchangeable sensors and supports both wired and wireless internet connections for remote monitoring.	www.tswg.gov/TSWG	Available. Esensors at http://eesensors.com
Plant and Animal Tissue Gasifier	A transportable gasification system for large scale disposal of contaminated plant material and animal carcasses.	www.tswg.gov EPA USDA	Operational testing completed. Prototype available. BGP Inc. http://bgp-inc.com/index.html
SEL Category 09 - Medical			
Ocular Scanner for Chem/Bio Agents	Portable, handheld, and automated triage tool for noninvasive assessment of acute or chronic exposure to TICs, CWAs, and toxins.	www.tswg.gov/DHS S&T	Operational testing concluded. Prototype available. MD Biotech Inc.
SEL Cateogory 10 - Power			
CBRNE Training Technologies			

Project	Description	Managing Agency/ Participants	Availability/Status
Agricultural Bioterrorism Response Training	Accredited, modular, agricultural bioterrorism response training curriculum for classroom, CD-ROM, or Web-based distance learning applications.	www.tswg.gov www.aphis.usda.gov	Available.
Portable Chemical/ Radiological Simulant Training Kit	Portable simulant training kit for use in decontamination exercises. Simulants are safe and non-toxic to the skin. Simulants mimic vapor pressure and solubility characteristics of G, H, and V agents. Black-light illumination makes a fluorescent taggant in the simulants visible to the trainer to effectively evaluate the trainee's performance in decon operations. The kit also includes a particulate simulant for radiological contamination.	www.tswg.gov/TSWG	Available. Clean Earth Technologies, www.trainsaf.com.
Enhanced CBR Simulant Kit	Non-hazardous visual and odor simulants kit designed to assist a wide range of security and emergency response personnel in recognizing low-purity chemical, biological, and radiological (CBR) materials that fall within plausible terrorist production capabilities. Includes user manual that provides additional information on the properties and possible variations of the materials simulated in the kit.	www.tswg.gov/TSWG	Available. Sales are restricted to federal, State, and local government users and their contractors. Any other sales must be approved by TSWG/CTTSO via an e-mail request to techtrans@tswg.gov.
Explosive Simulant Kit	Hands-on tool containing representative simulants of common commercial and improvised explosive materials, as well as common initiators. These simulants consist of both visual simulants (look) and tactile simulants (look and feel).	www.tswg.gov/TSWG	Available. Sales are restricted to federal, state, and local government users and their contractors. Any other sales must be approved by TSWG/CTTSO via an e-mail request to techtrans@tswg.gov.
IED, HME, and Narcotics Component and Operations Awareness Web-based Course	Web-based course to train law enforcement personnel to differentiate between and respond appropriately to improvised explosives, homemade explosives, and narcotics-related incidents.	www.tswg.gov/TSWG	Available. AT-Solutions. Contact ttdsubgroup@tswg.gov

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